



# Position Statement

## **SOLAR ENERGY SYSTEMS**

### Overview:

The following document chronicles Fayette Alliance's official position on the development of solar energy systems in Lexington-Fayette County.

### Audience:

Prepared by Brittany Roethemeier, J.D., Executive Director of Fayette Alliance, for the consideration of Planning Staff, Planning Commission, and the Lexington-Fayette County Urban County Council.

### Synopsis:

Developing industrial-scale solar facilities in Lexington-Fayette County's agricultural areas is in direct opposition to Lexington's 2045 Comprehensive Plan and goes against nationwide land-use policy best practices. Lexington-Fayette County should instead focus on offsetting its carbon emissions by prioritizing the development of innovative solar solutions within its already-built environments.

**August 15, 2024**

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August 15, 2024

Dear Chair Forester and Members of the Planning Commission,

Please accept this letter on behalf of the Fayette Alliance with respect to the PLN-ZOTA-24-00003: Solar Energy Systems.

Founded in 2006, Fayette Alliance is a non-profit dedicated to achieving sustainable, equitable growth in Lexington-Fayette County through land use advocacy, education, and research. We believe that preserving our unique and productive Bluegrass farmland, advancing smart growth and innovative development, and improving our infrastructure are all essential to Lexington's continued success.

In furtherance of this mission, we respectfully submit the following with regard to our **recommendation of disapproval for PLN-ZOTA-24-0003. We emphatically support the Planning Staff's recommendation of prohibiting solar facilities in Agricultural zones in the Staff Alternative Text**, and thank them for their consideration of the importance of the productive farmland in our Rural Service Area.

In addition, we would propose the below recommendations with regard to setbacks, decommissioning, and enforcement to be considered for incorporation into the Staff Alternative Text.

**Overview**

It is crucial to our city's brand, identity, economic development, and overall success that we both protect and support the productive farmland and agricultural businesses that make our community financially strong and incredibly unique. Lexington-Fayette County has much to be proud of in the way we have embraced agriculture, agribusiness, and agritourism. Our city's commitments to environmental sustainability and reduction in carbon emissions must also be commended. As such, we must be forward-looking as well as cautious about the changes we make to our zoning ordinance, how and why we make them, and the unintended consequences of those policy decisions for our future.



Industrial-scale solar development is a significant land-use issue that warrants extensive research and robust public input from the community. Fayette Alliance supports identifying and evaluating ways to expand opportunities to grow and support various scales of renewable energy development in Lexington-Fayette County's industrial, commercial, and residential zones that are responsibly tailored to each. In addition, we believe identifying and evaluating opportunities on city and state-owned land for renewable energy development, and exploring public-private partnerships with Fayette County's largest energy consumers on ways to directly offset carbon emissions should be prioritized as we move forward.

**Proposals to permit industrial-scale solar generating facilities in our Agricultural zones are an alarming departure from the priorities and policies for Lexington-Fayette County laid out in its most recent Comprehensive Plan, *Imagine Lexington 2045*, which represents the most extensive public engagement process for planning in Lexington's history.** How Lexington-Fayette County chooses to regulate solar energy generation should be up to our community members, and also help build the future vision laid out in our Comprehensive Plan. Our community policies should not be dictated in response to the proposals of private developers, or be disregarded by public utilities in their siting decisions.

**The policies proposed, and the solar developments which would follow, would have harmful and generational impacts on our nationally recognized soils, agricultural economy, iconic landscape, environment, tax base, and the community's quality of life. Further, permitting industrial uses and development to create energy generation in our agricultural zones sets dangerous policy precedent that would undermine the long-standing protections and overall intent of our agricultural areas, as outlined in our Comprehensive Plan.**

**Importantly, innovative opportunities for utilizing solar to offset energy and carbon emissions in Lexington-Fayette County are vast.** Urban solar projects across the country demonstrate how it can be done, and done well - solar covered parking structures over surface parking lots, large commercial business rooftops, recreational sites like zoos and community facilities, partnerships with local colleges and universities, airport parking lots, and more. Local businesses are already taking initiative to develop solar arrays on their own properties with exciting results that benefit both the business and the community as a whole in a transparent and measured way.

**Solar generating facilities on an industrial scale must be sited appropriately - not in our agricultural zones, and not on prime farmland or soils of statewide significance, which our agricultural zones were created to protect and support.** As a community, we should commit to exploring locations where industrial scale solar development is more appropriate, and support renewable energy projects that do not degrade our nationally recognized soils for agricultural production. **We believe we can leverage the benefits of solar energy in Lexington-Fayette County while also protecting our agricultural heritage and economy.**

In addition, careful protections should be put in place for solar energy systems development in all other appropriate zones. **Considerations for setbacks, administration and enforcement of regulations, careful decommissioning standards, and the overall impact to Fayette County residents should be carefully analyzed and implemented.**

Fayette Alliance is not opposed to solar energy systems. **We support improving Lexington-Fayette County's sustainable energy production infrastructure, offsetting carbon emissions, and doing so strategically, thoughtfully, and responsibly.** Based upon the same, Fayette Alliance strongly recommends disapproval of PLN-ZOTA-24-00003. Fayette Alliance supports the approval of the Staff Alternative Text with the below recommended changes.

## **Background: 2 Simultaneous Proposals**

Currently, there are two solar energy development proposals in Lexington-Fayette County. Because one is by a private developer and one is by a public utility company, they are separate proposals overseen by LFUCG and the Kentucky Public Service Commission, respectively. They are governed by different statutes and different standards of review. It is important to address both up front, however, because they are located immediately adjacent to one another. Separately and together, they demonstrate a significant potential and direct impact on Lexington-Fayette County which is too important to ignore.

The projects, together, propose to construct industrial-scale solar energy generation facilities on *more than 1,000 acres of land* in Lexington-Fayette County. They will utilize the same transmission line infrastructure, and are both located adjacent to the US 60-Winchester Road corridor.

PLN-ZOTA-2004-0003, by applicant Silicon Ranch, was filed on April 1, 2024. This ZOTA is being requested in order to accommodate a nearly 800 acre industrial-scale solar energy generation facility between Winchester Road and Haley Downs Road on land zoned as Agricultural-Rural. It is believed that Silicon Ranch has option-to-purchase contracts on more than 4,000 acres throughout Lexington-Fayette County.

East Kentucky Power Cooperative, Inc. (“EKPC”) filed an application on April 26, 2024 to the Public Service Commission (Case No. 2024-00129) requesting approval of an industrial-scale solar facility in Fayette County on approximately 387 acres of property on Winchester Road, approximately 1.5 miles west of the Fayette/Clark County line. This site sits adjacent to Silicon Ranch’s proposed project. Pursuant to Kentucky statutes, cases before the Public Service Commission are not subject to local planning and zoning regulations. The EKPC case is ongoing, and the date of resolution is unknown.

## **Intent and Impact of Uses in the Agricultural Zones**

The primary intent of the Agricultural-Rural (“A-R”) zone, which constitutes the core agricultural lands of Fayette County, is to encourage production agriculture and protect the rural character of the Bluegrass. Further, *it is meant to discourage all forms of urban development except for a limited number of conditional uses.*<sup>1</sup>

Our prime soils and Bluegrass farmland are the “factory floor” of our agricultural industries, as well as our unique brand and identity that draws people from all over the country and the world to the Bluegrass Region. This “factory floor” is a finite, irreplaceable asset—the phosphorus rich, prime soils that comprise nearly 90% of Fayette County’s Rural Service Area.<sup>2</sup> **Unlike other industries, these cannot be relocated—they are inextricably linked to the land.**

Similarly, the Agricultural-Buffer, Agricultural-Natural, and Agricultural-Urban zones are also intended to safeguard our farmland, preserve the rural character of our agricultural service area and our physically unique and environmentally sensitive areas, and avoid premature or improper development, respectively.<sup>3</sup> Each of our Agricultural zones works and was created to carefully protect the unique and productive assets of Lexington-Fayette County.

In 2006, the Inner Bluegrass Region, which includes Fayette County, was placed on The World Monuments Fund’s list of the 100 **Top Most Endangered Landscapes**, recognizing that “the Bluegrass Region is one of America’s most distinctive landscapes,” yet in critical danger of

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<sup>1</sup> LFUCG Zoning Ordinance, Section 8-1(a).

<sup>2</sup> 1999 RLMP, pg. III-2; 2017 RLMP, pg. 46.

<sup>3</sup> LFUCG Zoning Ordinance, Section 8-2, 8-3, and 8-4.

being lost to sprawling development.<sup>4</sup> The state of Kentucky continues to lose prime farmland to urban development and sprawl at an alarming rate. American Farmland Trust (“AFT”) recognized that the threat of farmland loss in Kentucky is “severe”.<sup>5</sup> **AFT found that over the next 20 years, Kentucky is projected to lose over 450,000 acres of farmland, 57% of which is projected to occur on the state’s *best land for agriculture*.**<sup>6</sup>

It is a projection that our community should not take lightly. Fayette County’s agricultural cluster accounts for \$2.3 billion in annual, local economic activity.<sup>7</sup> Additionally, 1 out of every 12 jobs in Fayette County is directly or indirectly attributable to agriculture, resulting in \$8.5 million annually to the local tax base. The agricultural cluster generates an additional \$1.3 billion annually in income, profits and dividends. *This is money that goes directly into our community members’ pockets.* Research found that **with just a 10% reduction in production agriculture, there would be an additional *annual decrease of \$26.5M in business output and another \$3.5M reduction in business spending overall.***<sup>8</sup>

The 2022 Breeders’ Cup World Championships took place at Keeneland Race Course, generating a total estimated local economic impact of **over \$81 million.**<sup>9</sup> The Breeders’ Cup is only a two day event, but economic impact varies from wagering, concessions, parking, merchandising, hotels, retailers, transportation, restaurants, and more - supporting thousands of jobs and millions to local businesses.<sup>10</sup> It is because of our world-renowned racetrack, equine industry, farms, and the thoroughbreds that reside here that Lexington-Fayette County is a site for the Breeders’ Cup and will be again in the future.

Fayette County and Central Kentucky have attributes unique to our region that make it the best place in the world to breed thoroughbred horses. In 2023, Keeneland and Fasig-Tipton, both sales companies located in Lexington-Fayette County, sold 8,310 thoroughbreds at ten live auctions to buyers from over 50 countries, **for a total of \$860,962,300 in sales. The total value of equine related assets in Fayette County is approximately \$1.45 billion.**<sup>11</sup>

In May, 2024, it was announced that the **economic impact of travel and tourism in Fayette County set a record in 2023 of \$1.6 billion - 9.3% growth over tourism in 2022.**<sup>12</sup> Notably, tourism in Fayette County generated more than **\$126M in state and local tax revenue and employed nearly 12,000 people** in Fayette County. Our farms are still the number one requested site by visitors pursuant to local tourism organization VisitLex, and our rural landscape is the primary draw for the continued growth of tourism in our region.

**Kentucky is the largest cattle-producing state and Lexington-Fayette County’s Bluegrass Stockyards is the largest auction house east of the Mississippi River.** Due to the volume of sales, it sets the bar for cattle prices for the USDA in the Eastern part of the United States.<sup>13</sup>

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<sup>4</sup> “2006 World Monuments Watch”, World Monuments Fund, found at <https://www.wmf.org/project/bluegrass-cultural-landscape-kentucky>.

<sup>5</sup> American Farmland Trust, “Farms Under Threat: The State of the States”, 2020.

<sup>6</sup> American Farmland Trust, “Farms Under Threat 2040: Choosing an Abundant Future”, 2022, <https://development2040.farmland.org/>.

<sup>7</sup> Davis, Alison and Simona Balazs, “The Influence of the Agricultural Cluster on the Fayette County Economy,” CEDIK, UK College of Agriculture, Food, and Environment, May 2017.

<sup>8</sup> Id.

<sup>9</sup> “Economic Impact of 2022 Breeders’ Cup on the Lexington Metro Area”, University of Louisville, Dr. Thomas E. Lambert, PhD.

<sup>10</sup> Id.

<sup>11</sup> The University of Kentucky, Kentucky Horse Council, U.S. Department of Agriculture National Agricultural Statistics Service. *2022 Kentucky Equine Survey*.

<sup>12</sup> Visit Lex, <https://www.visitlex.com/media/press-releases/post/fayette-county-reaches-record-breaking-16-billion-in-economic-impact-from-travel-in-2023/>

<sup>13</sup> “Blue Grass Stockyards Breaks Ground for New Facility,” Smiley Pete, September 21, 2016, <https://smileypete.com/business/blue-grass-stockyards-breaks-ground-for-new-facility/>.

**Fayette County is the number two county in agricultural sales in the state, and throughout Kentucky cattle sales totaled over \$1.1 billion in 2022.**<sup>14</sup> Lexington-Fayette County is the hub of the cattle industry in the Eastern United States and contributes significantly to our local and state economy.

These critical economic impacts depend on one main element: our soils, which are carefully protected by our Agricultural zones, for all the reasons highlighted above.

In addition to the importance of agricultural industries to our community, the land protected by our Agricultural zones is critical for clean air and water, our ability to produce food and maintain natural ecosystems like filtering groundwater, regulating local climate, providing pollinators, and improving air quality due to carbon sequestering through pasture and forest land, among others.<sup>15</sup>

**Pursuant to the 2017 Rural Land Management Plan, soils designated by the United States Department of Agriculture (“USDA”) as “Prime farmland” or “soils of statewide significance” constitute 86.7% of the Rural Service Area.**<sup>16</sup> The USDA defines prime farmland as “land that has the best combination of physical and chemical characteristics for producing food..fiber...and crops.”<sup>17</sup> Farmland does far more than just feed us - it sequesters carbon in the soil, protects water quality, and provides habitats for diverse wildlife and native species.

According to the USDA’s Natural Resource Conservation Service soil mapping tools, of the nearly 800 acres Silicon Ranch is proposing to convert to industrial-scale solar should the ZOTA be approved, 60.8% of the farmland included is designated as “prime farmland”, and 36.9% is designated as “soils of statewide significance”.<sup>18</sup> **In total, 97.7% of the land proposed by Silicon Ranch for solar facilities, should solar facilities be permitted in the rural area, are state and nationally recognized soils as the best for agricultural production.**

Under the same analysis, the land proposed by EKPC to convert to industrial-scale solar facilities, should it be approved by the PSC, is 65.8% “prime farmland”, and 33.8% “soils of statewide significance”.<sup>19</sup> **In total, over 99% of the land proposed by EKPC for solar facilities are state and nationally recognized soils as the best for agricultural production.**

The last time a comprehensive ZOTA was proposed that impacted our Agricultural zones, was when an effort was put forth to expand recreation and tourism. It was robust and comprehensive, incorporating input from a diverse group of stakeholders, which carefully and intricately analyzed and evaluated additional uses in the most sensitive areas of our community. **This was a multi-year process - and for good reason.** Our diverse economy, brand and identity depend on protections of our rural area being upheld.<sup>20</sup>

Silicon Ranch’s ZOTA has alarming direct, immediate, and long-term implications for our Rural Service Area. The best and highest use for land in our Agricultural zones is for production agriculture and agribusinesses, which support our economy and our cultural identity. Permitting industrial-scale solar facilities on agricultural land so vital to Lexington-Fayette County creates a substantial risk of injury to agricultural businesses here and in surrounding counties, a substantial risk that these developments could become nuisances for existing and

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<sup>14</sup> Kentucky Food and Farm, 2017 and 2022 USDA Agricultural Census, <https://www.kyfoodandfarm.info/quick-ag-facts>.

<sup>15</sup> 2017 LFUCG Rural Land Management Plan, Section B “The Importance of the Rural Service Area to the Community”.

<sup>16</sup> 2017 Rural Land Management Plan, Pg. 46.

<sup>17</sup> USDA, Natural Resource Conservation Service Field Office Technical Guide.

<sup>18</sup> See soil mapping sources at [https://fayettealliance.com/industrial-solar-lexington-kentucky/#About\\_the\\_Soil](https://fayettealliance.com/industrial-solar-lexington-kentucky/#About_the_Soil).

<sup>19</sup> Id.

<sup>20</sup> Fayette Alliance, Recreation and Tourism ZOTA history, <https://fayettealliance.com/recreation-tourism-zota-2/>.

future agricultural uses, and threatens future investment for uses that are the primary reasons the zones exist at all.

Our Agricultural zones are protected and discussed in detail by both the Comprehensive Plan and Rural Land Management Plan, which outline the extent to which our community prioritizes and values them. **If by allowing a new use in our A-R zone or other Agricultural zones we prevent the land from being used for the highest agricultural purposes and/or deter other agricultural operations, we ultimately weaken the intent of the Agricultural zones, their ability to act as our factory floor and to support ag related jobs - ultimately degrading our identity and brand.**

### **Industrial-Scale Solar in Agricultural Zones Goes Against Comprehensive Plan**

Between 4,000 and 5,000 people participated in On The Table 2022, which provided input on *Imagine Lexington* 2045 over the course of two years.<sup>21</sup> This input was essential in forming the Goals & Objectives and ultimately, the full Comprehensive Plan (the “Plan”). The Plan represents the roadmap and vision for the Lexington-Fayette County community and **reflects the most significant public engagement efforts in our city to-date.** As such, carefully following and implementing the policies set out therein should be the priority of the Planning Staff, Planning Commission, and the Urban County Council.

**While our Plan prioritizes environmental sustainability and net zero emissions goals, it also very clearly prioritizes protection of our rural area, our soils and our farmland. One should not come at the expense of another. PLN-ZOTA-2024-00003, and specifically policies which would permit industrial-scale solar energy facilities in the Agricultural zones, on prime soils, or soils of statewide significance, go directly against the Goals, Objectives, and Policies set out in the Plan, and undermine both the intent and the process by which they were developed to balance growth, environmental sustainability efforts, and protection and promotion of our rural area.**

### **Theme B: Protecting our Environment**

Theme B of the Plan, Protecting Our Environment, includes three main goals and a corresponding list of objectives, two of which relate specifically to climate change and sustainability:

**Goal 2: Identify and Mitigate Local Impacts of Climate Change By Tracking and Reducing Lexington-Fayette County’s Carbon Footprint and Greenhouse Gas Emissions, and Commit to Community-wide Net Zero Greenhouse Gas Emissions by the Year 2050**

**Goal 3: Apply Environmentally Sustainable Practices to Protect, Conserve, and Restore Landscapes and Natural Resources**

Immediately, the importance to the Plan of protecting our natural resources - our farmland and landscape - is evident, and balanced with the Plan’s emphasis on strategically identifying and mitigating the impact of emissions on our community. Specifically, objectives within these goals include **tracking and improving energy efficiency, identifying and assessing potential climate change local impacts, developing incentives for sustainable and transit-oriented development, identifying and protecting natural resources and landscape BEFORE development occurs, coordinating intragovernmental planning/funding/programs to ensure activities that impact the protection and conservation of landscapes, natural**

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<sup>21</sup> Imagine Lexington 2045 Public Input Report available at [www.imaginelexington.com/2045](http://www.imaginelexington.com/2045), Appendix B.



resources and natural environment are aligned and complimentary, and expanding our urban forest.<sup>22</sup>

The introduction to Theme B states that “[p]olicies for new development...must prioritize a sustainable built environment that supports positive climate action. A holistic approach to natural resource conservation, agricultural heritage...is necessary to support broad-scale environmental resiliency and climate action.”<sup>23</sup> The Theme goes on to discuss Lexington’s soils, and that “[p]reserving fertile soils is vital for local food security, ecosystem health, and balanced carbon cycles.” It also states that ongoing development is threatening the city’s land and soil resources, and proper policies and controls are necessary to protect the same.<sup>24</sup>

Theme B also touches on energy and sustainability, noting that there is currently no community-wide monitoring or transparency on energy usage, and that creating energy awareness is the first step towards conserving energy.<sup>25</sup> The Plan states that in order to address the impacts of climate change, Lexington needs to implement a two-pronged approach: reducing greenhouse gas emissions by identifying and eliminating significant sources of emissions and implementing projects and policies which allow Lexington to adapt to a changing climate.<sup>26</sup> Notably, the plan mentions that the city’s ongoing initiatives are positive steps in this direction, including increasing tree canopy, protecting rural green space, and focusing on walkable infill development. In addition, LFUCG is currently developing a Climate Pollution Reduction Plan with surrounding counties to identify and partner in achieving the federal goal of net zero greenhouse gas emissions by 2050.<sup>27</sup>

Theme B language in the Plan notes that the Urban Service Boundary is a vital component of environmental protection, and that public input gathered in 2022 includes broad support for maintaining the USB. Further, it notes that emphasizing the protection of Lexington’s unique bluegrass landscape continues to be a priority for environmental protections.<sup>28</sup> Protection Policy #4 within Theme B is to conserve agricultural land in the Rural Service Area while promoting sustainable food systems.<sup>29</sup> It goes on to discuss the importance of soils in the Rural Service Area (“RSA”), and recommends that to ensure proper management of soils, regulations should mandate consideration of soil functions, surveys, soil management plans, and construction method statements before commencing [permitted] construction in the rural area, and generally should consider a site’s geographic and topographic characteristics to reduce negative impacts on the environment while preserving the natural beauty of the community for future generations.<sup>30</sup>

Theme B then discusses the goal of reaching net zero greenhouse gas emissions, and notes that this can be achieved in a variety of ways, “including reducing emissions...through measures such as energy efficiency, use of renewable energy...tree planting or carbon capture and storage.”<sup>31</sup> The policies outlined to work towards net zero are thoughtful and detailed: exploring opportunities for federal funding, developing an emissions reduction plan, reducing all LFUCG facilities and operations to net zero, identifying opportunities for and

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<sup>22</sup> *Imagine Lexington 2045* Goals & Objectives.

<sup>23</sup> *Imagine Lexington 2045*, Theme B, pg. 89.

<sup>24</sup> Id. Pg. 90.

<sup>25</sup> Id. pg 92.

<sup>26</sup> Id. pg. 94.

<sup>27</sup> Id.

<sup>28</sup> Id. page 98.

<sup>29</sup> Id. pg 103.

<sup>30</sup> Id. pg. 108.

<sup>31</sup> Id. pg 111.

**committing funding for renewable energy generation, and creating a policy on energy efficiency.** In addition to these, work on Complete Streets, **reducing impervious surfaces and vehicle use areas (like parking lots), and more are noted essential strategies.**<sup>32</sup>

Going further, Sustainability Policy #5 addresses renewable energy, including solar, touching on existing city initiatives like its Energy Management Plan, Empower Lexington, and Solarize Lexington.<sup>33</sup> All of these initiatives focus on solar in the built environment, but recognize that **efforts to expand these programs to commercial businesses and more have not yet been pursued.**<sup>34</sup>

Notably, in a review of the proposed ZOTA by the Kentucky Resources Council, a non-profit established in 1984 to offer advice and assistance to local governments, and *who drafted the Model Ordinance on which a portion of the ZOTA was based*, they state that **“the addition of non-utility solar facilities would not offset consumption of fossil-fuel power by Fayette County unless and until that facility entered into a power purchase agreement approved by the Public Service Commission to supply electricity to one of more of the [utilities that service Fayette County].”**<sup>35</sup> Further, it found that **while the solar electricity that is generated and fed into the grid would “potentially offset fossil-fueled electric generation for the customers of the utility that ultimately purchases that power, it would not otherwise result in a reduction of generation from the utilities’ fossil-fueled generation facilities.”**<sup>36</sup> Silicon Ranch’s ZOTA proposal states that their project is estimated to reduce carbon emissions resulting from energy consumption in Fayette County by up to 2.6%, and as such, the ZOTA is an “opportunity...to increase renewable energy generation within our community to reach the Comprehensive Plan’s 2050 reduction goals.”<sup>37</sup>

It is not clear that the ZOTA permitting non-utility solar facilities would help Lexington-Fayette County reach its sustainability goal under Imagine Lexington 2045 at all, while it most certainly jeopardizes the other goals and objectives extensively set out within. Without the ability to track where generated energy is going or what emissions it is offsetting, and without processes in place to do so, how this proposal supports Fayette County’s goals is murky, at best.

**While Theme B addresses environmental and sustainability efforts in detail, it continuously reinforces the importance of protection of our natural resources, including our soils, in achieving them.** Recommendations on exploring opportunities for federal funding for climate solutions and identifying opportunities for renewable energy generation in the built environment, making plans for the same, increasing public awareness, identifying and tracking specific sources of emissions to specifically offset the same, and more are included but have not yet been further explored or implemented. Notably, policies recommending where industrial-scale solar facilities should be located and how they should be regulated are not even contemplated. **Bypassing the concrete recommendations and priorities of the Plan to pursue industrial-scale solar facilities in the Rural Service Area is completely inconsistent with the intent of and the objectives outlined in Theme B, and in opposition to the goals so painstakingly outlined and worked on by our community.**

Sustainability efforts should absolutely continue to be planned for and pursued. How they are achieved, however, is of critical importance. Recent reports outline how land use reforms can be utilized to achieve significant emission reductions – focusing housing construction on

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<sup>32</sup> Id.

<sup>33</sup> Id. pg 114.

<sup>34</sup> Id.

<sup>35</sup> Kentucky Resources Council, Memo on Lexington-Fayette County Solar Ordinance, June 17, 2024, Id. page 2.

<sup>36</sup> Id.

<sup>37</sup> ZOTA Application, PLN-2024-00003, Letter to LFUCG Planning Commission dated April 1, 2024.

underutilized land, curbing urban sprawl, removing restrictions to multi-family housing construction, and building near existing transit infrastructure – that are critical for our community’s future success.<sup>38</sup> Notably they assert that urban sprawl and the proliferation of car-centric, single family zoning have caused decades of housing inequities and a severe housing shortage – generating “exorbitant gas emissions in a pivotal decade for climate action.”<sup>39</sup>

If our community goals are to reduce greenhouse gas emissions, we must continue making responsible land use decisions. The USB has been a key tool in reducing urban sprawl styles of development in Lexington-Fayette County, but much of our development is auto-centric, resulting in disconnected land-uses that often require a car to access. Auto-dependent development results in a greater number of vehicle miles traveled per day, contributing to higher levels of CO2 and atmospheric pollutants. Research is clear that sprawling, low-density developments result in higher greenhouse gas emissions than other development forms.<sup>40</sup> It’s also clear that these impacts disproportionately affect “underserved communities who are least able to prepare for, and recover from” them – most notably Black, African American, Hispanic and Latino communities.<sup>41</sup> While technological improvements can address these issues, **“density and transit-oriented development are much more powerful and sustainable tools to combat environmental challenges.”**<sup>42</sup> Environmentally sustainable growth is an issue of equity, as well as fiscal responsibility and quality of life.

Thoughtfully creating solutions to ensure our community is environmentally sustainable is a responsible approach. Enacting policies which target environmental sustainability but, simultaneously, undermine another foundational aspect of environmental sustainability, as well as go against our community vision, is irresponsible, and poses long-term damages to our community at large.

### Theme C: Creating Jobs and Prosperity

Theme C contains goals related to supporting and protecting both economic development and the agricultural industry which plays a key role within it. The first pillar is “Livability”, with Livability Policy #2 **emphasizing the preservation and protection of the “iconic Bluegrass landscape along rural gateways & roadways serving as primary tourist routes”.**<sup>43</sup> It is important to note that **the location of both the proposed Silicon Ranch site and the EKPC sites are along the US 60 - Winchester Road corridor, which has been designated as a Kentucky State Scenic Byway since 2011.** The designated Scenic Byway is a 4.8 mile stretch from the line of the Urban Service Boundary in Fayette County to the Clark County line.<sup>44</sup> According to the Kentucky Transportation Cabinet, a scenic byway “is considered to have roadsides or **viewsheds with scenic, natural, cultural, historical, archaeological, and/or recreational value worthy of preservation, restoration, protection, and enhancement.**”<sup>45</sup> Both sites are also near another Kentucky State Scenic Byway and a Rural Historic District -

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<sup>38</sup> RMI, “Urban Land Use Reform: The Missing Key to Climate Action, Strategies for Lowering Emissions, Increasing Housing Supply, and Conserving Land”, April, 2023. <https://rmi.org/insight/urban-land-use-reform/>

<sup>39</sup> Id.

<sup>40</sup> Urban Land Institute, “Reshaping the City: Zoning for a more equitable resilient and sustainable future,” 2023.

<sup>41</sup> United States Environmental Protection Agency, “Climate Change and Social Vulnerability in the United States: A Focus on Six Impact Sectors”, September, 2021. <https://www.epa.gov/cira/social-vulnerability-report>

<sup>42</sup> Lexington Area MPO 2018 Bicycle and Pedestrian Plan, <https://lexareampo.org/studiesplans/connectlex/>; Imagine Lexington 2018 Comprehensive Plan, <https://imaginelexington.com/>.

<sup>43</sup> *Imagine Lexington 2045*, Theme C.

<sup>44</sup> Kentucky Transportation Cabinet, <https://transportation.ky.gov/LocalPrograms/Documents/Kentucky%20State%20and%20National%20Scenic%20Byways%20and%20Highways.pdf>.

<sup>45</sup> Kentucky Transportation Cabinet, Scenic Byways, <https://transportation.ky.gov/LocalPrograms/Pages/Scenic-Byways.aspx>.

North Cleveland Road, which was designated a Kentucky State Scenic Byway in 2008, and the Upper Reaches of Boone Creek Rural Historic District, federally designated as a National Register of Historic Places since 2009.<sup>46</sup>

Throughout Theme C, promoting, providing, and creating diverse, strong jobs for the Lexington-Fayette County community are evident. While solar companies indicate that locating renewable energy facilities in the community can support indirect economic development efforts to attract companies which prioritize green energy, research does not exist to support those indirect impacts specific to Lexington-Fayette County's needs and economic development initiatives. What we do know is that based upon existing records, **fewer than 10 long term jobs are proposed to be created by two solar projects that will take up over 1,000 acres of prime farmland for the next approximately 40 years.**

Silicon Ranch currently has a facility in Garrard County, Kentucky, originally proposed to occupy 520 acres of farmland. There were no zoning ordinance or setback requirements for the location of the project. Pursuant to Silicon Ranch's application documents with the Kentucky State Board on Electric Generation and Transmission, a **total of 3 long-term jobs were projected to be created over the 40-year life of the facility.**<sup>47</sup> At this point, the total number of long-term jobs established are unknown. **Based only on the projections, the Garrard County facility would create 0.006 jobs per acre of land.**

In EKPC's application to the Kentucky Public Service Commission, they propose they would add **2-3 full time jobs by the end of construction of the two industrial-scale solar facilities they are proposing in Fayette County and Marion County.**<sup>48</sup> They did not specify how many of those would be Fayette County specific, as the employees would work at "multiple facilities". So, in a conservative calculation, **EKPC's proposed 400-acre facility would create an estimated 0.0075 jobs per acre of land.** This helps inform the overall evaluation of the level of economic development facilities of this nature can be expected to produce in the future.

As noted above, farmland and the agricultural industries are a robust part of our diverse economy. Overall, industrial-scale solar facilities increase pressure on agricultural industries by taking farmland land out of production or the potential for agricultural production that's necessary to maintain a delicate economy of scale and profitability. **As noted by the University of Kentucky, if production agriculture declined in Lexington-Fayette county by just 10%, there would be an additional, overall annual decrease of \$26.5 million in business output and another \$3.5 million reduction in business spending overall.**<sup>49</sup> Reducing the amount of land available for agriculture, or permitting industrial-scale solar facilities to locate in the agricultural area which will lead to reduction in the amount of land available for agriculture, impact the likelihood of agricultural operations locating nearby, etc., and directly impacts the local agricultural economy, and the economy of Lexington-Fayette County as a whole.

## **Theme E: Maintaining a Balance Between Urban Uses and Safeguarding Rural Land**

As the Applicant's letter notes, Goal 2 of Theme E is specifically intended to **support the agricultural economy, horse farms, general agricultural farms, local food production, ag-tech, and the rural character of the Rural Service Area.**

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<sup>46</sup> Id., and National Register of Historic Places, <https://www.federalregister.gov/documents/2010/02/19/2010-3188/national-register-of-historic-places-weekly-listing-of-historic-properties>.

<sup>47</sup> Turkey Creek Solar, LLC Application to Kentucky State Board on Electric Generation and Transmission, Case No. 2020-00040.

<sup>48</sup> East Kentucky Power Cooperative, Inc., Public Service Commission Case No. 2024-00129, Response to Request for Information dated May 31, 2024, Request 75.

<sup>49</sup> "The Influence of the Agricultural Cluster on the Fayette County Economy", Dr. Alison Davis and Simona Balazs, MS, May 2017, CEDIK/UK College of Agriculture, Food and Environment

The Applicant and the proposed ZOTA have emphasized the nature of their work in agrivoltaic projects, and that because those projects are intended to simultaneously be used for agricultural purposes that it is an appropriate use in the Agricultural zones.

First and foremost - generating energy on an industrial-scale for the energy grid is not agriculture. Energy is not a crop. Energy generation is the primary intended use of an industrial-scale solar facility. By their application, the intent of the ZOTA is to “encourage” any industrial-scale solar facilities in the rural area to also be used for ag - grazing livestock, beekeeping, and crop or vegetable production.<sup>50</sup> Further, they note that these projects will “allow local landowners to have another revenue stream, while maintaining their land as active farmland”.

Silicon Ranch, by their own admission and pursuant to their business model, has option contracts to **purchase** the land they propose to build industrial-scale solar facilities on outright. Further, they state in their application they employ an in house farmer and that their agricultural product is pasture-raised lamb.<sup>51</sup> **Notably, Kentucky’s (and Fayette County’s) top ag products are: soybeans and corn, poultry, horses, and cattle.**<sup>52</sup> **Fayette County ranks 77th out of 120 counties in the state for sheep, goats, and wool.**<sup>53</sup> **No information is given as to what percentage of Silicon Ranch’s profit from the land would be attributable to lamb raised on the same property, how that will benefit local landowners (other than the person from whom the property was purchased), or what the economic impact of removing hundreds of acres of otherwise prime farmland from the agricultural economy might have.**

While they propose that some unidentified percentage of their land will be used for agricultural purposes, **the primary reason for owning the land at all is to support an industrial purpose of energy generation.** What percentage of the land needs to be used for agriculture for the property to be considered a “dual use” of energy generation and agricultural purposes? Further, constructing industrial-scale solar energy facilities, panels, electrical infrastructure, and gravel roads on farmland *on its face* undermines the rural character of the Rural Service Area.

Silicon Ranch was started in 2011. **By their own admission, they have never seen a solar facility through to decommissioning, or had to decommission a solar facility.** There is no evidence at the end of the useful life of one of Silicon Ranch’s facilities that their systems regenerate soil health, biodiversity, water quality, and habitat; **had** the ultimate planned impact; or that there would be any reason to turn the land back into an agricultural operation.

**More importantly, the ZOTA proposed doesn’t simply permit Silicon Ranch’s business in Lexington-Fayette County, and its evaluation shouldn’t be contingent upon Silicon Ranch’s business model, which is apt to change over the next 30-40 years.** While utilizing agrivoltaics to keep some sort of secondary agricultural use on the land while primarily generating energy is innovative, it is not in line with our Comprehensive Plan and it is not yet a proven method. **What happens to the land if sheep are no longer a viable ag product? Who will monitor how much of the land is used for agricultural purposes, enforce if it is no longer used for agricultural purposes, and what will the consequences be if it is not?** It is a tradeoff that might be appropriate in some communities, but pursuant to our policies, goals, objectives, and community vision, is not responsible, innovative, or sustainable in Lexington-Fayette County.

National research on agrivoltaics is ongoing. The USDA identifies research projects currently being conducted by Cornell, Rutgers, University of Vermont, University of Massachusetts, and the University of Maine, among others.<sup>54</sup> Importantly, the USDA notes:

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<sup>50</sup> Silicon Ranch ZOTA Application - Solar Energy Systems Zoning Ordinance, April 1, 2024

<sup>51</sup> Id.

<sup>52</sup> Kentucky Food and Farm, 2017 and 2022 USDA Ag Census, <https://www.kyfoodandfarm.info/quick-ag-facts>.

<sup>53</sup> Id., <https://www.kyfoodandfarm.info/county-data/fayette-county-ky>.

<sup>54</sup> USDA Climate Hub: <https://www.climatehubs.usda.gov/hubs/northeast/topic/agrivoltaics-coming-soon-farm-near->

“While a lot of research is underway, many questions about agrivoltaic systems persist. Various research and demonstration sites around the country are working to find answers to questions like: *What are the long-term impacts of solar energy infrastructure on soil quality? What crops, in what regions, are best suited for photovoltaic systems? How can both crop and energy systems be optimized? How will livestock (and wildlife) interact with solar energy equipment? What types of business agreements will work best between a solar developer or company and agricultural producer or landowner?*”

**These are questions that are not yet answered.** Current data does not fully support its implementation as an effective use of farmland. Without answers to inform our decision making, moving forward with a ZOTA permitting industrial-scale solar facilities that *may* incorporate an agricultural use of an unspecified size and impact, again, goes against our Plan, and the priorities set out by our community, for our community throughout the Plan.

Consider the American Planning Association’s 2019 memo titled “Planning for Utility-Scale Solar Energy Facilities”, which states that:

Unlike many land uses, [utility scale solar installations] will occupy vast tracts of land for one or more generations; they require tremendous local resources to monitor during construction (and presumably decommissioning); they can have significant impacts on the community depending on their location, buffers, installation techniques, and other factors; and they are not readily adaptable for another industrial or commercial use, hence the need for decommissioning. While solar energy aligns with sustainability goals held by an increasing number of communities, solar industries must bring an overall value to the locality beyond the clean energy label. Localities must consider the other elements of sustainability and make deliberate decisions regarding impacts and benefits to the social fabric, natural environment, and local economy.”<sup>55</sup>

The APA memo goes on to state that the “large scale of [industrial-scale solar facilities], particularly when solar facilities are concentrated, significantly exacerbates adverse impacts to the community in terms of land consumption, land use pattern disruptions, and environmental impacts (eg., storm water, erosion, habitat).” Further, “[s]uch concentrated land uses change the character of the area and alter the natural and historic development pattern of a community.” Overall, the “short- and medium-term gains for individual landowners can have a lasting negative impact on the larger community.”

The changes proposed by PLN-ZOTA-2024-00003, and those specifically proposed for the Agricultural zones, pose immediate and direct negative impacts to our nationally designated prime soils, to the future success of our agricultural economy, and to the viewsheds that have been designated by our state to have inherent value to our community and local economy.

The importance of environmental sustainability, renewable energy, and our rural area are all emphasized throughout *Imagine Lexington 2045*, and should continue to be supported and implemented. New policies in an effort to achieve sustainability through solar energy generation, however, should not come at the expense of other aspects of our community and its sustainable future, economy, and cultural identity. **The Plan represents our community priorities - and the proposed ZOTA would work to undermine the Plan, and the process by which it was developed.**

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[you#:-:text=Agrivoltaics%20Research&text=This%20program%20is%20managed%20by.%2C%20farmers%2C%20and%20industry%20partners.](#)

<sup>55</sup> American Planning Association, “Planning for Utility-Scale Solar Energy Facilities”, Darren Coffey, AICP, September/October 2019.

## Additional Economic Considerations of Solar in Agricultural Zones

In considering whether it is appropriate to utilize prime farmland for purposes other than those outlined in the current Agricultural zones, our community must also evaluate the economic implications of changing land uses in the rural area to permit industrial scale solar facilities. Detrimental impacts to the overall agricultural economy, decreases in neighboring property values, lack of jobs created by this large-scale land use, and tax implications are some of the complicated aspects of the proposed policy changes.

In response to the increasing number of large-scale solar facilities across the country and the world, numerous studies have been conducted on the impacts of the same on neighboring property values. Mary Clay of Paris, KY, a certified commercial property appraiser, has done extensive literature reviews of these studies in both Kentucky and North Carolina. In February, 2024, she notes that “[w]ithout exception, all seven studies [reviewed at that time] document a d[ecrease] in property value as a result of utility scale solar plants.”<sup>56</sup> She also notes that:

“[r]esults suggest that construction of a solar farm nearby creates a **signal effect of suitability of the land for solar development**. Thus, after construction of a solar farm, landowners’ value being in close proximity to transmission lines given the importance of this feature in a solar developer’s siting decision.”<sup>57</sup>

This research indicates that where there is one solar facility, there will be more facilities because of the “suitability” of that area for a particular land use, furthering the removal or conversion of productive agricultural land.

In prior studies, Ms. Clay notes that the **preponderance of evidence based on empirical studies indicates that industrial scale solar farms negatively impact adjacent properties** to the extent that their utility, as interpreted by the market, is affected.”<sup>58</sup> And while that percentage of diminution in value varies, evidence presented indicates that **large scale solar farms damage property values “by at least -6.0% to -30.0%.”**<sup>59</sup>

Notably for Lexington-Fayette County are the findings of a 2023 study by researchers at the University of Connecticut, who found that the **negative effects of solar farm on property values were specifically measurable for those large-scale solar projects constructed on land designated for agriculture, for larger scale solar projects, and for rural dwellings**. The rates of **decrease in property values for those categories were found to be from 3-4%** for homes within ½ mile from the facilities.<sup>60</sup>

When considering how many residents this might affect, numbers provided by EKPC are informative. **In response to a request from the Public Service Commission for information on EKPC’s proposed project, EKPC reported there were 130 residential structures within 2,000 feet of the proposed site** (which is adjacent to the Silicon Ranch proposed site).<sup>61</sup>

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<sup>56</sup> “Utility Scale Solar Plants: Effect on Property Value Summary of Peer Reviewed Articles,” February 24, 2024, Mary McClinton Clay, MAI.

<sup>57</sup> Id. Page 2, citing “Essays on Economic and Health Effects of Land Use Externalities”, North Carolina State University, 2019.

<sup>58</sup> “A Summary of Solar Energy Generation Power Systems Damage Studies as of January 1, 2022”, Mary McClinton Clay, MAI, March 16, 2022.

<sup>59</sup> Id.

<sup>60</sup> Id. Page 5-6, citing “Shedding Light on Large-scale Solar Impacts: An Analysis of Property Values and Proximity to Photovoltaics Across Six U.S. States, January 9, 2023”.

<sup>61</sup> East Kentucky Power Cooperative, Inc., Case No. 2024-00129, Public Service Commission, Commission’s request dated May 30, 2024, Request 21.

Pursuant to numerous studies, the potential decrease in property values posed by industrial-scale solar facilities not only harms community members but also reduces the overall property tax base for Lexington-Fayette County. While a private owner of land for solar would be required to pay property taxes, a public utility (like EKPC) would not, and at what rate a private developer would have to pay taxes for an industrial use in an Agricultural zone has not been discussed or established.

Another important economic consideration is the cost - and responsibility for - recycling and decommissioning an industrial-scale solar facility at the end of its life. Pursuant to the National Renewable Energy Laboratory of the US Department of Energy, as of February 2021 the estimated cost to decommission a ground mounted system would be approximately **\$368,000 PER megawatt**.<sup>62</sup> Silicon Ranch's project is proposed to be approximately **80 megawatts**. It involves removing the panels, racks, underground and above ground wire systems, metal posts, and other equipment. Regulations for decommissioning, who is responsible, and how they are paid for vary by city, county, and state - but are critical to ensure the local taxpayers and governments aren't on the hook should the solar developer not meet its obligations.

Strategies, costs, and more are constantly evolving in the industry and need to be re-visited on a regular basis to ensure financial protocols are in place to support adequate decommissioning. Pursuant to KRS 278.704, a Planning Commission can adopt requirements for decommissioning that differ from those set out in state statute.<sup>63</sup> **Lexington-Fayette County must put into place strong, thorough decommissioning standards on top of state requirements to ensure it protects the interests of neighboring landowners, Fayette County taxpayers, and the broader interest of the community.**

The true fiscal impact of industrial-scale solar facilities to the community as a whole, considering a locality's unique attributes, is unclear and understudied. It must take into consideration the effects of federal tax credits received by the solar companies, little net tax revenue created, low amounts of long-term job creation, the negative impact to the agricultural economy, the negative impact on hundreds of neighboring properties owners, and the future financial obligations on Lexington-Fayette County for decommissioning unless properly regulated, among other factors.

### **Industrial-Scale Solar Poses Environmental Concerns in Rural Service Area**

In addition to removing vital farmland from Lexington-Fayette County's agricultural economy, industrial-scale solar facilities in Agricultural zones pose environmental concerns that warrant additional research and public engagement.

The American Planning Association notes that while solar energy is a renewable resource, "its generation is not without environmental impacts."<sup>64</sup> Construction of solar facilities on large areas of land require clearing and grading, installation of gravel roads for access to the panels, resulting in soil compaction, and potentially increased runoff and erosion. Native vegetation, wildlife, and existing ecosystems will be impacted by construction of facilities and potentially by ongoing maintenance and access to the facilities as well. **Overall, "impacts on wildlife habitat and storm water management can be significant due to the large scale of these uses and the resulting extent of land disturbance."**<sup>65</sup>

As economic incentives for solar continue and technology advances, projections for the amount of waste created by renewable energy materials is also growing significantly. The International

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<sup>62</sup> NREL "Best Practices at the End of the Photovoltaic System Performance Period," February 2021. <https://www.nrel.gov/docs/fv21osti/78678.pdf>.

<sup>63</sup> Id. See also Kentucky Resources Council "Memo on Lexington-Fayette County Solar Ordinance", June 17, 2024.

<sup>64</sup> American Planning Association, 'Planning for Utility Scale Energy Facilities,' PAS Memo - September/October 2019, by Darren Coffey, AICP.

<sup>65</sup> Id.



Renewable Energy Agency (IRENA) projects amounts of solar energy waste could total 78 million tons by 2050.<sup>66</sup> These numbers are based on keeping solar panels for their useful life - approximately 30 years - but do not account for those who will replace panels or arrays earlier, and which will result in significantly more waste. A Harvard Business Review article notes that specialized labor is required to detach and remove panels, and the **cost to appropriately recycle panels is 20x the cost to send those same panels to a local landfill.**<sup>67</sup> Adequate storage and recycling facilities for solar waste have not yet been developed, and it's critical that the cost of decommissioning facilities, including waste, which may be considered hazardous, is borne by the developers and NOT by local taxpayers and local governments. Issues of waste management and recycling are currently being studied, but there are no certified solutions or plans to address them.

The state with the most solar installations, California, allows panels to be dumped in landfills once they have been verified as “non-hazardous” by a laboratory, but has only one recycling plant that accepts solar panels. Washington is set to implement a law for environmentally sound recycling of solar panels in July 2025, and North Carolina has just directed state officials to study the environmental impacts of decommissioning utility scale solar projects.<sup>68</sup> If anything is clear, it's that environmentally sensitive solutions to decommission and dispose of solar panels are still under study, even in states that have been hosting solar development for far longer than Kentucky.

In 2022, the **Environmental Protection Agency (“EPA”) announced settlements with 4 separate solar companies to resolve violations of the Clean Water Act.**<sup>69</sup> The storm water mismanagement and construction permit violations occurred across the country in Alabama, Illinois, and Idaho. **The EPA noted that:**

**“Solar farm construction involves clearing and grading large sections of land, which can lead to significant erosion and major runoff of sediment into waterways if storm water controls at the site are inadequate. Increased sediment in waterways can injure, suffocate, or kill aquatic life; damage aquatic ecosystems; and cause significant harm to drinking water treatment systems.”**<sup>70</sup>

Virginia is one of many states on the East Coast that has seen a rapid increase in solar energy facility development, and has a state mandate to significantly increase clean energy. As a result, they are a key state to look to in evaluating the longer-term impacts of solar that many communities haven't yet seen.

As a result of severe storm water and erosion concerns related to industrial-scale solar facilities in the state, new legislation was adopted in 2022 to address these issues, **including classifying solar panels as impervious surfaces unable to absorb runoff.**<sup>71</sup> Previously, the panels were considered pervious, and that approach was believed to “underestimate the post-development runoff volume or runoff rate from solar panel arrays, which in turn has the potential to negatively impact downstream waterways or properties.”<sup>72</sup> The state's Department of Environmental Quality was concerned not only about the increase of storm water runoff, but

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<sup>66</sup> Harvard Business Review, “The Dark Side of Solar Power,” June 18, 2021, <https://hbr.org/2021/06/the-dark-side-of-solar-power>

<sup>67</sup> Id.

<sup>68</sup> “As Millions of Solar Panels Age Out, Recyclers Hope to Cash In,” February 28, 2023, *Yale Environment 360*, *Yale School of the Environment*.

<sup>69</sup> “US EPA Announces Settlement to Resolve Clean Water Act,” <https://www.epa.gov/newsreleases/epa-announces-settlements-resolve-clean-water-act-violations-four-solar-farm>

<sup>70</sup> Id.

<sup>71</sup> Virginia Department of Environmental Quality, March 20, 2022, <https://www.deq.virginia.gov/home/showdocument?id=13985>

<sup>72</sup> Id.

furthering the loss of sediment and nutrients on site during initial setup and also after construction.

In addition, new legislation states that if the Department for Environmental Quality finds a potential “significant adverse impact on wildlife, historic resources, prime agricultural soils, or forest lands,” the facility would be required to submit a mitigation plan and receive public comment over a 45-day period.<sup>73</sup> Specifically, **“significant adverse impact” is deemed to be a disturbance of “more than 10 acres of prime agricultural soils”** among other requirements.<sup>74</sup>

**It seems Virginia has serious reason for concern, as the USDA found that Virginia lost about 2,000 acres of productive farmland per week in 2021.**<sup>75</sup> The article notes that in 2015, there were no utility-scale solar farms in Virginia, and in 2022, there were 44, with many plans for more. Pursuant to a 2023 report by the Virginia Department of Environmental Quality, **69% of the existing industrial-scale solar facilities had issues and were out of compliance with local and state regulations, posing serious water quality compaction, sediment control issues, and more.**<sup>76</sup>

In Georgia in 2023, **Silicon Ranch was held liable to the tune of \$135 million for damages to a local family for severe storm water, runoff, and erosion issues on their property** resulting from a nearby solar farm developed without adequate plans for erosion and sediment control.<sup>77</sup>

Overall, the vast majority of the country's solar power has been built in the last 5 years, and solar arrays are widely accepted to be built to last around 30 years. **As such, a project built today would be anticipated to still be in use in the 2050's - and yet, we have almost no examples of what the impacts are at the end of a useful life of an industrial-scale solar facility. Technology will inevitably advance, which raises the question of what will be done with existing solar panels, the large amounts of land allocated to them, and more.**

In the pursuit of environmental and sustainability initiatives, Lexington-Fayette County must be thoughtful but also proceed with caution that those very initiatives don't undermine the initiatives and resources we already utilize - and which are the foundation of our community.

### **Industrial Uses in Agricultural Zones Set Dangerous Precedent**

Large Scale Ground Mounted Solar Energy Systems are defined in the proposed ZOTA as a system mounted into the ground with a footprint of more than 10 acres. The definition, however, does not appropriately convey the actual use which is being proposed - a power plant producing electricity for the utility grid. **The U.S. Energy Information Administration (EIA) considers a power plant to be “utility scale” if its total generation capacity is 1 megawatt or greater.**

The Applicant's proposed ZOTA is to accommodate a 794-acre project which would generate **80 megawatts of power - or 80 times the threshold of what constitutes “utility scale” solar.** To do so involves ground-mounting a large number of solar panels together to create a power

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<sup>73</sup> Virginia's Legislative Information System, HB 206, <https://lis.virginia.gov/cgi-bin/legp604.exe?ses=221&typ=bil&val=hb206>

<sup>74</sup> Id.

<sup>75</sup> Thomas Jefferson Institute for Public Policy, “Solar installations hasten loss of Virginia farmland,” July 26, 2022.

<sup>76</sup> Virginia Department of Environmental Quality, “Regulatory Issues: Impacts of Utility Scale Solar Farms on Landscape Hydrology and Water Quality in Virginia”, April 6, 2023. <https://www.chesapeake.org/stac/wp-content/uploads/2023/04/Rolband-VA-Landscape-Hydrology-and-Water-Quality.pdf>

<sup>77</sup> Associated Press, “Georgia couple awarded \$135.5M for polluted land and water”, May 3, 2023. <https://apnews.com/article/solar-company-land-pollution-verdict-7f04778f08e43fe11a30a517958de9a4>

plant. The simple aim of a large-scale ground mounted solar energy system is to produce electricity at a mass scale.

Staff importantly outlines the process for installation of Solar Energy Systems in their Supplemental Staff Report, noting the need for grading, panels, buried electrical lines, transformers and accessory structures, concrete pylons buried into the ground, access and service roads for construction and maintenance of solar facilities. On their face, the land uses required for industrial-scale solar facilities are industrial - not agricultural. **Industrial uses are prohibited in the Agricultural zones outright.**

The Applicant proposes that they would employ a “dual use” - incorporating agricultural aspects into the projects. Using this logic, a manufacturing facility, or a retail store, and more could be argued to be permitted in an Agricultural zone so long as it had an agricultural aspect, without any connection between the principal use and the agricultural aspect other than the land on which they sit. What percentage of the property is required to be used for agriculture to say it’s a “dual use”?

Permitting an industrial use like energy generation in our Agricultural zones opens doors that cannot be shut. Our community has taken careful steps to ensure that our zoning ordinance does not serve as a loophole for businesses that undermine the primary agricultural intent of our agricultural zones.

The nature of a large-scale ground mounted solar array is that it is large scale. Other conditional uses in the A-R are typically limited to 10,000 square feet in size. A solar facility like that proposed by Silicon Ranch, on approximately 800 acres, would be closer to *34 million square feet*.<sup>78</sup> For perspective, Costco Wholesale store in Hamburg is 159,000 square feet.<sup>79</sup> Pursuant to the same, **approximately 213 Costco’s could fit on the approximately 800-acre project Silicon Ranch is currently proposing should industrial-scale solar facilities be permitted in Agricultural zones.**

In Carroll County, Maryland, after months of public hearings and analysis, the county Commissioners voted *unanimously* to prohibit solar on agricultural land. One Commissioner commented that the decision is primarily a zoning matter. Specifically, he noted “*it’s not just about farming. It’s not about the view my neighbor looks at or doesn’t look at. It comes down to zoning. It’s industrial use or ag.*”<sup>80</sup>

Permitting industrial-scale solar energy facilities in any Agricultural zones, even as a conditional use, would permit the emergence of industrial and commercial uses throughout our rural area. These uses in our Agricultural zones would not only be in opposition to the Comprehensive Plan and the Rural Land Management Plan, but would weaken the agricultural intent of the Agricultural zones, discourage investment in our signature agricultural industries, and open the door to additional ZOTAs in our Agricultural zones and outside our Urban Service Boundary.

### **National Best Practices for Industrial-Scale Solar: Avoid Prime Farmland**

Opportunities to locate solar energy facilities on land that is *not* farmland are vast. Dozens of organizations in municipalities across the country have extensively evaluated the many tradeoffs of solar energy development in their own communities, especially as states are legislating clean energy mandates, and outlining policy recommendations to guide future, responsible siting of these facilities. **Overwhelmingly, the recommendations are clear: avoid**

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<sup>78</sup> There are 43,560 square feet in 1 acre.

<sup>79</sup> “Costco will open in Lexington Friday”, WTVQ, October 3, 2013. <https://www.wtvq.com/costco-will-open-in-lexington-friday/>.

<sup>80</sup> “Carroll County commissioners prioritize farmland preservation, vote against community solar projects in Ag Zones,” July 17, 2023, Informed Carroll County, <https://informedcarroll.com/2023/07/17/carroll-county-commissioners-prioritize-farmland-preservation-vote-against-community-solar-projects-in-ag-zones/>.

**prime farmland and locate solar facilities on industrial lands, rooftops, and in the built environment.**

As outlined by American Farmland Trust (“AFT”), the Department of Energy’s Solar Futures Study found that across the country, developed or “disturbed” lands **could support 10 million acres of solar**; the EPA has identified more than **80,000 brownfields**, and the National Renewable Energy Laboratory estimates that **landfills could host 60 gigawatts of solar capacity across the country**.<sup>81</sup> Lexington-Fayette County has one closed landfill on Haley Pike, near the two proposed solar facilities, and other brownfields and locations that might accommodate solar facilities have not been looked at or analyzed.

In an extensively researched policy paper for solar siting by local governments, AFT ultimately recommends **prioritizing solar facilities on the built environment, contaminated land, and other land *not well suited for farming***.<sup>82</sup> While the recommendations discuss agrivoltaics, they acknowledge that this is a new application in the United States, and more research needs to be completed, as well as extensive provisions that would need to apply should it be pursued in agricultural areas.<sup>83</sup> Importantly, they note that **few arrays have reached the end of their useful life as of 2023**, and it is **“not yet clear how solar will impact long term soil productivity, nor how - even if - farmland will be converted back to farming at the end of an array’s lifespan.”**<sup>84</sup>

The Chesapeake Conservancy, a non-profit based in Annapolis, Maryland, developed a “first of its kind” data model to showcase land use transitions associated with solar energy growth and what those transitions may look like if those trends continue, mapping solar facilities in DC, Delaware, Maryland, Pennsylvania, New York, Virginia, and West Virginia from 2017-2022.<sup>85</sup>

After doing detailed research on solar as it expands in the North East, the Conservancy’s recommendations for governments concluded that **the optimal sites [for solar] were in the built environment - on rooftops, parking lots, and degraded lands**.<sup>86</sup> They recommend local governments identify all sites and establish a ranking system, are clear that preferred sites that would avoid land use tradeoffs with agriculturally valuable lands, and the process would require solar proposal overlays with soil survey data from the USDA. Their report noted that **significant potential exists to expand rooftop solar in residential, community, and commercial installations**, and that **ground-mounted solar has the most adverse environmental impacts**.<sup>87</sup>

Posey, County Indiana, a thriving agricultural community, put in place a detailed and thorough land-use ordinance regarding siting of industrial-scale solar facilities, and **prohibits locating them on prime farmland**. In addition, they require robust decommissioning bonds, require topsoil to stay on site of the facility from construction on, among other detailed and protective conditions.<sup>88</sup>

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<sup>81</sup> American Farmland Trust, “Recommendations for State and Local Governments to Advance Smart Solar Policy”, Updated February 2024. <https://farmland.org/wp-content/uploads/2023/12/AFT-Recommendations-for-State-and-Local-Governments-to-Advance-Smart-Solar-Policy.pdf>

<sup>82</sup> Id., page 4.

<sup>83</sup> Id., page 14.

<sup>84</sup> Id. page 11.

<sup>85</sup> “Chesapeake Bay Watershed Solar Mapping & Prediction”, Chesapeake Conservancy, May 31, 2023, <https://www.chesapeakeconservancy.org/2023/05/31/first-of-its-kind-chesapeake-bay-watershed-solar-mapping-prediction/>

<sup>86</sup> Chesapeake Conservancy, ‘Optimal Solar Siting for Maryland, a Pilot for Baltimore County and City’, 2020. <https://www.chesapeakeconservancy.org/wp-content/uploads/2020/10/CC-Report-Solar-Siting-Methodology-FINAL.pdf>

<sup>87</sup> Id.

<sup>88</sup> “How an Indiana County Got Ahead of Solar Game,” July 22, 2024. <https://www.farmprogress.com/management/how-an-indiana-county-got-ahead-of-solar-game>

Madison County, Virginia **limits industrial-scale solar facilities to industrial zones only.**<sup>89</sup> Their Planning Commission studied solar ordinances *for over 18 months* before putting in place their ordinance, which also **requires the solar applicant to compensate the county for staff time spent on administration, maintenance, and enforcement of the solar development requirements, outlines minimum setbacks clearly and requires economic and cost analyses.**<sup>90</sup>

The Virginia Conservation Network, which coordinates over 150 environmental organizations throughout Virginia, issued a policy paper **recommending that communities prioritize and incentivize landfills, brownfields, and other former industrial or commercial sites in order to avoid impacts to agriculturally productive lands whose “highest and best uses to remain green for traditional uses or to address climate change”.**<sup>91</sup> Further, they recommend producing an **annual solar status tracking report** - tracking information on applications for solar proposals, those under construction, actively in production, and how much energy is being produced/utilized by each.<sup>92</sup>

Carroll County, Maryland **put in place a 6-month moratorium and had extensive public hearings and debates around where to permit solar, ultimately deciding in July 2023 to prohibit construction of industrial scale solar on agricultural land.**<sup>93</sup> Their district commissioners voted unanimously to safeguard farmland and agriculture in the county, noting that the decision is a zoning matter even more so than a farming one. The article quotes one commissioner as saying that it’s **“not a reflection on solar power itself but rather on where it should be implemented...it is more appropriate to install solar panels on residential rooftops or industrial-zoned land.”**<sup>94</sup>

Page County, Virginia’s decision makers and Planning Commission deliberated, discussed and researched solar development *for approximately 4 years*, with extensive public input.<sup>95</sup> In 2022, they approved an ordinance which governs small, medium, commercial and industrial rooftop solar development as well as industrial scale facilities in great detail. **They permit industrial-scale solar facilities by special use permit, but prohibit utility-scale solar facilities on a site with more than 50% of soils identified as Prime Farmland and farmland of statewide importance.**<sup>96</sup> In addition, they outline extensive conditions for facilities that are permitted by special use permit, including environmental assessments, visual impact analysis and proposals for mitigation of adverse impacts, grading, landscaping, decommissioning plans, and more.<sup>97</sup>

Closer to home, as a result of robust public input, studies on negative impacts on property values and considerations on solar siting from the University of Kentucky, neighboring **Clark County passed an ordinance prohibiting utility-scale solar development in agricultural**

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<sup>89</sup> Madison County, Virginia Zoning Ordinance, #2019-12, <https://drive.google.com/file/d/1PshAopOPdBL7pOAFpQtNQ7nQl0dxNzX/view?usp=sharing>.

<sup>90</sup> Id.

<sup>91</sup> Virginia Conservation Network, “Deploying Utility-Scale Solar Responsibly”, <https://vcnva.org/agenda-item/deploying-utility-scale-solar-responsibly/>.

<sup>92</sup> Id.

<sup>93</sup> “Carroll County commissioners prioritize farmland preservation, vote against community solar projects in Ag Zones,” July 17, 2023, Informed Carroll County, <https://informedcarroll.com/2023/07/17/carroll-county-commissioners-prioritize-farmland-preservation-vote-against-community-solar-projects-in-ag-zones/>.

<sup>94</sup> Id.

<sup>95</sup> “Supervisors adopt Page County’s first solar ordinance after four years of deliberation”, June 29, 2022, Page Valley News, <https://pagevalleynews.com/supervisors-adopt-page-countys-first-solar-ordinance-after-four-years-of-deliberation/>.

<sup>96</sup> Page County, Virginia Zoning Ordinance, Chapter 134, “Solar Facilities”, <https://www.pagecounty.virginia.gov/DocumentCenter/View/3138/Chapter-134-Solar-Facilities-6-23-22?bidId=#:-:text=Utility%2Dscale%2Osolar%2Ofacilities%2Oshall.in%2Oany%2Oother%2Ozoning%2Odistrict>.

<sup>97</sup> Id.

**zones in June, 2023.**<sup>98</sup> Their ordinance highlights their intent to preserve farmland, protect historic resources and ensure development is compatible with neighboring properties, as well as to ensure siting and decommissioning is carried out in a way that promotes the health, safety, and welfare of the community as a whole.

The Kentucky Resources Council (“KRC”), a non-profit founded in 1985, provides recommendations and legal assistance to individuals, communities, and local governments on a wide range of environmental and energy issues. KRC drafted a Model Solar Zoning Ordinance for consideration and use by local governments based on a review of best practices from across the United States and tailored to the unique needs of Kentucky. Silicon Ranch’s proposed ZOTA was based on some of KRC’s originally proposed language, but pursuant to KRC, it “depart[ed] in several material ways”, eliminating the provisions addressing farmland protection and decommissioning, among others.<sup>99</sup> Pursuant to KRC, **Silicon Ranch’s proposed ZOTA “fails to require sufficient information about the project and siting for public evaluation, and fails to establish requirements robust enough to assure that ground mounted solar energy systems can be properly and fully integrated into the existing community of land uses in the various zoning districts.”**<sup>100</sup>

The Kentucky Conservation Committee, founded in 1975 to advocate for protection, restoration, and suitable use of natural resources for the equitable benefit of all Kentucky citizens, **supports renewable energy production “as long as it does not significantly diminish the potential for agricultural production or target significant prime farmland.”**<sup>101</sup> Specifically, they “encourage communities to prioritize other lands (such as brownfields) as much as possible.”<sup>102</sup>

**These examples are just some of many identified throughout the state and the country. It is clear that other communities, after much public engagement, research and analysis, have responsibly enacted regulations to prohibit and discourage location of industrial-scale solar facilities on prime farmland and soils of statewide significance.**

They have recommended best practices ranging from soil analyses to fiscal impact/economic analyses, rating systems for preferred sites and levels of prime soils, decommissioning requirements, public input mandates, caps on projects and acres for solar, and more. In addition, they have demonstrated that robust opportunities exist to incentivize solar facilities in industrial areas and the built environment, as well as outline detailed regulations that hold private solar developers accountable to ensure that the solar facilities respect the overall environmental and fiscal health of each.

### **Lexington-Fayette County Should Prioritize Innovative Opportunities for Solar**

Consistent with country-wide recommendations to avoid solar siting on farmland, **communities are creating innovative solar solutions to offset carbon emissions and diversify their energy sources.** There are businesses in our own backyard - in Lexington-Fayette County and throughout Kentucky - which are doing the same. **In light of our community’s desire to achieve environmental sustainability, protect our rural assets, and grow responsibly, we should prioritize first looking at strategic opportunities for solar development, before sacrificing farmland to meet private developers’ needs.**

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<sup>98</sup> Clark Coalition, “Solar Ordinance Passes”, August 1, 2023, <https://www.clarkcoalition.com/post/solar-ordinance-passes>.

<sup>99</sup> Kentucky Resources Council Letter to LFUCG Planning Commission, June 19, 2024.

<sup>100</sup> Id.

<sup>101</sup> Kentucky Conservation Committee, “Land Considerations for Large Solar Projects”, <https://kyconservation.org/solar-lands>.

<sup>102</sup> Id.

Paths other than utility-scale solar on farmland exist - and can be smarter and more efficient. Solar installations on rooftops, brownfields, and parking lots, located in already-built environments, are close to where energy is needed and have fewer negative impacts on our environment and economy. **Investment in solar energy where people already work and live is good energy policy - but it's also good economics and growth that respects and protects our natural and cultural resources.**

Lexington-Fayette County is already planning for future sustainability efforts. In partnership with Bourbon, Clark, Jessamine, Scott and Woodford Counties, Lexington-Fayette County is collaborating on a regional climate action plan funded by a grant from the EPA, which will help create tracking and action planning to reduce emissions, invest in sustainable infrastructure, and more.<sup>103</sup> Further, in 2025 LFUCG is set to publish a comprehensive Climate Action Plan to establish strategies that can reduce emissions across all sectors, including emissions projects, analysis to measure benefits, and plans to leverage federal funding.<sup>104</sup> This is just one of many strategies outlined in the Comprehensive Plan to address these issues, and exciting opportunities lay ahead.

**Before we look to farmland that supports our economy and cultural identity, let's work together towards strategic solutions for solar development that meets our community's needs without jeopardizing other community assets.**

Hallway Feeds, an agricultural manufacturing company located on Loudon Avenue in Lexington-Fayette County, has turned a 1.5-acre flood plain and 20,000 sqft. of rooftop at its existing facility into solar. **This investment will generate approximately 75% of the electricity needed to power their operations.**<sup>105</sup>

Fayette County Public Schools' Locust Trace Agri-Science Campus, a 70,000-sqft. footprint, was designed specifically to produce more energy than it consumes annually. They have rooftop solar and thermal arrays, which together result in a **zero-energy academic campus.**<sup>106</sup>

In Martin and Knott Counties, Edelen Renewables is partnering with former coal communities to create large-scale solar facilities on former mine sites, employing local community members and offering specialized training.<sup>107</sup> They will create the largest solar development in Kentucky. Real estate company Kentucky River Properties states they have **more than 15,000 acres of reclaimed surface mine lands** and is currently undergoing internal evaluations to identify what uses may be feasible and offer the highest and best use for land that is already destroyed of environmental value.<sup>108</sup>

Evansville, Indiana Regional Airport built a solar covered parking canopy estimated to generate **50% of the electricity needed to support the airport's terminals.**<sup>109</sup> The canopy covers 62,000 sqft. of parking lot and is expected to pay for itself over the next "several years".<sup>110</sup> According

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<sup>103</sup> LFUCG Climate Action Plan, <https://www.lexingtonky.gov/climate-action-plan>.

<sup>104</sup> Id.

<sup>105</sup> Hallway Feeds Sustainability Efforts, <https://hallwayfeeds.com/pages/sustainability>.

<sup>106</sup> CMTA, "Locust Trace Agri-Science Campus", <https://www.cmta.com/results/briefs/locust-trace-agri-science-campus>

<sup>107</sup> <https://www.kentucky.com/news/state/kentucky/article279033424.html>, <https://www.kentucky.com/news/state/kentucky/article277647543.html>.

<sup>108</sup> Kentucky River Properties

<sup>109</sup> "New solar parking canopy at EVV complete, will produce half the terminal's power," *Courier-Journal*, October, 2020, <https://www.courierpress.com/story/news/midwest/2020/10/13/solar-parking-canopy-airport-complete-largest-midwest/3638799001/>.

<sup>110</sup> Id.

to an airport spokesperson, the solar canopy earned \$310,000 in its first operating year as a result of the cost of the parking spaces and the sale of extra power to the local utility.<sup>111</sup>

The City of Frederick, Maryland, is developing a solar parking canopy at its municipal police department, which will generate nearly 14% of the energy needed to operate and offer the city (and the taxpayers) savings of \$174,577 per year in energy costs.<sup>112</sup>

Rutgers University in New Jersey constructed parking lot solar canopies at 16 locations across campus, a 32-acre footprint, creating energy to cover approximately 3% of the university's operations and saving them over \$1 million annually in energy costs over the next 15 years.<sup>113</sup> Representatives called it "cash positive from the get-go".

**A recent study by the Yale School of Environment found that parking lot solar canopies could provide 1/3 of the power for the state of Connecticut, help meet the state target for net zero emissions by 2040, and serve environmental justice goals by reducing urban heat islands.**<sup>114</sup> These types of facilities are less widespread because it's more expensive than building on open space. But, the reason for the lack of incentives is found by environmental group studies to be the **national undermining of government policies that would support and encourage rooftop and parking lot solar** by advocacy groups.<sup>115</sup> With political pressure - incentives could increase, policies could be shaped, and these opportunities are vast throughout the country.

A recent study out of Western University in Ontario, Canada found that if Walmart put solar parking canopies at all 3,571 of its U.S. Super Centers, **the total capacity of solar power - 11.1 gigawatts - would produce energy equivalent to a dozen large coal-fired power plants.**<sup>116</sup> In Lexington, Walmart has 3 Super Centers. The Nicholasville Road location, for example, is a 20-acre site, the New Circle Road location is 17 acres, and the Hamburg location is 21 acres, totaling nearly 60 acres of Walmart, both roof square footage and parking lot square footage.

The new Lexington Convention Center has a total square footage of over 750,000 square feet, or approximately 17 acres.<sup>117</sup> The second Amazon facility built in 2021 on Newtown Pike is 143,000 sqft. **Implementing policies which utilize already built environments for solar to power our largest energy users - and use land already stripped of much of its biological value - can help our community meet its sustainability goals while also safeguarding and preserving our productive farmland.**

Lexington-Fayette County is full of parking lots with potential generating capacity, which are a significantly more efficient use of land, **generating one megawatt of energy for every two acres compared to industrial-scale solar facilities' one megawatt of energy per seven-to-10-acre average.**<sup>119</sup> Parking lot solar canopies keep cars cool on hot days and reduce the energy

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<sup>111</sup> "Why Putting Solar Canopies on Parking Lots Is a Smart Green Move," Yale School of the Environment, November 2021, <https://e360.yale.edu/features/putting-solar-panels-atop-parking-lots-a-green-energy-solution>.

<sup>112</sup> "City of Frederick Police Department to Install 384kW Solar Power System", March 1, 2024, <https://www.cityoffrederickmd.gov/CivicAlerts.aspx?AID=7486>.

<sup>113</sup> "New Rutgers Solar Canopies Are Producing Energy in New Brunswick", *New Brunswick Today*, March 24, 2024, <https://newbrunswicktoday.com/2024/03/new-rutgers-solar-canopies-are-producing-electricity-in-new-brunswick/>.

<sup>114</sup> "Why Putting Solar Canopies on Parking Lots Is a Smart Green Move," Yale School of the Environment, November 2021, <https://e360.yale.edu/features/putting-solar-panels-atop-parking-lots-a-green-energy-solution>.

<sup>115</sup> Id.

<sup>116</sup> Id.

<sup>117</sup> <https://www.kentucky.com/news/local/counties/fayette-county/article162629248.html>

<sup>118</sup> <https://www.kentucky.com/news/local/counties/fayette-county/article250522399.html>

<sup>119</sup> Piedmont Environmental Council, Virginia, "In the Driver's Seat on Parking Lot Solar", June 18, 2024, <https://www.pecva.org/resources/publications/piedmont-view/in-the-drivers-seat-on-parking-lot-solar/>.



and emissions needed for air conditioning. Pursuant to Lexington’s Greenhouse Gas Emission Study, transportation alone - including cars and trucks - makeup 23.1% percent of emissions in Fayette County.<sup>120</sup> The additional benefits of utilizing parking lot canopies is lessening the “urban heat island effect”, where the sunlight is being used to create energy versus the built environment absorbing heat and raising surrounding temperatures.

Because of the current incentive and policy structures throughout the country, using farmland for solar is cheaper than placing it on a parking lot. But, factoring in the negative impacts of utility-scale solar, like loss of farmland, that cost/benefit analysis looks much different. Lexington-Fayette County should identify and incentivize opportunities for solar in our built-environment, and look to conversations on the state level to do so as well.

It would be more environmentally sustainable to incentivize our largest energy users to invest in solar on their own properties than to destroy farmland which has numerous other, very necessary uses, for Lexington-Fayette County’s economy, identity, and future. The policies we set locally on these issues will influence how our land is utilized for generations to come.

### **Recommendations:**

Fayette Alliance appreciates the attention and care Planning Staff took to provide the Staff Alternative Text for the proposed ZOTA. Fayette Alliance supports the same, and most importantly the **prohibition of Ground Mounted SES in any Agricultural zone.**

**In addition, we would propose the following recommendations with regard to setbacks, decommissioning, and enforcement to be considered for incorporation into the Staff Alternative Text.** These recommendations represent best practices from other communities who have extensively researched issues relating to solar energy systems in their communities, and some who have revised their ordinances in light of existing facilities and lived experiences. The recommendations represent protective, thoughtful regulations to ensure Lexington-Fayette County balances the importance of renewable energy with the health and welfare of our entire community.

- **Revise Setback Requirements in Section 31-6(c) to include:**
  - An Intermediate or Large-Scale Ground Mounted SES, measured from the closer of the outer edge of the nearest panel or perimeter fencing, shall be located at least two hundred (200) feet from any street right of way and from all side and rear property lines and boundaries.<sup>121</sup>
- **Include additional decommissioning standards in Section 31-6(f) which should include, but not be limited to:**<sup>122</sup>
  - Require owner/operator to provide a semi-annual statement of activity to ensure facility is actively producing electricity
  - When a SES ceases to be operational for a period of nine months, whether through abandonment or otherwise, decommissioning shall be enforced unless the owner/operator establishes it is diligently working to restore the SES to imminent operation
  - When a SES ceases to be operational after the nine-month period set out above, owner/operator of SES shall return the land to its original natural state, including

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<sup>120</sup> Lexington-Fayette Metropolitan Statistical Area Priority Climate Action Plan, GHG Emissions Inventory, February 29, 2024. <https://drive.google.com/file/d/1kYqiENel6vGAc4FIVdF85QLQN6IIWqg/view>.

<sup>121</sup> Culpepper County, Virginia Ordinance and other best practices reference 200 feet setback as a minimum. [https://web.culpepercounty.gov/sites/default/files/fileattachments/planning\\_and\\_zoning/page/3488/02072023\\_solar\\_ordinance\\_article\\_17-7\\_adopted\\_and\\_signed.pdf](https://web.culpepercounty.gov/sites/default/files/fileattachments/planning_and_zoning/page/3488/02072023_solar_ordinance_article_17-7_adopted_and_signed.pdf).

<sup>122</sup> Clark County, Kentucky Ordinance and other best practices from municipalities noted within. <https://drive.google.com/file/d/1-uNipfW2VrtVTde5mqJpG-NgTkdyuVoF/view>.

at least four inches of topsoil. All surface **and** subsurface materials shall be removed.

- When a SES is abandoned or decommissioned, the owner/operator of the facility shall notify the respective power company to enable the power company to remove the facility from its system
- No material removed through the decommissioning process shall be placed in any landfill located in Lexington-Fayette County.
- To the greatest extent possible, the owner/operator shall recycle all solar panels and other material removed through the decommissioning process.
- All decommissioning activities shall be completed within six (6) months after notice of inactivity is received by LFUCG. If decommissioning is not completed within this time period, LFUCG may cause the removal of the SES and the restoration of the land to its natural state, with all costs to be borne by the project owner/operator.
- The decommissioning obligations imposed herein shall be guaranteed and secured by a bond or letter of credit to be posted by the owner/operator and at their cost, in an amount to be established by the County, naming the County as the obligee/beneficiary, and subject to the following provisions:
  - Bond or letter of credit shall cover the entire estimated cost of decommissioning as determined by an independent licensed engineer with experience in decommissioning utility-scale solar facilities and shall not be reduced by any provision for salvage value;
  - Bond or letter of credit shall be provided by an insurance company or surety that shall at all times maintain at least an “Excellent” rating as measured by the AM Best rating agency or equivalent credit rating by any national credit rating agency and shall be non-cancelable by the provider or the customer until completion of the decommissioning plan or until a replacement bond or letter of credit is secured; and
  - Bond/letter of credit shall be posted prior to the commencement of construction, and maintained thereafter, in an amount to be reassessed every three (3) years based on the estimated decommissioning costs as determined by an independent licensed engineer experience in decommissioning utility-scale solar facilities, and adjusted appropriately to account for inflation and the market for pertinent acts of decommissioning and other cost variables.
- Failure to comply with the decommissioning obligations set out herein, in whole or in part, will result in the forfeiture of the entire amount of the bond or letter of credit posted by the owner/operator pursuant to the above.
- Include a provision regarding **enforcement**, noting the correct body who is authorized to bring an action for injunctive relief to enjoin a violation of this ordinance.
- Require that a **decommissioning plan be reviewed/approved by the Planning Commission and LFUCG for compliance and that it be reviewed/updated every three (3) years** by a certified independent solar facility engineer to be selected by the County, with the cost to be paid in full by the owner/operator of the SES
- Include a special provision to ensure **any Conditional Use Permit (CUP) issued is nontransferable** and shall not be assignable to a third party absent the written consent of the Board of Adjustment.

As noted herein, there are significant opportunities to explore additional community efforts to expand rooftop solar in residential, community and commercial installations and parking lot solar installations. By establishing efforts to identify, track, and measure solar energy production throughout the community, Lexington-Fayette County can create a baseline for reducing emissions in targeted ways. For example, private companies are instituting solar arrays, but the degree to which this is happening and/or how much energy is being generated

is currently unknown. We support the creation of stakeholder groups to offer input, ideas, and coordinate these efforts with other ongoing sustainability efforts within LFUCG and around the community, and look forward to being part of the larger discussion.

### **Conclusion**

The proposal to permit industrial-scale solar facilities in our community, and particularly in our Agricultural zones, is one of the most significant, large-scale land use changes in our history - other than expansion of the Urban Service Boundary.

Industrial-scale solar facilities in our Agricultural areas are in opposition to our Comprehensive Plan and various other community policies that protect our prime and nationally significant agricultural land, pose serious environmental concerns, raise major questions about fiscal impacts, and contradict national best practices for responsible solar siting. Moreover, it is clear there are vast, innovative, and responsible opportunities to pursue solar energy generation in our built environment, in ways that do not put our delicate agricultural economy in jeopardy, while directly offsetting measurable emissions to help us reach our goals. In fact, Lexington businesses are already pursuing them.

Let's build a plan for responsible solar as a community. By doing so, Lexington-Fayette County can meet its clean energy goals while preserving the productive farmland that sustains us. As always, it's not *if* we grow, it's *how*.

Thank you for your consideration and commitment to our community.

With gratitude,



Brittany M. Roethemeier, JD  
**Executive Director**  
Fayette Alliance

CC: Mayor Linda Gorton  
Commissioner of Planning, Keith Horn  
Director of Planning, Jim Duncan  
Rural Land Management Board Chair, Gloria Martin