TESTIMONY BY
THE PENNSYLVANIA STATE ASSOCIATION OF
TOWNSHIP SUPERVISORS

BEFORE THE
SENATE AGRICULTURE & RURAL AFFAIRS AND LOCAL GOVERNMENT COMMITTEES

ON

LOCAL GOVERNMENT PERSPECTIVE
ON SOLAR FARMS

PRESENTED BY

SAMUEL F. CRESSLER
PSATS EXECUTIVE BOARD

MAY 25, 2021
HARRISBURG, PA

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Chairman Vogel, Chairman Dush and members of the Senate Agriculture & Rural Affairs and Local Government Committees:

My name is Sam Cressler and I am a member of the Pennsylvania State Association of Township Supervisors' Executive Board and a township supervisor in Southampton Township, Franklin County. Thank you for the opportunity to provide comments on behalf of our member townships.

The Association represents Pennsylvania's 1,454 townships of the second class and is committed to preserving and strengthening township government and securing greater visibility and involvement for townships and its citizens in the state and federal political arenas. Townships of the second class represent 5.5 million Pennsylvanians, more than any other type of political subdivision in the commonwealth, and **cover 95% of Pennsylvania's land mass**.

This fact alone exhibits why this use, Solar Grid Farms, are certainly high on our radar.

Recently, plans for commercial solar farms, some of them mammoth, have sprung up across the commonwealth. Landowners and farmers are being offered significant sums to put these facilities on their properties. For some farmers and landowners, the offers are higher than what could be made through farming and other uses. As such, municipalities are faced with the need to review and amend existing ordinances, or adopt new ordinances, to reasonably regulate this new use before it arrives.

To help educate our member townships about the issue and their options for regulating it, PSATS published the attached cover story in our March 2021 issue of the *Pennsylvania Township News*. In addition, we've worked with Penn State University on numerous joint projects on solar issues over the past year, including training for the elected and appointed officials, zoning officers, and solicitors.

As a matter of fact, our neighbor township has a Penn State Solar Farm operating right next door.

In our township, we are currently working through this process of determining the best course of action. The primary issue we are facing with the people is the view shed, as well as glare from these facilities. Highest and best land use, we have excellent limestone soil that should stay in agriculture. So, should we look at poorer soils, slopes and previous uses that don't support agriculture or commerce? Locations that may otherwise be abandoned or distressed. These are some of our questions.

Another concern is decommissioning, which is a major concern for townships and the folks living nearby. Once the life of these facilities is over, who will be responsible to remove them and return the land to its prior condition? Will the company proposing these facilities be responsible and will it still exist, or will it fall to the property owner? Short of long-term bonding, which does not appear to be the solution, how do we guarantee their proper removal? Will it fall on the local taxpayers and municipalities to clean it up? How long is the life expectancy for the panels if the landowners are entering into 20- to 30- year leases? Will the panels and supporting facilities be replaced on a five-year basis as technology rapidly evolves?

Just like the automobile, we started with the Model T 100 years ago. Now we have Electric Telsas. They are all cars but look at the difference in technology. We don't want Model T panels sitting around. No one wants to be left with hundreds of acres of solar facilities that have outlived their useful life.

We are considering whether, in our township because of our abundance of Class A Soils, that these commercial solar facilities would be a better fit in our industrial zone. Some communities are beginning to explore whether these facilities could be placed on large commercial and industrial buildings, such as million square foot warehouses. We have a few of them that already cover large areas.

Across the state, we've seen these solar facilities being marketed as a means to increase local property taxes and local jobs. However, as these facilities are generally not permanently attached to the ground, they usually aren't assessable for property taxes. Most of the labor is brought in to set up the solar facility and then leaves. We see little labor required for operating a commercial solar facility once they are up and running.

Municipalities do have a few tools that can be used to regulate commercial solar farms. If a township has a zoning ordinance, they can regulate where a use, such as a commercial solar farm, may be sited. Uses are permitted within certain zoning districts and may be a use by right or by conditional use or special exception. Those additional conditions and concerns are determined and vetted by the zoning hearing board or Board of Supervisors, depending on the circumstance. We've seen several communities permit commercial solar farms by conditional use, often in agricultural districts.

Municipalities may regulate the development of land through a subdivision and land development ordinance (SALDO) or through stand-alone ordinances. These ordinances can address major concerns such as decommissioning, security and fencing, and stormwater management.

Which option or options a municipality chooses will depend on that community's needs and concerns, as well as what types of ordinances it has in place. In any case, municipalities must follow a public process when adopting new ordinances or amending existing ones. For all ordinances, public notification is required by legal notice in the newspaper and discussions, including acceptance of public comment, must take place at a public meeting.

For land use ordinances such as zoning and SALDO, a more extensive process with additional notifications may be required, public hearings must be held, and the county and municipal planning commissions must be given the opportunity to provide formal input.

Keep in mind that municipalities can plan for commercial solar farms, but like any allowable use, municipalities cannot stop them or keep them out. Determining locations and such can only be accomplished by zoning.

When a commercial solar farm is proposed, the review processes in the ordinances are followed. For zoning, if the use is permitted by conditional use, the board of supervisors hold

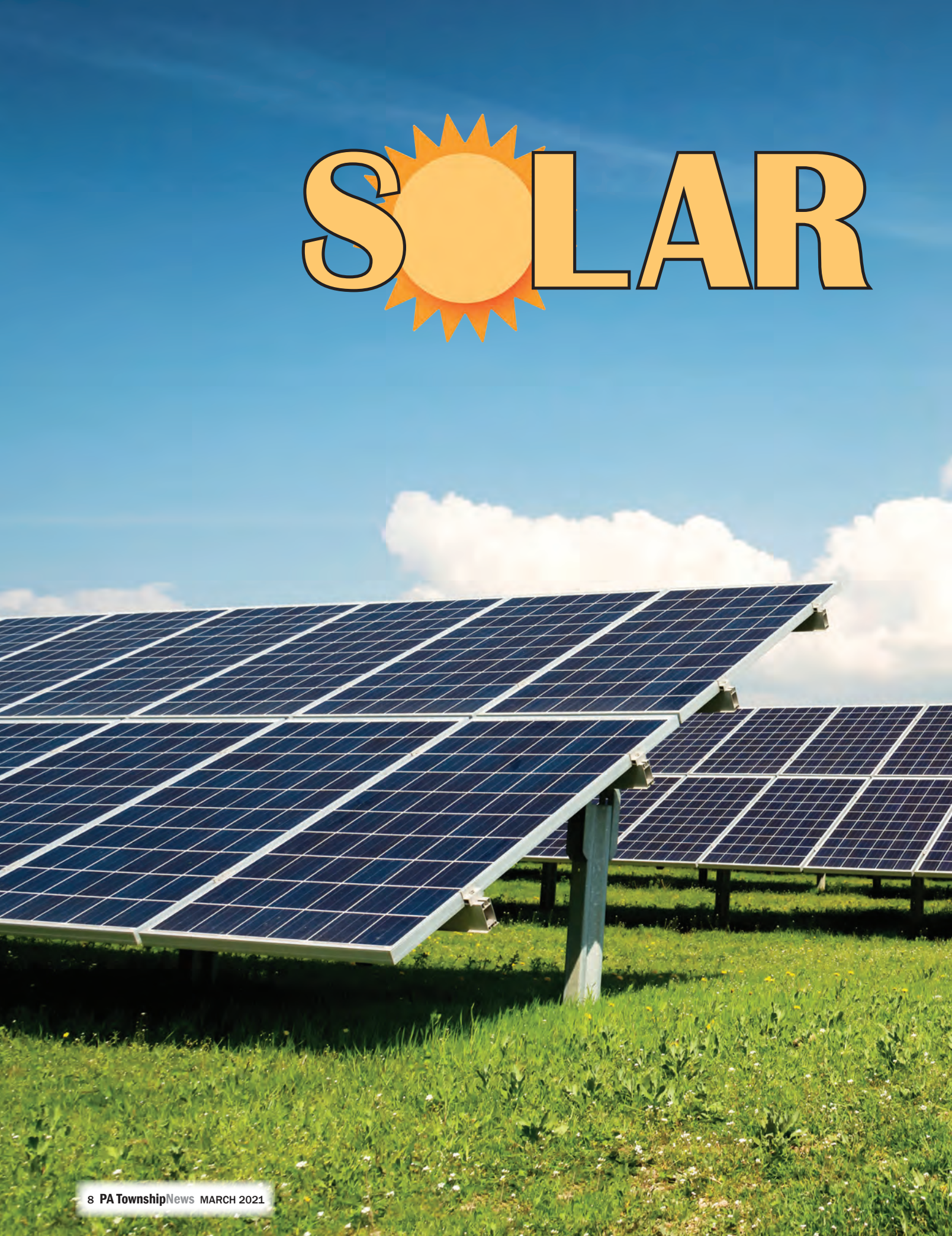
public hearings on the proposed use *(after a legal notice is placed in the newspaper)* and can impose additional conditions. If allowed by right, the zoning officer would review and permit the use.

For land development plans regulated through a SALDO, the planning commission and then the governing body would review the plans at a public meeting and approve the final plan if it met the requirements of the ordinance. But not the location.

The review and public input process for a stand-alone ordinance would depend on the ordinance, which could be through designated staff, solicitor review and the board of supervisors.

As a member service organization, PSATS does provide sample ordinances for its members that work as a starting point for a township's discussions on how best to regulate commercial solar facilities. Each community needs to determine the best way to regulate these facilities within the confines of state law. The attached article provides some examples of communities that have worked through this issue and where commercial solar facilities are working well.

Thank you for the opportunity to comment today and I will now try to answer any questions that you may have.


SOLAR

FARMING:

THE NEXT BIG THING?

Abundance of **OPEN LAND ATTRACTS CLEAN-ENERGY DEVELOPERS** to Pennsylvania

Rural Communities on Front Lines of Solar's Growth

BY **JILL ERCOLINO** / MANAGING EDITOR

FOR MORE THAN A CENTURY, fossil fuels — coal, oil, and natural gas — have been the commonwealth's bread and butter, but as demand for clean, renewable energy grows, the market may be shifting. Developers are gravitating toward a brighter frontier: harvesting the sun. Experts are anticipating another energy boom, but even before ground is broken, utility-scale solar farms are lighting some townships up — with hope and hard feelings.

Pennsylvania is a powerhouse. Literally.

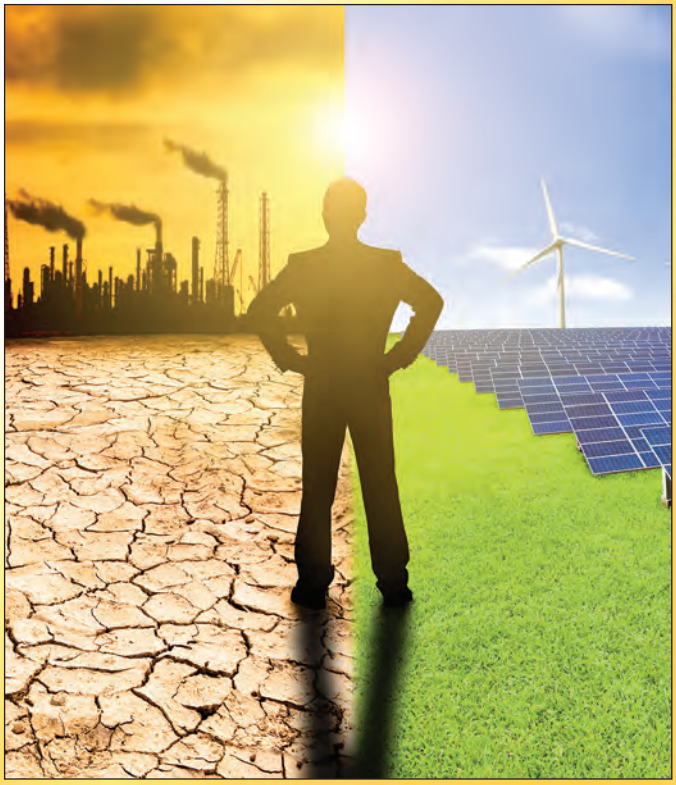
And our future is bright.

"We're the largest energy exporting state in the U.S., and that makes us very attractive to investors," market expert Mohamed Rali Badissy declares.

For more than a century, fossil fuels — coal, oil, and natural gas — have been the commonwealth's bread and butter.

After all, Pennsylvania was the site of the world's first commercial oil well and boom in the mid-1800s. And with the development of the record-breaking Marcellus Shale in the past decade, the commonwealth has also become one of the nation's top natural gas producers, second only to Texas.

But as demand for clean, renewable energy grows here and elsewhere, developers are gravitating toward a brighter frontier: harvesting the sun — not with rooftop systems, but with massive, commercial solar farms that span hundreds of acres and power everything from homes and businesses to entire cities.



For more than a century, fossil fuels have been Pennsylvania's bread and butter, but as demand for clean, renewable energy grows here and elsewhere, developers are gravitating toward greener pastures.

The projects, like previous energy booms, promise to create thousands of good-paying jobs, spark local economies, provide clean, affordable electricity, and save the family farm from extinction.

And with each announcement, the proposed projects seem to grow in wattage and acreage.

One of Pennsylvania's first solar farms, a 30-acre, 6-megawatt facility, was built in East Drumore Township, Lancaster County, in 2012. Contrast that to the deal the University of Pennsylvania signed last April with the same company, Radnor-based Community Energy, to meet clean-energy goals.

That central-Pennsylvania project — now touted as the largest in the commonwealth — will consist of two solar facilities with a combined capacity of 220 megawatts. Construction is expected to be completed by 2023.

Other major projects making headlines include a 1,600-acre solar farm in Crawford and Erie counties and two 1,000-acre facilities in Adams and Montour counties. Another in Butler Township, Luzerne County, is scheduled to be built on more than 700 acres.

As this prospecting continues, companies are eyeing land from Washington County east to Montgomery County and from Potter County south to York County.

"They're pitching these proposals everywhere," Brook Duer of Penn State's Center for Agricultural and Shale Law said.

Another energy boom?

While Pennsylvania may not be the sunniest spot on the planet, it has many other attributes that investors in utility-scale solar projects want.

The list includes affordable and abundant open space, an established infrastructure network, and supportive policymakers, who are hoping Pennsylvania can generate at least 10 percent of its electricity from solar by 2030, according to the Pennsylvania Solar Future Plan.

Cities, large institutions, manufacturers, and retailers, including GM, Toyota, IKEA, Target, and Walmart, have also committed to clean-energy goals, another dynamic driving this large-scale solar development, often in rural places.

Philadelphia, for instance, has pledged to run on 100 percent renewable electricity by 2030, a target that would be aided by the construction of a 70-megawatt solar farm on 700 acres in Straban Township, Adams County. In the process, the city and other major players who rely at least in part on solar will save millions in energy costs. ➤

Franklin County hosts a 500-acre, 70-megawatt solar farm that spans Lurgan and St. Thomas townships and generates clean power for Penn State. *(Photo courtesy of Lightsource BP)*

Behind the scenes, **developers are sizing up potential sites,** which need to be large enough **to accommodate acres of ground-mounted photovoltaic panels.**

"There's **downright anger** in some communities."

"The stakes are high. Offering a reliable, cost-effective supply of solar or wind power could mean the difference between a huge corporation, an Amazon, Google or Microsoft say, deciding to build a new facility in [a] state," Colin Smith, an analyst with Wood Mackenzie Power & Renewables, told *Solar Magazine*.

It's also gotten much cheaper to build commercial solar ventures.

The National Renewable Energy Laboratory reports that installation costs have dropped from $6 per watt in 2010 to $1 per watt in 2019. Federal tax credits for developers, which offset more than 20 percent of a project's costs, are creating another incentive.

Behind the scenes, developers are sizing up potential sites, which need to be large enough to accommodate acres of ground-mounted photovoltaic panels. These convert sunlight into electricity and feed the grid that powers Pennsylvania and 12 other states.

Companies are also locking in options and leases with landowners, many of them farmers, who stand to earn up to $2,000 per acre over 20 or 30 years. Landfills and abandoned mines also hold promise for projects, says Rob Altenburg, director of the PennFuture Energy Center.

"Why not put that land to good use?" he says.

Taken together, these factors make it clear: Pennsylvania is on the brink of another multi-million-dollar energy boom.

"It's coming," predicts Mohamed Badissy, an attorney and professor at Penn State Dickinson Law.

'On the frontier of technology'

Here's the thing, though: Even before ground has broken, solar farms are already lighting up townships, many of which are small, rural, and unprepared to be on the front lines of this surge in clean-energy development.

The similarities between this and Pennsylvania's natural gas boom, which made some landowners rich and others angry, are hard to ignore.

At the time, local leaders in the Marcellus Shale region, a swath that blankets two-thirds of Pennsylvania, also struggled to manage the impacts of a multi-million-dollar industry that rolled into their communities one day and started drilling.

Many scrambled to put a regulatory framework in place and educate themselves, the public, and drilling companies.

Although the resource may be different this time around, the reactions and responses to solar are much the same. Residents, for instance, fear the unknown and don't want it in their back yards.

"There's downright anger in some communities, and in others, residents just want to know what to expect," says Tom Murphy, director of Penn State's Marcellus Center of Outreach and Re-

SOLAR SOURCES: Where to go for help, information

- ***Contact the Penn State Extension —*** In addition to hosting frequent webinars on local solar issues, including ordinances and landowner leases, the experts at Penn State Extension provide technical advice and will even present virtual classes for groups of municipalities. For more information, contact Tom Murphy, director of the Penn State Marcellus Center for Outreach and Research, at tbm1@psu.edu. Also visit **extension.psu.edu** for publications and information about upcoming webinars.

- ***Get social —*** Penn State Extension recently created a LinkedIn group for all things solar. To join, go to **www.bit.ly/linkedinsolar**.

- ***Surf the web —*** You've heard the phrase, "just Google it." Well, that's a good plan of action, too, if you're looking for solar information. Some good places to start: **planning.org**, where you'll find a solar knowledgebase collection, and **solsmart.org**, a program funded by the U.S. Department of Energy that has created a solar toolkit and other resources for local officials.

Photo courtesy of Marcellus Center for Outreach and Research (MCOR)

search, who has partnered with Badissy and PSATS to educate local officials about solar.

A recent webinar, for example, included a virtual tour of a 500-acre, 70-megawatt solar farm that spans Lurgan and St. Thomas townships in Franklin County and generates clean power for Penn State. The pair discussed the equipment, which includes more than 150,000 solar panels and accessory buildings, and the need to include and update solar provisions in zoning ordinances.

"It's a different land use," Badissy says. "Traditional power projects go into industrialized areas where everything else has wires and panels, too. These are going on open space, much of it farmland, and represent a change. Townships are on the frontier of technology."

Hope and hard feelings

When constructed in 2019, the Penn State solar farm was the largest in Pennsylvania, and the project was greeted with plenty of publicity and fanfare.

The groundbreaking drew dignitaries, including Gov. Tom Wolf and PSU President Eric Barron, who gathered with local officials, landowners, and corporate executives in the countryside of Lurgan Township. Developed in partnership with Lightsource BP, the project is providing 25 percent of the university's power statewide for the next 25 years. The solar farm also serves as a "living" lab for students and researchers.

"It was a big to-do for us," township chair Bob Boyd says.

The solar farm has given the community hope, the supervisor says. Construction, growth, and new tax revenues have been almost non-existent thanks to the community's shale-dense soil, which makes development difficult.

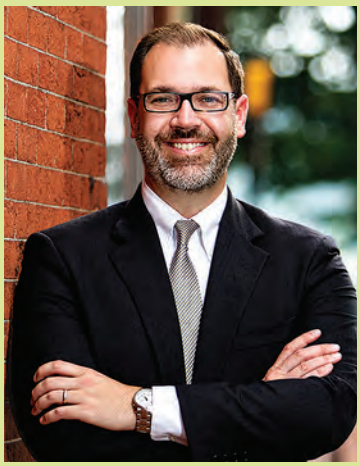
"We're lucky if we get one building permit a year for a new home," Boyd says.

The solar farm, however, has delivered financial relief not only to the township, which is now in a better position to support its two volunteer fire companies, but also to the property owners. One of them, Glenn Dice, has said he believes that solar farming is just as vital to Pennsylvania's future as traditional farming. ➤

SAVING WITH SOLAR

Panels on public buildings, land can help townships reduce electric costs

BY **DAVID EVENHUIS, ESQ.** / MCNEES WALLACE & NURICK, LLC



DAVID EVENHUIS, ESQ.

Looking for more options to generate revenue, municipalities have started using solar projects to monetize formerly "passive" or unused public assets, such as vacant land, rooftops, parking lots, and storm basins.

There is a tremendous upside for such development, and in recent years, potential liabilities have shifted from municipalities to the solar companies.

Today's common model for a municipal solar development is similar to a public-private partnership. The municipality provides the land or space for the project, and the solar company covers the capital costs of developing and installing the solar array and operates the facility once completed. Clean power is then sold to the municipality under a power purchase agreement (PPA), often at a savings compared to traditional sources of electricity.

Under a solar PPA, the facility is owned by a third-party operator, which leases the underlying land from the municipality. Revenue from these leases tends to be negligible since the availability of affordable power provides the primary financial benefit, which is twofold: 1) solar power can be cheaper than electricity derived from traditional sources, and 2) under a power purchase agreement, rates and escalations are agreed upon up front, giving the parties relatively stable financial expectations for 15 to 20 years or more.

By comparison, the traditional model for a solar project requires a significant capital outlay from the landowner "host." Savings from "free" power may be realized over time, but the host remains liable for the system's maintenance and repair and for any personal injuries that occur. Under a PPA, however, the solar company bears all liabilities for costs and potential claims.

Use of the traditional model peaked around 2010. Since then, the proportion of systems owned by third-party operators has risen dramatically.

The financial benefit for solar companies is that, after an initial capital outlay, a project provides investors with a highly predictable, nearly fixed rate of return. This is due in part to a municipality's obligation to purchase all the power produced. If there is more power than can be used, the municipality may be able sell the surplus to the grid by what is known as "net-metering."

Beyond the financial advantages of a solar project, a municipality can promote "green" benefits for the community. In this way, formerly "passive" or unused assets can be monetized for the public good and used to help foster social values.

* * *

About the author: David Evenhuis is a member of the McNees Real Estate and Public Finance and Government Services groups. He represents businesses and municipalities in commercial real estate transactions, focusing on acquisitions and dispositions, commercial leasing, property transfers within corporate mergers, and monetizing public assets, such as water and sewer systems.

"As farmers, we lived with the land. The land is very important to us. We milked cows. We grew crops," he said at the groundbreaking. "That was our livelihood. This is a new livelihood, and I have to think it's more important than anything we've ever done."

Boyd says that Lightsource, the farm's owner/operator, has been a good neighbor. Throughout construction, the company worked with the township, which has 2,200 residents but no zoning regulations. The only thing the township required of the developer was a land use permit and a bond.

"They kept us informed," Boyd says. "We've had no complaints in the township."

The supervisor reports that other clean-energy companies are interested in leasing land in Lurgan Township, too. However, one property owner recently said he isn't willing to sacrifice his 80-acre farm for the sake of solar.

"As long as these leases exist, whether it's 30 or 50 years, the visual appeal of the township is gone. No tractors in the fields, no crops growing, and no cattle grazing," resident Doug Ketner told lancasterfarming.com. "Do we really want to lose the visual appeal of the countryside and the agricultural economy to a solar farm?"

'We can't stop this'

Similar concerns are being raised in neighboring Adams County, where the 700-acre solar farm in Straban Township, scheduled to go online last October to provide power to Philadelphia, has since hit roadblocks. Another project — this one proposed on nearly 1,000 acres in Mount Joy Township — is facing fierce opposition, too.

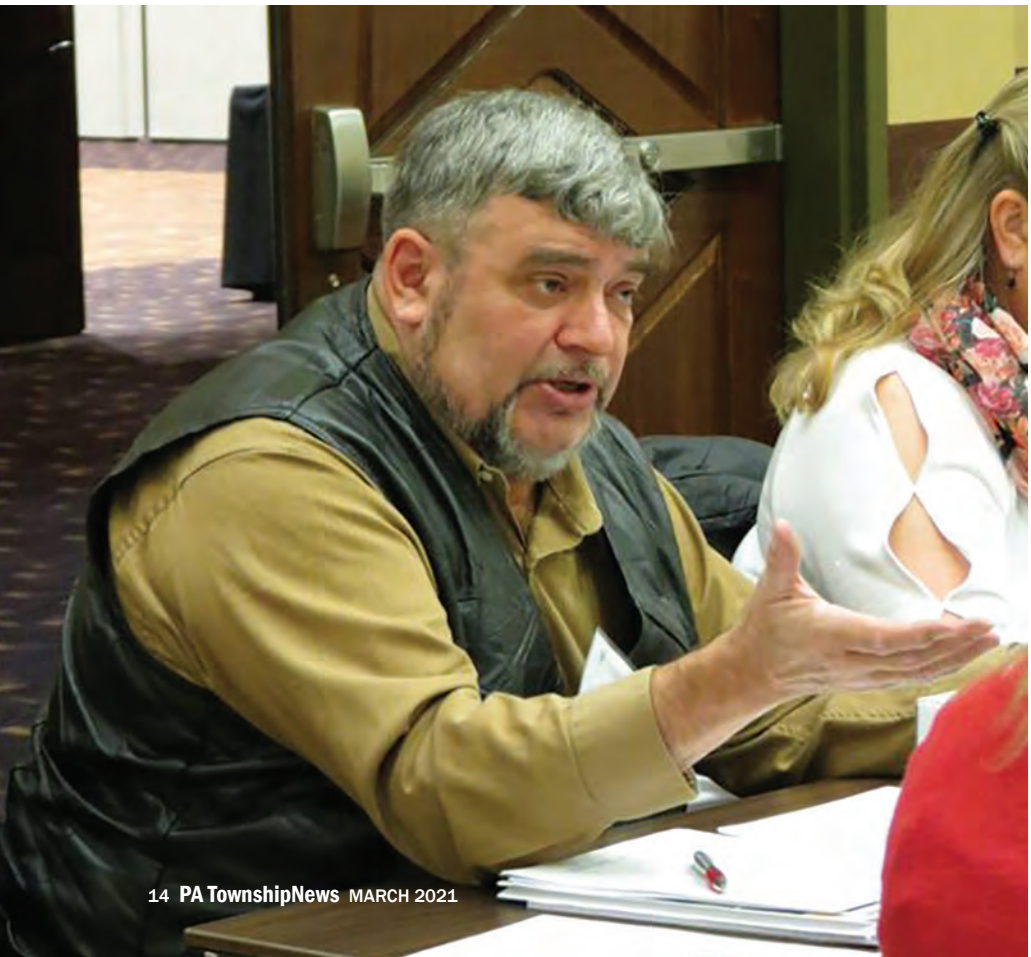
Township residents, worried about their property values, harm to the landscape — the Gettysburg Battlefield is three miles away — the impact on tourism, and the loss of prime farmland, have picketed the municipal building. They've also called on at least one supervisor to resign and hired an attorney to stop the project.

One resident wondered: "Does the benefit outweigh the cost of permanently destroying hundreds of acres of pristine agricultural landscape?" *(Board chair Robert Gormont, citing ongoing legal matters, declined to comment for this article.)*

Meanwhile, farther north, the Montour County Planning Commission has been holding town halls in townships impacted by the Montour One Solar farm, another 1,000-plus acre operation.

Frequently facing opposition, officials have been trying to explain what they can — and can't — do. The commission's director, Greg Molter, is also a supervisor for Derry Township.

"For three months in a row, we have put out statements that we can't stop this [solar farm]," Molter told a local reporter. "Hopefully, people will understand that by law, we can't stop it. ➤



"Hopefully, people will understand that by law, **we can't stop it.** The best thing for us to do is to get on board and **find a way that we can regulate it** within the law."

— Greg Molter, Twp. Supervisor and Director, Montour Co. Planning Commission

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HERE COMES THE SUN

"The best thing for us to do," he added, "is to get on board and find a way that we can regulate it within the law."

Planners are currently developing a solar energy amendment to the county's zoning ordinance that addresses neighbors' concerns while still protecting the rights of landowners and developers. It's a delicate balancing act that requires time, thought, and research.

"We have heard both concerns and positive feedback from residents," Molter said. "We will be taking all that information, as well as information we have gathered from educational venues, legal scholars, DEP, other Pennsylvania counties, and industry professionals, to work into a local document."

Solar in the shadows

Penn State's Tom Murphy says that with more solar proposals being pushed into the grid's approval pipeline, more communities will be having these conversations as local leaders try to figure out how and where solar fits into their community.

Up to this point, however, few have considered it, according to research.

Dickinson's Mohamed Badissy and his law students have been scouring some 2,500 local zoning ordinances for any mention of solar. They're halfway through the project, and so far, only 13 percent of those reviewed address this land use.

These findings indicate that the majority of municipal zoning regulations aren't keeping pace with the quickly growing solar industry.

"And people are trying to play catch up," Murphy says, urging township offi-

cials to take a look around their community. Electric transmission infrastructure increases the odds that solar speculators will be knocking on your township's door if they haven't already started.

"Are you seeing substations and high-voltage transmission lines? Then this is a hot-button issue you should be working on," he says.

Depending on your situation, that could mean amending or updating your zoning ordinance, working with the county planning commission if your township piggybacks on its land use regulations, or sitting down with your solicitor to figure out a plan of action if you lack zoning. *(For a list of helpful resources as you develop guidelines, see the sidebar on page 12.)*

Solar regulations usually address such things as lot size, location, setbacks, signage, stormwater management, animals and vegetation, maintenance, buffers and fencing, and decommissioning, but there's room for creativity, too.

For example, Virginia and a dozen other states participate in the Pollinator-Smart program, which encourages solar farm developers to create habitats for bees, birds, and other wildlife by planting native vegetation.

These meadows of wildflowers and other plants, researchers say, require less mowing than turf grass, making them cheaper to maintain, and help to minimize stormwater runoff.

Whatever approach you take, the goal is to make sure that commercial solar projects are a good fit for your community and a good neighbor. "These projects are local projects and should reflect the priorities of the community," Badissy says.

In Washington Township, Erie County, the supervisors felt so strongly about this that they declared a six-month moratorium on solar development to give the planning commission time to gather public input and create requirements where none existed.

"It was a whole new territory, but we wanted to be ready and have a plan," zoning officer Norm Willow says, adding that under the new zoning ordinance, solar farms are permitted as a conditional use in the township's ag industrial district. "We wanted to direct them to the rural areas of the township."

Recently, Pattern Energy announced plans for a solar farm that straddles 1,600 acres in Washington Township and neighboring Cambridge, Cussewago, and Venango townships in Crawford County.

Finding solutions

Badissy says that developers actually prefer to work with municipalities that have solar regulations because it helps them better calculate their so-called "soft costs," such as permitting and inspection fees.

"These developers come from a world where regulations are commonplace," he says, adding that the first question many ask is about local ordinances. "It's a risk to go into the unknown so they'd rather play a game where they know the rules."

In Northumberland County, officials in East and West Chillisquaque Townships felt it was important to work with developers, who at the time were proposing a $75 million, 700-acre solar farm, so they came together to answer one question: What do we need to do to open the door to solar?

The result was a joint zoning amendment that's intended to protect prime agricultural soils while supporting the right of residents to lease their land for solar. Not everyone is happy with the solution, but West Chillisquaque's chair Vaughn Murray says it's fair.

"[Solar] may not be right for some," he adds, "but it makes sense here. We have a major transmission line and landowners who support it, so we defined what works for our communities and found a solution together." ✦

What happens when a solar farm reaches the end of its life?

There are two sides to every story, and that's certainly true for solar energy.

Yes, it's an affordable source of clean power, but utility-scale farms come with challenges, too, including the potential for increased stormwater runoff and polluted groundwater supplies.

In addition to dealing with these issues, township officials also need to realize that solar farms have a limited life expectancy of around 20 to 30 years. When they reach this stage, two options are available: repowering or decommissioning.

With repowering, the solar farm, or a version of it, is refurbished or replaced and continues operating at the same location for another lease cycle. Decommissioning means the system is going to be deconstructed and removed, and the land either redeveloped or returned to its original use.

In each case, there are significant disposal questions for old units, which are considered hazardous waste. Your township could be impacted in the following ways:

- ***Land use:*** If repowering, the solar farm likely will not expand. Keep in mind, however, that the developers may decide to replace panels or the array's configuration to increase profitability.
- ***Waste and recycling:*** As solar deployment increases, the number of panels in the waste stream is also rising. Approximately 5 percent of panels in the market are made from cadmium, a toxic heavy metal that makes disposal and recycling more difficult. Hazardous waste recycling is an option for the remaining 95 percent of panels. However, depending on the location, landfilling these toxic units may be more convenient and affordable.

Given the implications, communities need long-term land use planning that outlines actions developers and landowners must take as projects approach their end of life. Careful planning and early education on various end-of-life options can balance the many economic and environmental benefits that solar provides while mitigating potential risks and conflicts.

Information courtesy of the Great Plains Institute