WIND FARM MODEL ORDINANCE

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I. Introduction

The spotlight is shining brighter on renewable energy sources, and this requires changes in how we light our homes, charge our cars, and obtain our energy in general. In Pennsylvania the three main energy sources are natural gas, nuclear power, and coal.[1] A mere four percent of current Commonwealth energy consumption is supplied through renewable energy sources. In addition to that, only a third of that four percent can be attributed to wind energy.[2]

Wind farms in Pennsylvania are generating close to 1,500 Megawatts (MW) from 26 windfarms.[3] This is enough energy to provide power to 350,000 Pennsylvanian households.[4] Although this is a step in the right direction, much more is going to be needed to remove Pennsylvania from its fossil fuel dependency and push it towards renewable energy, particularly wind farms. As of 2019, there were over five million households in Pennsylvania.[5] To meet this household need for energy by wind, production will have to produce fourteen times that of which it is generating now.

Pennsylvania had a good and fast start with wind energy in the early-2000s. Located in Wayne County, the Waymart Wind Energy Center is one of the first and largest wind farms in Pennsylvania, operating since 2003.[6] It is the second largest wind farm on this side of the Mississippi River, containing forty-three 1.5 MW turbines. Other major wind farms in Pennsylvania include, Bear Creek, Somerset,

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[1] PENNSYLVANIA STATE PROFILE AND ENERGY ESTIMATES (SEPTEMBER 17, 2020), HTTPS://WWW.EIA.GOV/STATE/ANALYSIS.PHP?SID=PA.
[2] *Id*.
[3] *Id*.
[4] *WIND ENERGY*, DEPARTMENT OF ENVIRONMENTAL PROTECTION, https://www.dep.pa.gov/Citizens/Energy/Renewables/Pages/Wind.aspx (last visited Sept. 27, 2021).
[5] *PENNSYLVANIA*, UNITED STATES CENSUS BUREAU, https://www.census.gov/quickfacts/PA (last visited Sept. 27, 2021).
[6] DEPARTMENT OF ENVIRONMENTAL PROTECTION, *supra* note 4.

Meyersdale, and Mill Run. All of these have been operational since early-2000s and range in having from six to twelve turbines each.[7] Otherwise, wind farm growth has been slow in Pennsylvania and halted for various reasons, including but not limited to citizens' complaints and not receiving permits needed. Based on the recommendations made here and by looking to other jurisdictions' approaches, it is feasible to produce wind farms in the Commonwealth to support current and future demand for renewable energy.

Expanding clean energy in this Commonwealth is a problem that can be fixed. When this problem is reconciled, another arises and that is disposal of wind farms once they are decommissioned. Currently, various townships have taken different stances on decommissioning. Mifflin County, Pennsylvania requires at least 100% of the identified decommissioning costs be posted and maintained by the facility owner or operator.[8] On the contrary, York County, Pennsylvania only requires 25% of decommissioning costs be maintained.[9] Ultimately there is no minimum required for a municipality to base this number off of and there is no requirement with how decommissioning will take place or which entity will bear the remaining costs if the owner or operator of the farm cannot. How the blades and other parts of the wind turbine are disposed of is also a problem once decommissioning happens. Currently the blades are buried in one of the few landfills that accept blades; there are more sustainable ways to dispose of these blades rather than letting them waste away in a landfill. Additionally, one of the biggest push backs with wind farm growth in this Commonwealth is the community and lack of their support. Communities are not supporting expansion for a multitude of reasons including but not limited to noise, aesthetic pollution, and adverse impacts to the environment and surrounding habitats.

Municipalities in Pennsylvania and other states in this country have developed ordinances that circumvent these issues, allowing wind farm growth. Pennsylvania municipalities have adopted

[7] *WIND FARMS IN PENNSYLVANIA*, PENNSYLVANIA WIND WORKING GROUP, http://www.pawindenergynow.org/pa/farms.html (last visited Sept. 24, 2021).
[8] MIFFLIN COUNTY, PA., WIND ENERGY SYSTEMS MODEL ORDINANCE (last visited November 25, 2021).
[9] YORK COUNTY, PA., ENERGY PRODUCING SYSTEMS ORDINANCE, No. 2015-02, § 3(B)(14)(e) (2015).

ordinances that raise the amount of decommissioning costs to be held in bond and make the amount be reassessed and updated every five years. A wind turbine has an average life of twenty-five to thirty years, the cost of decommissioning can drastically change over that lifespan, and it is necessary for an accurate amount be held in trust for decommissioning. Other states in the country have additional clauses in their decommissioning section that defines what "physically remove" means and the requirements for doing so once a turbine is decommissioned.[10]

The various ordinances in Pennsylvania have differing provisions on dealing with noise from windfarms, the environmental impacts, and the adverse impacts on the surrounding habitats. Some ordinances address these topics specifically while others do not. Similarly, other states address these issues in their ordinances. These are the common push-back issues from communities when wind farms are proposed and therefore, it needs to be addressed specifically in the model ordinance for municipalities to adopt.

Through research of best practices in the industry and following what other municipalities and states are doing to successfully expand wind power, it is evident wind power can be expanded in this Commonwealth. Additionally, the problems that arise with expanding wind power will be addressed, including decommissioning problems and lack of community support. With a more complex decommissioning provision in the ordinance, successful decommissioning can be accomplished without putting a monetary burden on the municipalities and potentially more sustainable than what is currently taking place. While addressing the community concerns such as noise and aesthetic concerns, we look to different locations of wind farms that can avoid these issues.

Throughout this paper multiple things will be discussed, first the problems with wind farms and what is preventing the growth in this Commonwealth. Solutions to those problems will also be discussed. It will then move to other ordinances, in and out of the Commonwealth, and how they deal with the

[10] OVILLA, TEX., ZONING ORDINANCE 2010.013 § S (2010).

problems discussed. These solutions will then be applied to the problems within the Commonwealth and ways to improve growth of windfarms. Lastly, the recommendations being made and the ordinance itself will be discussed.

II. Problem(s)

The current model ordinance in place was produced in 2006 and has not been updated since. It is a very generic in terms of requirements for the permit and moving forward with any project. This could be contributing to lack of community enthusiasm when these projects come to town and a company intends to install a wind farm. The current problems for Pennsylvania State Association of Township Supervisors (PSATS) are having an ordinance that will allow wind farm growth, address the decommissioning issues, and help the lack of community support. Since the model ordinance has not been updated in 15 years, it needs to be done so municipalities in the Commonwealth can utilize it.

A. Decommissioning

Decommissioning is touched upon in the current ordinance, but in a very general way and without much guidance for municipalities. A typical turbine has a life expectancy of twenty-five to thirty-five years and once the life of the turbine is expired something needs to be done with it. The current ordinance requires a wind farm company to keep twenty-five percent of decommissioning costs in a trust.[11] This is a good start, but not enough to protect those who may have the burden of paying if the company is no longer able to pay the remaining seventy-five percent of decommissioning costs. By requiring a larger percent be held in a trust it won't be a question of who pays for the decommissioning of the wind farm. Including this in the ordinance will set the requirement for the company.

[11] PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, MODEL ORDINANCE FOR WIND ENERGY FACILITIES IN PA, MODEL 3, § 2 (2006), http://Files.Dep.State.Pa.Us.

Mifflin County has adopted a model ordinance to assist municipalities in regulating wind energy facilities in the county. The ordinance goes into much more depth than the 2006 model ordinance and lays out a stricter requirement for decommissioning. The Mifflin ordinance requires an independent Professional Engineer be retained by the owner/operator to estimate the cost of decommissioning and that this estimate be submitted to the municipality after the first year of operations and then every fifth year after that.[12] This provision requires the decommissioning cost to be updated and stay current. The cost of decommissioning can drastically change over the course of twenty to thirty years. This is relevant because the next provision in the Mifflin ordinance requires the facility owner/operator to maintain at least 100% of the decommissioning funds. The funds must be held with a bonding company or a lending institution.[13] Requiring the entire amount of decommissioning costs to be held and to be updated regularly, holds the owner operator accountable for decommissioning. It doesn't allow for the possibility that decommissioning won't take place properly or that the monetary burden be passed to the municipality. Cumberland County has also adopted this provision, requiring at least 100% of decommissioning costs be held.[14]

Other municipalities in the Commonwealth that have a wind farm ordinance have decommissioning provisions, but they require significantly less to be held for decommissioning. York County for instance only requires 25% of decommissioning costs be held, the minimum set out by the current model ordinance.[15] By setting a low threshold at only 25%, the current model ordinance is allowing municipalities to follow this as a guide which can put them in a financially dangerous position when decommissioning happens. If an owner/operator or landowner cannot make up the remainder of decommissioning funds when the time comes the problem arises of who bares the financial burden.

[12] MIFFLIN COUNTY, PA., WIND ENERGY SYSTEMS MODEL ORDINANCE at pg. 22.
[13] *Id.*
[14] CUMBERLAND COUNTY, PA., WIND ENERGY FACILITIES MODEL ORDINANCE § 4(C)(10) (2011).
[15] YORK COUNTY, PA., ENERGY PRODUCING SYSTEMS ORDINANCE, No. 2015-02, § 3(B)(14)(e) (2015).

A topic that the current model ordinance does not touch on is sustainable decommissioning and what happens to the turbine components. This is similarly not covered in any of Pennsylvania's municipality adopted ordinances. Currently the process for disposal of turbines is to first break down the decommissioned or repowered turbines. Some turbine parts are recyclable and reusable, ninety percent to be exact, but the blades are a different story.[16] The blades get broken into moveable pieces. This is necessary because some blades are larger than an airplane wing, averaging around fifty meters but can be up to eighty meters.[17] Once broken into moveable pieces they are taken to a select few landfills that will accept them and then buried.[18] The blades are thought to be unrecyclable because they are made of resin and fiber glass, but some companies are finding ways around this.

Proper decommissioning is briefly touched upon in a Texas ordinance. Texas is the leading state in this country in terms of wind power generation by producing over twenty-three thousand megawatts (MW) of energy each year and growing.[19] An ordinance from Ovilla, Texas, requires the owner/operator of the Wind Energy System (WES) to remove the WES within 90 days of decommissioning or abandonment. They further define "physically remove" as, "transportation of the tower, turbine, and all other components of the Wind Energy System to an appropriate disposal site."[20] One of the issues that needs to be addressed in this model ordinance update is disposal of the turbines blades. Currently they are being buried in landfills that accept them. There are alternative options to bury the blades including recycling and repurposing.

If disposal of the blades is done in a sustainable way there can be environmental benefits as well as social and economic benefits. Global Fiberglass Solutions (Global) is a Texas company that created a

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[16] CHRISTINA STELLA, *UNFURLINGTHE WASTE PROBLEM CAUSED BY WIND ENERGY*, NPR (SEPT. 10, 2019), https://www.npr.org/2019/09/10/759376113/unfurling-the-waste-problem-caused-by-wind-energy.
[17] CHRIS MARTIN, *WIND TURBINE BLADES CAN'T BE RECYCLED, SO THEY'RE PILING UP IN LANDFILLS*, BLOOMBERG GREEN (FEB. 5, 2020), https://www.bloomberg.com/news/features/2020-02-05/wind-turbine-blades-can-t-be-recycled-so-they-re-piling-up-in-landfills.
[18] *Id.*
[19] LEONARDO DAVID, *A SNAPSHOT OF THE WIND POWER INDUSTRY IN TEXAS*, QUICK ELECTRICITY (APRIL 7, 2021), https://quickelectricity.com/texas-wind-power/.
[20] OVILLA, TEX., ZONING ORDINANCE 2010.013 § S (3)(b) (2010).

method to break down and reuse turbine blades for flooring and walls. The technology is called "EcoPoly Pellets" and it makes pellets from the blades and gives them new life which is then sold to consumers.[21] With this process Global can process 99.9% of a blade and reuse it. The company can handle six to seven thousand blades per year at each of its plants and it currently has two plants, one in Texas and one in Iowa.[22] There are other companies that have a similar process and are finding ways to recommission these blades and give them new life.[23] If a company doesn't want to recycle the blades it can look to reuse or repurpose them. Re-Wind is a United States, Ireland, and Northern Ireland initiative looking to reuse or repurpose old turbine blades.[24] They are primarily being used in Ireland for pedestrian bridges and walkways, civil engineering projects, and roofs for affordable housing.[25]

The issue with decommissioning isn't just with the costs involved, but also with the procedure involved. By addressing these issues before a permit is issued it prevents further problems down the road like; where do these blades go?

B. Windfarm Expansion Setbacks

Growth of renewable energy is a goal for the country as a whole but in particular Pennsylvania. As more companies are looking to put wind farms in the Commonwealth, the community pushback is growing as well. Community pushback is happening in municipalities for a variety of reasons, but the two common themes are concerns over aesthetic pollution and the environmental impacts. The 2006 DEP ordinance addresses the color of the turbines, requiring them to be a non-obstructive color, but it doesn't address the view the turbines may be obstructing. Additionally, it does not address environmental concerns that some citizens have.[26]

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[21] MARTIN, *SUPRA* NOTE 58.
[22] *Id.*
[23] *Id.*
[24] JAMES GIGNAC, *WIND TURBINE BLADES DON'T HAVE TO END UP IN LANDFILLS*, UNION OF CONCERNED SCIENTISTS (OCT. 30,2020), https://blog.ucsusa.org/james-gignac/wind-turbine-blades-recycling/.
[25] *Id.*
[26] PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, MODEL ORDINANCE FOR WIND ENERGY FACILITIES IN PA, (2006), http://files.dep.state.pa.us.

1. Aesthetic Concerns

When a company applies for a permit for a wind farm in a municipality, the zoning board has public hearings. This is an opportunity for the community to express their concerns, and they don't hesitate to do so. A common issue is the aesthetic pollution and potential problems a wind farm brings. In Packer Township, a little less than 200 citizens from the community banded together and with an attorney brought concerns to the board at a meeting. These citizens were concerned with the visibility and sound of the wind farm. The proposed wind farm would have 16 turbines that are the tallest of any others in the country and would be visible from three miles away.[27] In 2020, the Packer Township project was declined because they couldn't get the variances required to move forward. The Packer Township project involved a 17-month fight at the zoning board with 23 hearings.[28] Packer Township doesn't have its own ordinance for wind farms, so it is hard to fight community pushback over these concerns with no support and liberal requirements for the wind farm operators.

Contrary to the DEP ordinance, Mifflin County and Cumberland County have adopted wind farm ordinances that have provisions in them addressing aesthetic concerns. Both ordinances go into much greater detail and Cumberland County has two provisions to choose from regarding scenic vistas. Both ordinances have the same requirement regarding the paint of the turbines and what color they may be and add in that they must be in regulation with the Federal Aviation Administration (FAA).

The Mifflin ordinance has a provision under the Visual Appearance section stating, "No PWEF shall be installed at any location that would substantially detract from or block the view of the major portion of a documented scenic vista, as viewed from any public road right-of-way or publicly-accessible parkland or open space within the Borough/Township.".[29] This provision gives Mifflin County the support to fight community concerns over aesthetics if the wind farm isn't going to block a documented

[27] CHRIS REBER, PACKER HEARING ON TURBINES CONTINUES, NATIONAL WIND WATCH (MAY 5, 2019), https://www.wind-watch.org/news/2019/05/03/packer-hearing-on-turbines-continues/.
[28] JIM DINO, PACKER TWP. ZONERS DENY WIND FARM, NATIONAL WIND WATCH (DECEMBER 24, 2020), https://www.wind-watch.org/news/2020/12/24/packer-twp-zoners-deny-wind-farm/.
[29] MIFFLIN COUNTY, PA., WIND ENERGY SYSTEMS MODEL ORDINANCE at pg. 12.

scenic vista. This isn't to say the community concerns aren't important or to be considered, but it could prevent year-long fights at zoning board meetings and the cancelation of projects like in Packer Township.

The Cumberland ordinance gives the township/borough an option of which provision to use for aesthetic concerns. There is the option to choose from either, "PWEF shall not significantly impair a scenic vista or scenic corridor as identified in the Borough/Township's comprehensive plan or other published source" or "No PWEF shall be installed at any location that would substantially detract from or block the view of the major portion of a recognized scenic vista, as viewed from any public road right-of-way or publicly-accessible parkland or open space within the Borough/Township." There is a little more leniency here because the scenic vista doesn't have to be documented, it just has to be recognized. Although this approach may open the doors for a little more community pushback, it can still be effective in supporting the wind farm projects and to assist in fighting the pushback.

One way to avoid the aesthetic concerns of the community is to utilize Brownfield sites and specifically abandoned mine lands. Currently, no Pennsylvania wind farm ordinance covers this. Rock Run ATV Park is located on an old strip mine.[30] Given Pennsylvania's history with strip mining and the abandoned mines that are being taken care of by the Abandoned Mine Reclamation Program, it should be a focus to try to reclaim these lands with a new, clean form of energy.[31] This would assist the Mine Reclamation Program, which is losing its monetary support this year by the Abandoned Mine Land fee not being renewed.[32] It would also expand clean energy where there might not be too much community push back since there is only abandoned mine land there now. Due to environmental issues and safety

[30] *Id.*
[31] *BUREAU OF ABANDONED MINE RECLAMATION*, DEPARTMENT OF ENVIRONMENT PROTECTION, https://www.dep.pa.gov/Business/Land/Mining/AbandonedMineReclamation/Pages/default.aspx (last visited Sept. 23, 2021).
[32] *PENNSYLVANIA'S SURFACE MINING CONTROL AND RECLAMATION ACT FUNDED ABANDONED MINE LANDS PROGRAM: PAST, PRESENT, AND FUTURE*, DEPARTMENT OF ENVIRONMENTAL PROTECTION (March 2019), https://files.dep.state.pa.us/Mining/Abandoned%20Mine%20Reclamation/AbandonedMinePortalFiles/AML_Fact_Sheet_Final_2019_03_11.pdf.

concerns, a lot of old mine lands lay idle with no purpose.[33] Allowing more wind farms to habitat them could change this and give these once environmentally destructive lands a new life.

With between 80,000 to 250,000 abandoned mine lands (AML) across the United States, there are ample opportunities to expand wind farms to these areas. Coincidentally most mine lands have the requirements needed for a wind farm and the infrastructure already in place.[34] Installing a wind farm in an area is more than just the turbines, there needs to be access roads and infrastructure in place. These infrastructure requirements expand the time to complete a project and require extra permits and extra costs. A few of these steps and costs could be eliminated by reusing land that already has the infrastructure.[35] Additionally, the requirement for a consistent wind flow is found is many AML locations because they are usually found on mountaintops.[36]

There are two big successes regarding wind farms on AMLs, one in Tennessee and one in Pennsylvania. Tennessee's Buffalo Mountain Wind Farm is on a former strip mine that now generates 27,000 kilowatts (kW) hours of energy each year through 15 turbines.[37] The former strip mine in this location was decommissioned in 1990 with reclamation taking place shortly thereafter. Once Tennessee Valley Authority (TVA) negotiated with the former strip mine landowners, they next went to the community for support on the project. Through various community meetings and having it be involved in the process, TVA found support for the wind farm. Additionally, having the community support and building those relationships helped with funding the project. Somerset Wind Farm in Pennsylvania was created on land previously used as coal mines. The location was picked because of its proximity to existing infrastructure and the wind flows.[38] Using AMLs to expand wind power in Pennsylvania can

[33] *A BREATH OF FRESH AIR FOR AMERICA'S ABANDONED MINE LANDS*, UNITED STATES NUCLEAR REGULATORY COMMISSION AT 1, https://www.nrc.gov/docs/ML0532/ML053210103.pdf.
[34] *Id.*
[35] *Id.* at 2.
[36] *Id.*
[37] *BUFFALO MOUNTAIN WIND ENERGY CENTER*, THE WIND POWER, https://www.thewindpower.net/windfarm_en_3154_buffalo-mountain-wind-energy-center.php.
[38] *A BREATH OF FRESH AIR FOR AMERICA'S ABANDONED MINE LANDS*, UNITED STATES NUCLEAR REGULATORY COMMISSION AT 1, https://www.nrc.gov/docs/ML0532/ML053210103.pdf. at 8.

allow for a new use for these lands that otherwise may not get cleaned up or that are just going to remain abandoned.[39] The economies in these communities once thrived and by bringing in wind farms they can economically thrive again. Promoting the use of AMLs for wind farms incentivizes the remediation of these lands, which can benefit the surrounding ecosystems, wildlife, and water quality.[40]

2. Environmental Impacts

Another major fighting point of communities against wind farms are the environmental impacts some wind farms may have. When one thinks of wind farms the first thought is they are good for the environment because they are generating a renewable energy source, but the location of wind farms can have an adverse impact on the local community.

A common issue is the danger wind turbine blades place on flying wildlife, particularly birds and bats.[41] The Cumberland County ordinance is the only one that has substantial requirements for protecting the environment before a wind farm permit is even issued. Under the setback section of the ordinance, it requires certain setbacks for bird areas and wetlands. This is one way to ensure a windfarm isn't installed in a common bird migration path or habitat. It also is an effort to protect the wetlands of the Commonwealth by prohibiting a wind farm within a certain distance of a wetland. The Cumberland ordinance permits the distance to be chosen, but does give suggestions of 1,500-2,000 feet or more.[42]

In addition to that, the placement of wind farms can have a big impact on the habitat of wildlife, but also effect vegetation and waterways. There are three Pennsylvania counties that have ordinances that require "relevant studies" to be done before permits are issued for a wind farm; Mifflin, York, and Cumberland. One thing the 2006 DEP ordinance is missing is it doesn't address any environmental concerns. The three ordinances that address it have the same language, "Other relevant studies, reports,

[39] *Id.* at 10.
[40] UNITED STATES NUCLEAR REGULATORY COMMISSION *SUPRA* NOTE 38 AT 10.
[41] *ENVIRONMENTAL IMPACTS AND SITING OF WIND PROJECTS*, ENERGY EFFICIENCY AND RENEWABLE ENERGY, https://www.energy.gov/eere/wind/environmental-impacts-and-siting-wind-projects.
[42] CUMBERLAND COUNTY, PA., WIND ENERGY FACILITIES MODEL ORDINANCE § 4(B)(2)(VII) (2011).

certifications and approvals as required by this Ordinance or as may be requested by the Borough/Township to ensure compliance with this Ordinance."[43] Even with that language it isn't explicit in protecting the surrounding habitats or ensure there won't be degradation of said habitats.

Mifflin and Cumberland counties go one step further with their environmental protections and require soil studies to be done. Cumberland County requires soil conditions to be analyzed by an engineer for the foundation to be planned, but detailed soil studies aren't required unless the wind farm is going to be installing an accessory wind energy facility greater than 20kW.[44] The Mifflin County ordinance has the same latter provision. Although this is a good start it doesn't push for the goal of protecting the existing habitat and requires very little of the applicant to do studies.

Although not in Pennsylvania, Michigan has extensive provisions for environmental protections in an ordinance. In Centerville Township, Michigan, the ordinance has multiple sections requiring various tests and studies to be done before issuing a permit for a wind farm. It first requires an environmental impact and analysis plan, in which it must describe the environmental characteristics of the site prior to development, the natural features that will be removed, remain, or modified, and identify natural resources that may be impacted. Lastly this section requires the applicant to identify any effect or concerns that will remain after mitigation.[45] Although this seems extensive, it can be effective in protecting the existing habitat. By explicitly requiring these tests and studies prior to permit approval, it is less for the community to fight against. If there was an adverse environmental impact, it would be stated in these tests and be objective for the zoning board or permitting authority to deny the permit.

III. Recommendations

It is recommended that the Pennsylvania State Association of Township Supervisors adopt this model ordinance for municipalities to utilize to expand wind farms in the

[43] *Id.* at § 4(D)(9).
[44] *Id.* at § 4(A)(19)(3).
[45] CENTERVILLE TOWNSHIP, MICH., ZONING ORDINANCE FOR COMMERCIAL WIND ENERGY SYSTEMS, § 4.23.3.11 (2010).

Commonwealth. We recommend adopting a stricter requirement for decommissioning of wind farms and making the owner/operators keep one hundred to one hundred and ten percent of the costs in a trust or bond. This will avoid problems down the road when the decommissioning or repowering must take place. Mifflin and Cumberland counties have increased this percentage to be kept in bond. By doing this the counties are protecting the land and ensuring the funds are there to decommission when the time comes. Along with decommissioning, there should be more addressing on what happens at decommissioning. Contrary to popular belief there are sustainable ways to decommission wind farms, including recycle or repurposing the old blades. If the company is planning on recycling old blades or sending them off to be repurposed that should be explained by the applying company before a decision is made on the application. No municipalities in Pennsylvania have done this in their ordinances yet, neither has the 2006 DEP ordinance, but that should not prevent it from happening. The wind farm industry has drastically changed as improvements have been made over the years and in an effort to continue that growth, sustainable decommissioning should be supported and incentivized if and when possible.

Attempting to protect the surrounding and existing habitats of proposed wind farms sights, we recommend more in-depth studies be required by potential wind farm owner/operators. The three Pennsylvania county ordinances discussed: Mifflin, Cumberland, and York, addressed soil studies or "other relevant studies" but nothing directly about migratory birds, endangered species, or the habitat before and after construction. This ordinance hopes to change that by requiring pre and post construction monitoring to determine the risk to wildlife if a wind farm is erected in the area. The ordinance also prohibits wind farms in an area that would affect the habitat of any endangered or threatened species.

Not covered by the existing Pennsylvania ordinances is brownfields and abandoned mine lands. To make the Commonwealth greener and give these lands new life, this ordinance encourages the development of wind farms on Brownfield sites. The AMLs spread throughout this state are going unused and have the potential to grow wind at a lower cost since the infrastructure is already there in more areas. This is also one way to encourage community support rather than pushback.

IV. Conclusion

In conclusion, expanding wind power in Pennsylvania is possible and can be a success story, with the proper changes and support. With an adoption of an ordinance that has stricter decommissioning provisions, protects the surrounding habitat and environment, and encourages growth in novel places, support by the surrounding community should be easier to come by. The goal of making Pennsylvania more renewable and not as dependable on dirty energy sources can be within reach with the recommendations made and the model ordinance developed.

Commercial Wind Farm Model Ordinance

ORDINANCE NO. _____

AN ORDINANCE OF THE _____[TOWNSHIP/BOROUGH] OF _____COUNTY, PENNSYLVANIA, TO ESTABLISH REGULATIONS RELATED TO THE IMPLEMENTATION OF COMMERCIAL, OR UTILITY SCALE WIND FARMS AS ALTERNATIVE ENERGY SOURCES

NOW, THEREFORE, BE IT ENACTED AND ORDAINED by the authority of the [Council/Board] of the _____ [Township/Municipality] of _____ County, Pennsylvania:

Chapter 1

General provisions

Section 101. **Short title.**

This ordinance shall be known as the Commercial Wind Farm Ordinance of the [Township/Borough] of _____.

Section 102. **Legal authority.**

This ordinance is authorized under Article VI of the Act of July 31, 1968 (P.L. 805, No. 247), known as The Pennsylvania Municipalities Planning Code and the Act of May 1, 1933 (P.L.103, No. 69), known as The Second-Class Township Code.

Section 103. **Purpose.**

The purpose of this ordinance is to provide regulations necessary for the construction, operation and decommissioning of commercial wind farms on land in [*municipality*], while promoting the general public health, safety and welfare of citizens in [*municipality*]. [46]

Section 104. **Definitions.**

The following words and phrases when used in this ordinance shall have the meaning given to them in this section unless the context clearly indicates otherwise:

"Agency." The person or entity chosen by the township or municipality to administer the ordinance.

"Commercial Wind Farm." A wind energy system consisting of more than one wind turbine exceeding 1 megawatt (MW) in size and connected to the power grid.[47]

"Decibel." The unit of measurement used to express magnitude of sound pressure and sound intensity.[48]

"dB(A)." The sound pressure level in decibels in the "A" weighted scale defined by the American National Standards Institute (ANSI).[49]

"Ice Throw." The term applied to the shedding of ice from a turbine blade while the turbine is in operation.[50]

[46] Pennsylvania Department of Environmental Protection, Model Ordinance for Wind Energy Facilities in PA, Model 3, § 2 (2006), http://files.dep.state.pa.us.
[47] U.S. Department of Energy, Land based Wind Energy Economic Development Guide (2021), https://windexchange.energy.gov/economic-development-guide.
[48] SHIAWASSEE COUNTY, MICH., ZONING ORDINANCE, § 4.3.76(2)(C) (2018).
[49] *Id.* at, § 4.3.76(2)(D) (2018).
[50] Center for Rural Affairs, Icing and Wind Energy Systems (2020), https://www.cfra.org/sites/default/files/publications/icing-and-wind-energy-systems.pdf

"Land Owner." The person, partnership or corporation which holds title to the property in fee simple or as a long-term lessee.

"Meteorological Tower." A structure, whether free standing or supported by guy wires and ground anchors, with attached equipment including an anemometer, a wind direction vane and temperature and pressure sensors and other measurement devices, to measure and assess the wind resource in the project area.[51]

"Met Tower." A meteorological tower.[52]

"Non-Participating Landowner." A landowner whose property does not have a wind energy system located on the property pursuant to an agreement with a facility owner or operator.[53]

"Occupied Building." A residence, school, hospital, church, public library, commercial building or other building used for public gatherings that is in use when a permit application is submitted.[54]

"Operator." The entity that is responsible for the functioning of the commercial wind farm.

"Shadow Flicker." The effect produced when the blades of an operating wind turbine pass between the sun and an observer, casting a readily observable, moving shadow on the observer and the immediate environment.[55]

[51] Me. Rev. Stat. tit. 38, § 480-HH(1)(D).
[52] CLARION COUNTY, PA., NONRESIDENTIAL WIND ENERGY SYSTEMS ORDINANCE, § 2 (2021).
[53] *Id*.
[54] *Id*.
[55] CENTERVILLE TOWNSHIP, MICH., ZONING ORDINANCE FOR COMMERCIAL WIND ENERGY SYSTEMS (2010).

"Wind Turbine." A wind energy conversion system that converts wind energy into electricity through the use of a wind turbine generator. The term includes the nacelle, rotor and pad transformer, if any.[56]

Chapter 2

Guidelines

Section 201. **Avoiding or mitigating public health and safety, nuisance and annoyance issues.**

(a) Sound.-- Audible sound from a commercial wind farm shall not exceed fifty-five (55) dB(A), as measured from the property line, or alternatively, from the closest neighboring inhabited structure of a non-participating landowner.[57] This sound pressure level may be exceeded during short-term events including, but not limited to, utility outages and severe storms. If the ambient sound pressure level exceeds 55 dB(A), the standard shall be ambient dB(A) plus 5 dB(A).[58]

(b) Shadow flicker. --

(1) Wind turbines shall be placed according to the setback provisions in section 203, (relating to competing land uses and setback distances).

(2) Land owners within shadow flicker proximity of wind farms shall have the opportunity to waive shadow flicker limits.[59]

[56] CLARION COUNTY, PA., § 2.
[57] YORK COUNTY, PA., ENERGY PRODUCING SYSTEMS ORDINANCE, No. 2015-02, § 4(A)(3) (2015).
[58] GRATIOT COUNTY, MICH., WIND ENERGY ORDINANCE, ch. 14, § D6 (2010).
[59] *Id.*

(c) Ice throw. -- Ice throw from the wind turbine shall not cross the property lines of the site on which the commercial wind farm is located and shall not impinge on a public right-of-way or overhead utility line.[60]

(d) Pre- and post-construction monitoring for public health and safety, nuisance, and annoyance issues. --

(1) To the extent applicable, the commercial wind farm shall comply with the act of November 10, 1999 (P.L.491, No. 45), known as Pennsylvanian Uniform Construction Code Act.[61]

(2) All electrical components of a commercial wind farm shall conform to relevant and applicable local, State and Federal codes, and relevant applicable international standards.[62]

(3) The design of the commercial wind farm shall conform to applicable industry standards, including those of the American National Standards Institute (ANSI).[63]

Section 202. **Preventing harm to flora, fauna and habitats.**

(a) Wildlife and habitat exclusion zones. --

[60] CENTERVILLE TOWNSHIP, MICH., § 4.23.3.13.
[61] LOGAN TOWNSHIP, PA., WIND ENERGY FACILITY OVERLAY ZONE ORDINANCE FOR LOGAN TOWNSHIP, § 1407(B) (2009).
[62] *Id*. at § 1407(D).
[63] *Id*. at § 1407(A).

(1) At no point shall development and operation of a commercial wind farm be in effect that would interfere, harm or otherwise impede the habitat of a threatened or endangered species under Federal and State law.

(2) Development and operation of a wind energy system shall not have a significant adverse impact on migratory bird species.[64]

(b) Wildlife habitat pre- and post-construction monitoring. --

(1) The operator shall require pre-construction monitoring and assessments conducted throughout multiple seasons by an individual with expert authority of the species to accurately determine the risk posed to wildlife in from the data gathered and reviewed that reflects the relevant breeding, feeding, sheltering, staging or migration periods for each species in the study.[65]

(2) The operator shall require post-construction monitoring and assessments to be conducted throughout multiple seasons by an individual with expert authority of the species to accurately evaluate the harm to the species monitored in the pre-construction assessment.

(3) The pre- and post-construction monitoring reports shall be provided to the operator and [*municipality's*] agency for compliance review.

(c) Mitigation and operating practices to mitigate negative impacts. --

(1) The operator shall submit a quarterly report to the agency that identifies all bird and bat fatalities found within 500 feet of the wind turbine generator.

[64] CENTERVILLE TOWNSHIP, MICH., § 4.23.3.10.
[65] *Id.*

Reporting shall continue for at least three years after turbine operations begin, or longer if required by the [*municipality*].[66]

(2) In the event of extraordinary mortality of threatened or endangered species, or discovery of an unexpected large number of fatalities of birds and bats of any variety on site, the United States Fish and Wildlife Service, Pennsylvania Department of Environmental Protection, Pennsylvania Department of Conservation and Natural Resources, and the [*municipality*] agency shall be notified within 24 hours by the operator. The operator shall, within 30 days, submit a report to the [*municipality*] agency describing the cause of the occurrence and the steps taken to avoid future occurrences.[67]

Section 203. **Critical competing land uses and setback distances.**

(a) Competing land uses. --

(1) Priority status shall be given to commercial wind farm development on brownfield sites through the Act of May 19, 1995 (P.L. 4, No. 2), known as the Land Recycling and Environmental Remediation Standards Act.[68]

(2) The use of prime agricultural lands within this Commonwealth as a site for commercial wind farm construction shall be prohibited unless:

[66] CENTERVILLE TOWNSHIP, MICH., § 4.23.3.10.
[67] *Id*.
[68] Various tax incentives available through the Commonwealth encourage the land recycling program such as, Alternative and Clean Energy Program (ACE), Industrial Sites Reuse Program (ISRP), Pennsylvania First Program (PA First) and Renewable Energy Program (REP). *See* http://dced.pa.gov/program/

(i) the landowner is able to continue to utilize a minimum of 75% of the prime agricultural lands for farming; and

(ii) the landowner is subsidizing the land use through a commercial wind farm land lease to secure income stability.[69]

(3) Locations of special cultural, anthropological, sacred or highly valued scenic vistas as designated by [*municipality*] shall not be considered viable lands for a commercial wind farm.

(b) Setback distances. --

(1) The distance between a commercial wind farm and the non-participating land owner's property lines shall be at least 1.5 times the height of the commercial wind farm turbine or consistent with provisions for reducing shadow flicker and noise, including the top of the blade in the vertical position.[70]

(2) The distance between a met tower and the nonparticipating land owner's property lines shall be at least 1.5 times the height of the tower.[71]

(3) Exceptions for neighboring property are permitted with the written consent of the property owners. [72]

[69] Jaclyn Kahn, et al., *State Approaches to Wind Facility Siting*, NATIONAL CONFERENCE OF STATE LEGISLATURES (Sept. 2, 2020), https://www.ncsl.org/research/energy/state-wind-energy-siting.aspx#policy.
[70] HURON COUNTY, MICH., ZONING ORDINANCE ch. 13, § 1308(5)(a)(1) (2018).
[71] *Id*. at § 1308(5)(a)(2).
[72] *Id*. at § 1308(5)(a)(3).

(4) No part of the commercial wind farm structure, including guy wire anchors, may extend closer than ten feet to the non-participating landowner's property lines.

(5) The distance between a commercial wind farm and a road or public right-of-way shall be at least 1.5 times the height of the wind turbine tower, or consistent with provisions for reducing shadow flicker and noise, including the top of the blade in its vertical position or tip height.[73]

(6) The distance between a met tower and a road or public right-of-way shall be at least 1.5 times the height of the met tower. [74]

(7) No part of a commercial wind farm structure, including any guy wire anchors, may extend closer than ten feet to a road or a public right-of-way.[75]

Section 204. **Application.**

(a) Narrative. -- A narrative describing the proposed commercial wind farm shall include:

(1) An overview of the project.

(2) The project location.

(3) Approximate generating capacity of the commercial wind farm.

[73] *Id*. at § 1308(5)(a)(4).
[74] *Id*. at § 1308(5)(b)(1).
[75] *Id*. at § 1308(5)(b)(3).

(4) Approximate number, types and height or range of heights of wind turbines to be constructed including generating capacity, dimensions and respective manufacturers.

(5) A description of ancillary facilities.[76]

(b) Land lease. --

(1) A land lease or similar evidence of agreement between the property owner and the operator demonstrating the operator has the authorization to apply for necessary permits for construction and the operation of the commercial wind farm and setting forth the operator's and property owner's name, address, and phone number.[77]

(2) The application shall include identification of the properties on which the proposed commercial wind farm will be located and the properties adjacent.[78]

(c) Site plan. -- A site plan showing the planned location of each wind turbine, property lines, setback lines, access road and turnout locations, substation, electrical cabling from the wind turbine to the substation, ancillary equipment, buildings, and structures, including permanent met towers, associated transmission lines and layout of all structures within the geographical boundaries of an applicable setback.[79]

[76] CUMBERLAND COUNTY, PA., WIND ENERGY FACILITIES MODEL ORDINANCE § 4(D)(1) (2011).
[77] *Id*. at § 4(D)(2).
[78] *Id*. at § 4(D)(3).
[79] *Id*. at § 4(D)(4).

(d) Decommissioning. -- A decommissioning plan that adheres to Section 205(b) (relating to permit requirements for construction and decommissioning).[80]

(e) Wind study. -- A wind resource study shall be submitted documenting wind resources at the site. The study shall include data showing average wind speeds capable of generating electricity, the available capacity to transmit the electricity into the power grid, and other documents the municipality may require.[81]

(f) Nuisance. -- A noise and shadow flicker study shall meet the requirements set forth in section 201 (relating to mitigating nuisance and annoyance issues).[82]

(g) Wildlife. -- The operator shall follow the United States Fish and Wildlife Service *Land-Based Wind Energy Guidelines (2012)* for selecting an appropriate commercial wind farms site, including completing a potential impact checklist and calculating the potential impact index.[83, 84] Completed reports documenting wildlife and habitat studies showing the requirements will be met shall be in compliance with section 202 (relating to preventing harm to flora, fauna and habitats).

(h) Design compliance. -- The operator shall submit certificates of design compliance obtained by the equipment manufacturers from Underwriters' laboratories, Det Norske Veritas, Germanishcer Lloyd Wind Energies or other similar certifying organizations.[85]

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[80] *Id*. at § 4(D)(5).
[81] Separate wind studies needed for offshore commercial wind farm construction. *Id*. at § 4(D)(6).
[82] *Id.* at §§ 4(D)(7), (8).
[83] CENTERVILLE TOWNSHIP, MICH., § 4.23.3.10.
[84] U.S. Fish and Wildlife Service, Land-Based Wind Energy Guidelines (2012), https://www.fws.gov/ecological-services/es-library/pdfs/weg_final.pdf.
[85] LOGAN TOWNSHIP, PA, § 1407(B).

(i) Procedures for complaint. -- The operator shall submit to [*municipality*] the procedures it will use to receive and respond to complaints and disputes regarding the commercial wind farm and facilities. Procedures shall include provisions or immediate response to complaints regarding an unsafe wind turbine and serious violations of this ordinance.[86]

(j) Fees. --

(1) Application shall include the appropriate permit fee as established by [*municipality*].[87]

(2) A professional fee escrow deposit of $1,000 for the purpose of engineering review, construction compliance, safety and Certificate of Operation as established in [*municipality*] Fee Schedule.[88]

(k) Other. -- Any other relevant studies, reports, certifications and approvals as required by this Ordinance or as may be required to requested by [*municipality*] to ensure compliance with this Ordinance.[89]

Section 205. **Permit requirements for construction and decommissioning.**

(a) Construction. --

(1) Prior to obtaining a permit for any commercial wind farm, the operator of the proposed commercial wind farm, at the operator's expense, shall conduct any

[86] CENTERVILLE TOWNSHIP, MICH., § 4.23.4.18.
[87] OVILLA, TEX., ZONING ORDINANCE art. 4, § 42.4(B)(1) (2010).
[88] *Id.* at § 42.4(B)(2).
[89] CUMBERLAND COUNTY, PA, § 4(D)(9).

and all geological and environmental studies to ensure the facilities will not adversely impact the environment at and around the proposed construction site.

(2) Prior to obtaining a permit for any commercial wind farm the operator of the proposed commercial wind farm, at the operator's expense, shall obtain any and all necessary permits required by any and all applicable Commonwealth and Federal laws and agencies to ensure that a commercial wind farm is appropriate for the proposed construction site and the facilities will not adversely impact the environment at and around the proposed construction site.

(3) The operator shall submit to the [*municipality*] within 10 days of the date of receipt thereof, a copy of the results of any such studies, permits, comments or recommendations from all agencies and in no case shall any land development plan be approved prior to the [*municipality*] receiving any and all such copies.[90]

(4) When a municipality's zoning structure prohibits commercial wind farm use, a zoning permit application for an exception for a commercial wind farm shall be accompanied by standard drawings of the wind turbine structure and stamped engineered drawings of the tower, base, footings, and foundation as provided by the manufacturer.[91]

(3) Written consent letters waiving setback distances must be submitted at the time of the site permit.[92]

(b) Decommissioning. --

[90] LOGAN TOWNSHIP, PA., § 1407(I).
[91] CLARION COUNTY, PA., § 3(20)(i).
[92] HURON COUNTY, MICH., ch. 13, § 1308(5)(a)(1).

(1) The operator shall, at his expense, complete decommissioning of the commercial wind farm or individual wind turbines, within 12 months after the end of the wind turbine's respective useful life, which shall be presumed to be the case if no electricity is generated for a continuous period of 12 months.[93]

(2) Decommissioning shall include removal of the wind turbines, buildings, cabling, electrical components, roads, foundations to a depth of 36 inches, and any other associated facilities.[94]

(3) Disturbed earth shall be graded, re-seeded, and otherwise restored to its previous state, unless the landowner requests in writing that the access roads or other land surface areas not be restored.[95]

(4) An independent and certified Professional Engineer shall be retained by the operator to estimate the total cost of decommissioning without regard to salvage value of the equipment, and the cost of decommissioning net salvage value of the equipment. Estimates shall be submitted to the [*municipality*] after the first year of operation and every fifth year thereafter.[96]

(5) The operator shall post and maintain decommissioning funds in an amount (100% or 110%) of the identified decommissioning costs, as adjusted over time.[97]

(6) The decommissioning funds shall be posted and maintained with a bonding company or Federal or Commonwealth chartered lending institution

[93] Pennsylvania Department of Environmental Protection, Model Ordinance.
[94] *Id.*
[95] *Id.*
[96] *Id.*
[97] CUMBERLAND COUNTY, PA., § 4(C)(10)(vi).

chosen by the operator, as long as the bonding company or lending institution is authorized to conduct such business within the Commonwealth and is approved by the [*municipality*].[98]

(7) Decommissioning Funds may be in the form of a performance bond, surety bond, letter of credit, corporate guarantee, or other form of financial assurance as may be acceptable to the [*municipality*].[99]

(7) If the operator fails to complete decommissioning within the period described under this section, the landowner, if different from the operator, shall have six (6) months to complete the decommissioning.[100]

(8) If neither the operator nor the landowner complete decommissioning within the periods prescribed under this section, as applicable the [*municipality*] may take such measures as necessary to complete decommissioning.[101]

(i) The submission of the application, as signed by the operator shall constitute agreement and consent of the operator and the landowner and their respective heirs, successors and assigns that the [*municipality*] may take such action as necessary to implement decommissioning.[102]

(ii) Any cost by [*municipality*] incurred to implement decommissioning in excess of the decommissioning funds shall be borne by the operator and the landowner, jointly, and if not promptly paid, shall

[98] *Id.*
[99] *Id.* at § 4(c)(10)(vii).
[100] Pennsylvania Department of Environmental Protection, Model Ordinance.
[101] *Id.*
[102] *Id.*

become a lien on the underlying property in accordance with all applicable laws.[103]

(9) The [*municipality*] shall release the decommissioning funds, upon written request, when the operator or landowner has demonstrated to the [*municipality's*] satisfaction that decommissioning has been completed, or upon written approval of the [*municipality*] in order to implement the decommissioning plan.[104]

(10) Every effort must be made to seek sustainable alternatives to standard wind turbine disposal in order to reduce landfill waste and pollution.[105]

Section 206. **Dispute resolution and mitigation.**

(a) Noise complaint. --

(1) [*Municipality*] Agency shall maintain a Noise Complaint Log. [*Municipality*] shall review this log at least once a year to identify and address potential adverse noise impacts.

(2) During the review process, the [*municipality*] may require additional sound studies to be prepared by an acoustic engineer approved by [*Municipality*]. Complaints shall be reported, documented, and resolved.[106]

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[103] *Id*.
[104] *Id*.
[105] Sustainable alternatives to be considered should include using the blades as a raw material in cement manufacturing, composite panels, railroad ties, plastic composite pellets, sports equipment, and vehicle parts. These considerations should be included in the applicant's Decommissioning Plan, as well as being reevaluated every five years to coincide with the decommissioning cost review. John Berg, *Wind Turbine Blades: Options at End of Life*, Kleinman Center for Energy Policy (July 8, 2021), https://kleinmanenergy.upenn.edu/news-insights/wind-turbine-blades-options-at-end-of-life.
[106] CENTERVILLE TOWNSHIP, MICH., § 4.23.3.11.

(b) Ice throw. -- Issues arising from ice throw complaints shall be handled by the [*Municipality*] Agency.

Chapter 3

Operating Requirements

Section 301. **Safety.**

(a) Unauthorized access. -- All commercial wind farms shall be designed to prevent unauthorized access to electrical and mechanical components and shall have access doors that are kept securely locked at all times when service personnel are not present.[107]

(b) Fluids. -- All spent lubricants and cooling fluids shall be properly and safely removed in a timely manner from the site of the commercial wind farm.[108]

(c) Warning. -- A clearly visible warning sign concerning voltage shall be placed at the base of all pad mounted transformers and substations.[109]

(d) Lighting. -- All wind turbines shall have lightning protection.[110] Manner and type of lighting are limited to Federal Aviation Administration (FAA) requirements.[111]

Chapter 4

Appeals and Enforcement

Section 401. **Appeals.**

[107] CENTERVILLE TOWNSHIP, MICH., § 4.23.3.9.
[108] *Id*.
[109] CLARION COUNTY, PA., § 4(A)(9)(i).
[110] HURON COUNTY, MICH., ch. 13 § 1308(5)(e).
[111] CUMBERLAND COUNTY, PA., § 4(A)(5).

(a) Permit denial. -- After a permit denial, the operator has 30 days to appeal decision to the Zoning Hearing Board. Decisions by the zoning board may be appealed to the county's Court of Common Pleas within 30 days.[112]

(b) Fine issuance. -- A fine issued to the operator may be appealed to the Zoning Hearing Board within 10 days of receipt of fine.

Section 402. **Enforcement.**

(a) Violations. -- Any person, partnership or corporation who or which has violated the provisions of this ordinance shall, upon being found liable in a civil enforcement initially brought before a district justice by the County, pay a judgment of not more than $500 plus all court costs, including reasonable attorney fees incurred by the County as a result. No judgment shall commence or be imposed, levied or payable until the date of the determination of a violation by the district justice.[113]

(b) Prohibition of construction and operation without permit. -- Construction and operation of a commercial wind farm is prohibited without a permit issued under this Ordinance.

(c) Failure to pay. --

(1) If the defendant neither pays nor timely appeals the judgment, the County may enforce the judgment pursuant to the applicable rules of civil procedure.

(2) Each day that a violation continues shall constitute a separate violation, except if the district justice, determining there has been a violation, further determines there was a good faith basis for the person, partnership or corporation violating the ordinance to have believed there was no violation, it shall be deemed to have been only one violation until

[112] The Pennsylvania Municipalities Planning Code, Article X-A § 1002-A(a).
[113] CLARION COUNTY, PA., § 5(3).

the fifth day following the date of the determination of a violation by the district justice and thereafter each day that a violation continues shall constitute a separate violation.[114]

Chapter 5

Severability, Repeals, and Effective Date

Section 501. **Severability.**

Should any provision or section of this Ordinance be held unconstitutional or invalid, such ruling shall not affect the validity of the remaining portions of the Ordinance. It is intended that this Ordinance shall stand notwithstanding the invalidity of any part thereof.[115]

Section 502. **Repeals.**

Any Ordinance of parts thereof that are inconsistent with this Ordinance are hereby repealed. The adoption of this Ordinance, however, shall not affect or prevent any pending or future prosecution of, or action to abate, any existing violation of the prior Ordinance, as amended if the use, so in violation, is in violation of the provisions of this Ordinance.[116]

Section 503. **Effective Date**.

This Ordinance shall take effect in 90 days.[117]

[114] *Id.*
[115] HURON COUNTY, MICH., ch. 1 § 106.
[116] *Id*. at § 108.
[117] Non-Family Member Housing Model Ordinance, Chris Williams and Austin Grace, https://widenerenvironment.files.wordpress.com/2021/01/non-family-members.pdf