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NEWSLETTER

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LETTER FROM THE DIRECTOR

'Renewable energy is a hoax'.

It used to be fossil fuel proponents and anti-clean energy zealots would simply say climate change was nothing but hot air. But it seems that years upon years of melting ice, raging fires, and Christmas Eves where the temperature hits the mid-70's has made this unavoidable.

So now, they attack the very things – clean energy namely – designed to curb the damage being done. In my role as the leader of the only group with the sole focus of supporting renewable energy and energy efficiency in the state of Missouri, I have sat through public meetings this past year and heard folks say wind and solar is only being built to help rich people defraud the government through tax incentives. That wind turbines and solar arrays do not produce power. That wind farms kill millions of birds a year. This is a half-truth. That glare from solar panels is burning a hole into the ozone layer and zapping honeybees. Also, my goodness, so not true.

All of this is being said because the defenders of the energy industry's status quo are scared. They see the major utilities moving to renewables and efficiency programs. Corporations base decisions to locate to a state based on access to renewables. Ford and General Motors are building electric vehicles right here in Missouri. The merchants of wasteful, dirty power know they cannot win by arguing their product is cheaper or healthier or safer for communities. They aren't. Nor can they argue that clean energy isn't an effective economic development tool. It is.

Instead, they seize on the concerns citizens have about the changes in their community and pump distortions and outright lies onto social media. People, seeking out legitimate information, find these outrageous points and make them their own. Now, the mistruths about clean energy have become a part of the public discourse and a part of the decisions community leaders make.

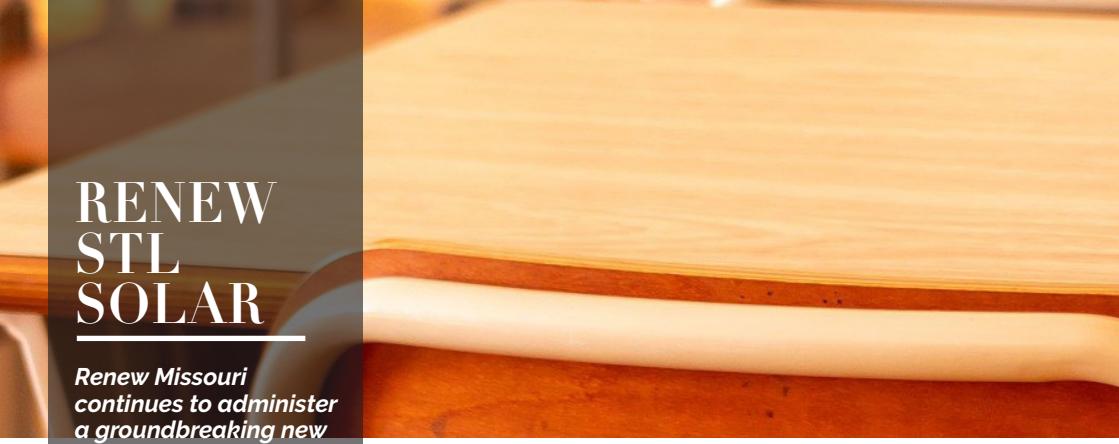
This is a new front in Renew Missouri's fight to bring clean energy accessibility to all Missourians. Now that our work before state regulators and lawmakers in the Capitol is showing progress, opponents are taking their propaganda directly to the public. Which is why our focus on education, on top of our advocacy, is more important than ever. That's why we've devoted a big portion of this newsletter to debunking myths about clean energy. We hope you read this and it gives you a sense of how to challenge misperceptions and ignorance.

We hope you go to our website – www.renewmo.org - and sign up for our email alerts. Or subscribe to our podcast - Renew Gurus – available on all major platforms. Or follow us on social media as we start our Energy 101 campaign, providing educational segments in short, flashy videos. We also hope that, if you like what you see, you will choose to support our efforts.

But we also hope you learn about the important work our group does and what we've been able to accomplish throughout the state. In Jefferson City. In your utility service territory. In your community. Missouri is becoming a leader on clean energy in the nation and our group's work is a big part of that. We think, after you learn more about our work, you will agree. That's no hoax.

James Owen
Executive Director

IN THIS NEWSLETTER



RENEW STL SOLAR

Renew Missouri continues to administer a groundbreaking new program for commercial and non-residential building owners in the Greater St. Louis region.

The Renew STL Solar program pools together solar projects from businesses, schools, cities, and other buildings in order to bring down the cost for all participants.

In addition, the program offers PR and media exposure, sustainability consulting, access to a network of other building owners investing in sustainability, and a chance to support an equitable solar workforce in the St. Louis region. Renew Missouri selected local company StraightUp Solar as the program installer, and together we launched a pilot program in 2020. After getting through the worst of COVID, we have emerged with a full program and are conducting outreach across the region.

We've installed nearly a megawatt of new solar, and are working on contracting much more. The Renew STL Solar program is committed to enabling all building owners to experience the myriad benefits of solar. We want to ensure that schools, cities, houses of worship, hospitals, and social services organizations have the same ability to install solar as large companies.

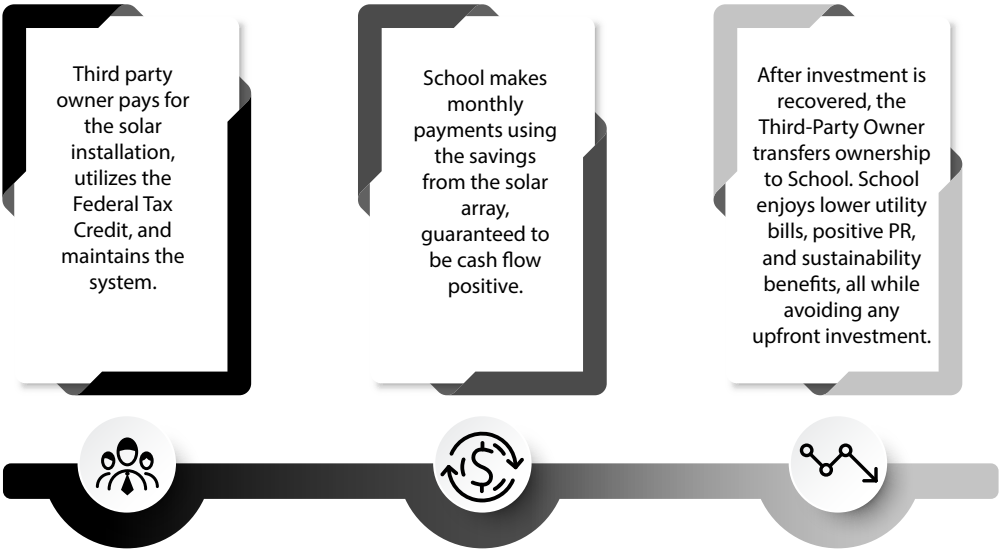
New Financing Solution for Non-Profit Buildings

Recently, Renew Missouri and StraightUp Solar have a new offer specifically for schools and other non-profit building owners (https://renewmo.org/renew-stl-solar-for-schools-and-nonprofits/).

The financing model we've developed is intended to help these owners overcome the historic barriers that non-profits face in installing solar. Those barriers are:

1. Non-profit entities cannot directly utilize the Federal Investment Tax Credit for solar, which can cover roughly ¼ the system's costs;
2. In addition, schools have bureaucratic challenges appropriating large amounts for capital improvements;
3. Finally, schools face a dizzying number of options for products, financing, incentives, and installers, making installing solar a difficult and time-consuming process.

Our solution is a Third-Party Ownership model that enables schools and non-profits to install solar with zero upfront cost and experience immediate savings on their electricity bills. We are working with an equity partner and a bank with decades of experience lending to solar projects in order to enable non-profits to realize value from the ITC, avoid upfront costs, and simplify the solar process. Here's how it works:



Renew Missouri wants every school district in the St. Louis area to know about this new financing model for solar. Schools can also use Federal COVID assistance funds (ESSER) to offset some of the cost of solar systems. We need your help! If you work at a St. Louis area school or are involved with a PTA board, please get in touch with us so we can provide your school with a no-cost estimate for solar!

Andrew Linhares
St. Louis Regional Director

The Febuary 2021 Cold Weather Event - What Happened Here and Why Texas is Not a Model for Missouri

In February of 2021, the entire Midwest experienced a cold weather event that was the catalyst for a predictable and preventable gas utility failure. This summary outlines the impact the February cold weather event had on Missouri, and why the consequences in Texas were more severe.

MISSOURI

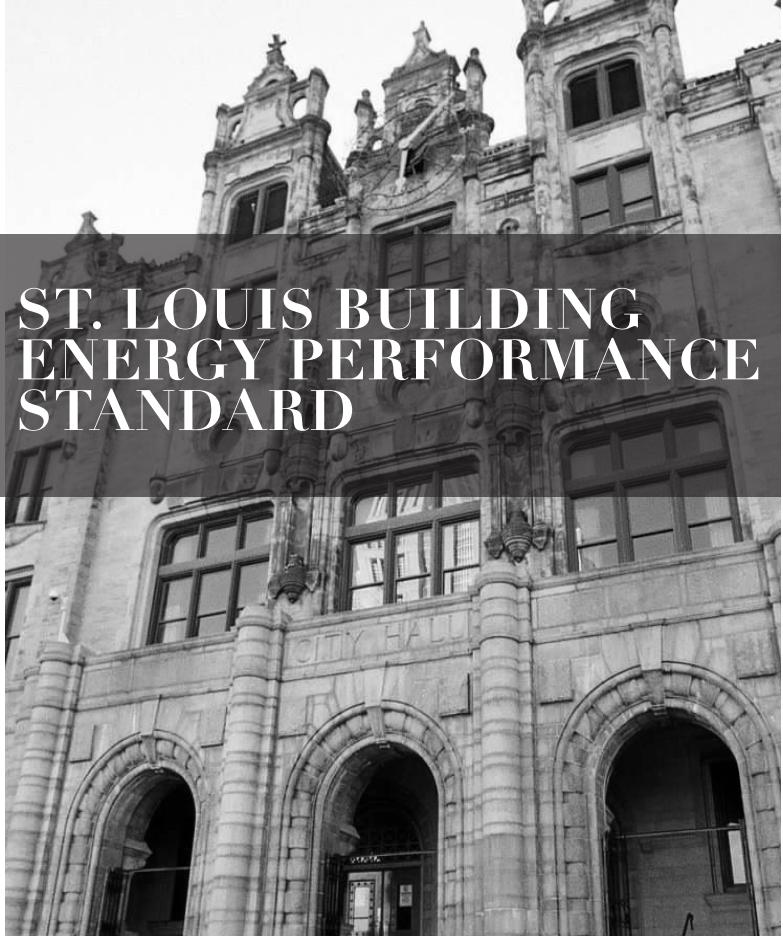
1. The Southwest Power Pool ("SPP") is a regional transmission operator ("RTO") that provides power to 14 states, including the western half of Missouri.
2. The extreme cold weather, fuel supply shortages, and equipment malfunctions led transmission system equipment in SPP territory to approach unsafe operating limits.
3. To combat this, the SPP ordered its transmission operators to shed load, or lighten the strain on the grid through temporary disruptions to service.
4. Because of this, Evergy and Liberty-Empire implemented rotating planned outages in accordance with their extreme weather protocols.
5. According to a report issued by the SPP, lack of access to natural gas was the largest contributing factor to the severity of the event.
6. Wind nearly doubled its contribution to the generation mix during the most critical part of the cold snap.

TEXAS

1. Texas has a deregulated energy sector and isolated its power grid from the two major national grids in 2002.
2. Texas operates with a market-based patchwork of energy retailers, transmission companies, and private generators, which creates very few incentives to invest in weatherization measures because separate companies are responsible for grid reliability.
3. The Energy Reliability Council of Texas ("ERCOT") operates an energy-only market, meaning that power plants are only paid if they generate electricity.
4. Most of the grid failure in Texas can be attributed to insufficient weatherization of gas and electric infrastructure.
5. Natural gas was responsible for nearly 2/3 of the total energy deficit in Texas, where about 40% of natural gas was unavailable during that time.
6. Wind was not a major contributor to the crisis in Texas, as it was only making up 7% of the generation mix at the time.

LESSONS LEARNED

- Winterizing gas production and gas plants is an important step, but it is not enough.
- Reducing the demand for energy through demand-side strategies in buildings and investments in efficiency throughout the state could lessen the strain on the grid during extreme weather events and help prevent such severe blackouts.
- Investments in heat pumps, LED lighting, and drill-and-fill insulation would help reduce demand.



ST. LOUIS BUILDING ENERGY PERFORMANCE STANDARD

Renew Missouri's St. Louis office is working with City officials and stakeholders to ensure that the recently-enacted Benchmarking and Building Energy Performance Standard (BEPS) programs are a success. Since 2017, we have engaged as a key stakeholder as St. Louis City developed and passed these two ordinances intended to track energy usage and improve building performance for the City's largest buildings.

Benchmarking Ordinance

St. Louis City first passed the Building Energy Awareness ordinance in 2017 that requires all buildings over 50,000 square feet to track and report their electricity and gas usage each month. This data both helps building owners establish a baseline to understand how they can lower usage, and helps the City gauge usage in the aggregate to create the BEPS standards.

Benchmarking is the first step in developing strategies for lowering energy consumption.

BEPS Ordinance

In 2020, St. Louis passed the Building Energy Performance Standard (BEPS) ordinance, which requires building owners to achieve a standard for Energy Use Intensity (EIU) by improving efficiency and installing clean energy projects.

St. Louis' ordinance is the first BEPS of any Midwestern city, and will help lower energy usage for the City's highest consuming buildings. In spring 2021, the new Office of Building Performance developed and published EUI standards for different building types. Most buildings must achieve compliance by May 2025; affordable housing and houses of worship have until 2027. The new Building Energy Exchange led by our colleague Cara Spencer will offer building owners assistance in achieving compliance.

We are proud of our hard work that led St. Louis to adopt one of the most impressive city building policies in the nation!

Andrew Linhares
St. Louis Regional Director

SUPPORTING MISSOURI IN A WAY THAT MATTERS

A lot can change in 16 years, and Renew Missouri is no different.

Renew Missouri was founded in 2006 with a mission of advancing renewable energy and energy efficiency in the state of Missouri. Since then, our team has fought hard to advance legislation, pass statewide ballot initiatives, craft local ordinances, and represent these interests before state regulators on hundreds of cases. And that work has not gone unnoticed. Renew Missouri is recognized as a leader in Missouri energy policy, and has expanded our outreach into other states across the nation.

This newsletter is a testament to the incredible work we've accomplished this past year and demonstrates the impact our organization has had on Missouri energy policy over the past decade and half. Just this year, we tenaciously fought for and helped pass one the most significant pro-solar bills in a decade. Renew Missouri has secured millions of dollars in increased funding for energy efficiency programs for low-income customers. Missouri has reduced energy demand by a power plant and a half since 2010.

Every day, we work to move the needle on clean energy issues by working with utilities, state and local governments, clean energy industries, and local communities to create positive policy changes. This work and its outcomes are not possible without the support of our donors and funders. Your generous support allows us to carry out our advocacy at the nexus of energy, equity, and climate.

If you like what you see in this newsletter, please consider a donation to help us continue the fight for clean energy in Missouri. Or support us by visiting our website, signing up for our newsletter, and staying up to date on relevant energy news in the state. The next year is full of exciting possibilities for our advocacy, and we look forward to sharing them all with you!

RURAL ELECTRIC COOPERATIVES

Last year, Renew Missouri helped form the Rural Power Coalition (RPC), a national coalition comprised of other state-based clean energy advocacy organizations.

This coalition aims to create a federal policy to move rural electric cooperatives ("RECs") into a clean energy future. As a quick summation, the **RPC is advocating for the Hardship Loan program that can provide RECs forgivable loans to close their inefficient and debt-ridden coal plants ahead of schedule**. When RECs close these plants and reinvest in their local communities, the loans will be forgiven and be treated as grants, similar to the Paycheck Protection Program offered to Small Businesses as part of the COVID-19 relief efforts.

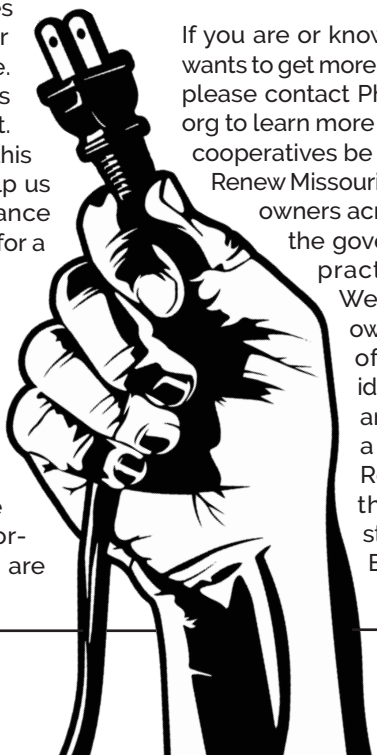
Renew Missouri, through this Coalition has worked with members of Congress as well as RECs in other parts of the country to draft legislation to put these policies into action. This provision made it into Build Back Better last year and continues to remain in negotiations for a separate climate package. Our new goal is to have this legislation passed in August. We will have more to share this summer on how you can help us advocate for federal assistance to prepare our cooperatives for a clean energy future.

While Congress is debating the future of rural energy, most RECs in the country are ill-prepared to diversify their energy mix and are not undertaking long-term resource planning like the municipal and investor-owned utilities. While there are several RECs around the country that see the benefit of this legislation, as a whole, cooperative leaders remain committed to fossil fuels. That also includes the Missouri-based Associated Electric that supplies power to all of Missouri as well as eastern Oklahoma and parts of southern Iowa. RECs in Missouri would rather continue paying down federally-backed debt from their coal plants than expand clean energy options that would modernize rural Missouri. Which is not so dissimilar from the 1930's New Deal policies that brought power to Missouri's farms and small towns in the first place.

The leadership of our RECs shouldn't have the last word. If you are a member-owner of your REC it is time you let your co-op know that they need to remove federal debt out of your power and into a modern, cleaner Missouri. Regardless of the outcome of this legislation, we need our co-ops to hear from you and to know that member-owners in Missouri do not want their cooperative to continue to fall behind our municipal and investor-owned utilities.

If you are or know a member-owner that wants to get more involved with their co-op, please contact Philip at Philip@renewmo.org to learn more on how you can help our cooperatives be the best they can be.

Renew Missouri is working with member-owners across the state to improve the governance and democracy practices of cooperatives. We will support member-owner campaigns for Board of Director elections by identifying local candidates and empowering them for a successful campaign. Renew Missouri now has the resources and the staff to make this effort an Earth-rattling endeavor.



Philip Fracica
Director of Programs

Thanks to supporters like you, Renew Missouri used 2021 to focus our efforts on building off our successes of the past several years at the Missouri Public Service Commission ("PSC").

Through briefs, expert testimony, stakeholder meetings, settlement negotiations and more, Renew Missouri's legal team works to ensure that we are moving the needle towards a clean energy future for all Missourians— and these efforts are not without results. 2021 saw the increase of renewable assets being added to utilities' portfolios, an exciting emphasis on energy efficiency programs, and intentionality being given to programs that serve historically marginalized communities. This wrap-up will capture a brief snapshot of our major PSC successes in 2021.

Pay As You Save®

A large portion of our advocacy in 2021 centered on the Pay As You Save® (PAYS) program. The PAYS® program allows deeper energy efficiency savings for customers that do not have the disposable income to make expensive energy efficiency investments. Under the PAYS® model, **the utility pays the up-front cost of the installed energy efficiency measures. Then, the utility puts a fixed charge on the customer's electric bill that remains significantly less than the estimated energy savings from the upgrades**. Through participation in this program, customers see significant bill reductions and the substantial other benefits associated with an efficient home.

Renew Missouri, along with a coalition of other consumer advocates, fought hard to ensure that Missourians would be able to take advantage of this innovative program. By the end of 2021, all electric and gas investor-owned utilities ("IOUs") in the state have implemented or have plans to implement a PAYS® program. This breakthrough puts Missouri at the forefront of energy efficiency financing in the country and provides unprecedented levels of accessibility to energy efficiency upgrades for those who need it the most. As these successes unfold, our advocacy grows. Renew Missouri now provides expert testimony in Kentucky and Kansas, and advises advocates and regulators across the country looking to make similar progress.

Liberty-Empire, a Joplin-based IOU, is one of the most recent Missouri utilities rolling out a PAYS® program. In September of 2021, Liberty filed its first-ever Missouri Energy Efficiency Investment Act (MEEIA) portfolio. **The MEEIA statute incentivizes utilities to invest in energy efficiency programs by allowing them**

a means to financially recover the reduced energy sold by the utilities. For a long time Liberty's efficiency offerings were fairly limited, however, this past year Renew Missouri was excited to see Liberty proposing a broader array of programs to accommodate the needs of its customers. Renew Missouri worked with Liberty to create tailored low-income programs specifically for multifamily markets and encouraged Liberty to propose a PAYS® program. Liberty's first portfolio of programs will run for one year, as the Company gears up for a much larger, multi-year MEEIA filing.

Wins for Missourians

On the eastern side of the state, Ameren Missouri filed a case in 2021 seeking to increase its annual revenues by $220 million. **Renew Missouri worked to ensure that, despite the large increase in revenues, the monthly fixed residential customer charge remained unchanged.** We also used this opportunity to advocate for an **expansion of Ameren's Keeping Current and Keeping Cool program, in which we were able to secure an increase in program budgets and a relaxation in the income criteria needed to participate in the program**. These successes were key in ensuring that customers could afford their utility bills and were not being forced to choose between paying the electric bill or forgoing other essentials.

Community Solar

Finally, 2021 led to the exciting expansion of Ameren Missouri's Community Solar program. Community solar programs offer customers the opportunity to utilize a clean energy resource owned by the utility. These programs are valuable for those without the ability to install solar on their own homes, whether that be renters or those without the ability or desire to finance solar panels.

Ameren's Community Solar program first launched in 2018 and was fully subscribed within 55 days. Ameren then built a solar facility to serve the needs of this program at the Lambert International Airport in St. Louis. In late 2020, Ameren filed an application to construct a second solar facility to serve the needs of its customers on the Community Solar program wait list, which numbered enough to fully subscribe the proposed 6 MW project by March of 2021. Renew Missouri worked with Ameren and other parties to support the expansion of this program, and we are excited to see the utilities moving in the right direction to accommodate customer demand for clean energy resources.

Stay tuned as we dive into 2022 for updates on what is becoming an already busy year at the PSC!

Alissa Greenwald
Kansas City Regional Director

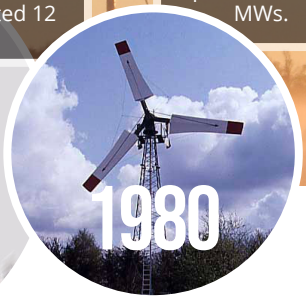
THE TRUTH ABOUT WIND

A Candid Look at the History of Wind Power in the U.S.

The first record of humans harnessing wind power dates back almost 1,400 years ago.

The first ever electricity producing wind turbine was located in Ohio and was built by Charles Brush. It generated 12 KW of power.

This is a turbine from 40 years ago, which produced 75 kW of power. Modern turbines produce 2.5-3 MWs.



There is no "good" way to make energy. Nothing humans do have zero impact on the world in which we live. Sure, we could go back to being hunter-gatherers and living in yurts. But that's not really progress.

The foundation of modern society is built on technology and machines that make energy, without which our modern world would not exist. Indeed, we do stand at a crossroads in time, at the threshold of transforming energy infrastructure. There is no better time than now to discuss how wind generated power fits into the clean energy revolution.

A Little Bit of History

Since the late 19th century, we have made electricity from wind. Check out the cool rigs pictured above.

Windmills started out as an innovation in agriculture and were a key piece of technology that enabled our ancestors to transform the power of wind into a physical force that supplemented our industrial and agricultural needs (e.g., grinding grains and moving water). But in 1888, wind was used in Cleveland for the first time to power a home and did so without interruption for twenty years.

In the early 20th century, wind generators achieved a measure of technical and economic practicality in rural and remote areas of the country. Hundreds of electricity producing wind turbines were built to provide electricity to farms beyond the reach of power lines.

The wind turbine industry in North America remained very active into the 1930s. During this decade, however, t**he combination of demand of farmsteads, more power, and**

a major economic depression, spurred the U.S. federal government to stimulate the depressed rural economies by extending the electrical grid throughout those areas. The lower cost of electricity produced by a central utility plus the greater reliability led to the rapid demise of the home wind electric generator, and therefore began a slow decline from which the wind turbine industry in North America never fully recovered. Until today.

> *People considered many elements of valued infrastructure as symbols of modernity or creating benefits that vastly outweighed their aesthetic costs. Perhaps we should maintain the same perspective towards the construction wind generated power.*

Flash forward to the 1970s and the birth of the modern wind industry,which got its start as part of the response to the foreign oil crisis when unrest in Middle East triggered interruptions in the flow of crude. The resulting supply problems and rising prices not only caused downward market conditions in the Western world but also proved just how vulnerable and dependent these countries had become on the import of energy. Alternatives had to be sought.

Wind power was then back on the lips of politicians, researchers, manufacturers, and the public. A new industry for producing standardized wind turbines gained foothold in the beginning of the 1980s and continued developing until today. With technological innovations came lower prices. The economics of wind power have also advanced with new technology. That means it is cheaper to build wind generation now and wind turbines are able to make more power.

But why wind? Wind does not rely on fuel supply chains that can be disrupted intentionally or by natural events. Wind does not pose a risk of dangerous leaks or explosions that

threaten human health and public safety. Wind facilities can also be constructed within a short timeframe. Typically dispersed throughout different regions, wind farms are also less vulnerable to acts of terrorism.

Wind is more reliable and resilient during high-impact events, especially when coupled with battery storage. **In cases where continuity of power is vital for national defense operations, wind, can be used to form self-sustaining microgrids.** Surging oil and gas prices as well as continued global conflict demonstrate the vulnerability of relying on fossil fuels. Wind, in essence, is essential to our national security.

Misinformation, Conspiracies, and Half-Truths

There are countless "arguments" against wind power on the internet. **There are whole web pages devoted to debunking the idea that wind power is good for the environment, economy, and local community**. In fact, there is too much wind power misinformation out there to fully address all of them. There are extreme conspiracy theories out there about wind: turbines will give you cancer or they cause migraines. Countless medical studies debunk this.

Additionally, people also say wind turbines produce no power at all and exist to give rich people tax breaks. Of course, this is not true. As of 2021 wind power produced 380 billion killowatt/hours, which accounted for 9.2% of all electricity produced in the U.S.!

What is some of the most common misinformation we hear about wind energy? To write a sincere article about wind energy we must address the 'bird' in the room. Yes, wind turbines can kill birds. This is not a disputed fact. In fact, there are countless state and federal laws designed to protect birds from this and it still happens. If you Google 'how many birds are killed by wind turbines' you will get A LOT of answers. But a lot of those 'google results' exaggerate the actual answer fivefold.

What is the true answer? The best estimates are a little outdated, as of 2013 and 2014, and the wind industry has grown a lot since then. From these three papers in the table , we get the following estimates of annual bird mortality collisions.

Let's do some rudimentary math to catch us up to today. If we take the average of the

STUDY	AVERAGE BIRD FATALITIES
Loss & Other, 2013	234,000 min.-max/year 140,000-328,000
Small-wood, 2013	573,093 min.-max/year 467,097-679,098
Erickson & Other, 2014	291,000 min.-max/year 214,000-368,000

results of Average Bird Fatalities/Year, we get 366,000 birds killed each year. Since those studies were done (almost ten years ago), there were 44,577 turbines in operations in 2012. Today there are 65,548 turbines, an increase of 47%. Adjusting for industry growth, we can

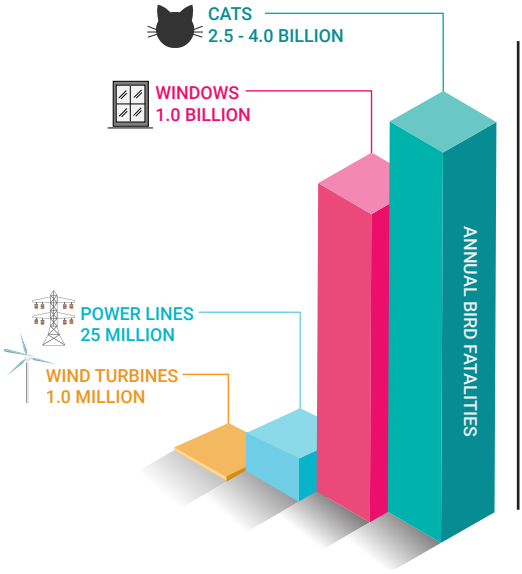
project that approximately 538,000 wind turbine caused bird deaths occur in the U.S. each year. However, since many bird fatalities escape detection and with increased wind energy capacity, we can estimate the annual yearly number of bird fatalities due to wind turbines to be around 1 million.

But let us put this into perspective. Looking at the bar chart below it is clear that wind turbines are signifcantly less impactful on bird mortality (despite our rudimentary math calculations). Also, consider the loss of habitat, pollution from coal fired and natural gas plants, as well as our changing climate to account for, which is not included in the figure. **If critics maintain wind farms shouldn't be built over bird deaths, we need to get rid of power lines. As well as windows in buildings. As well as cell phone towers. As well as household pets.**

However, we now have "bird-smart" wind energy. This is an intentional method for siting wind farms away from migration corridors and vulnerable species. There are available measures that can be incorporated to further minimize risks and impacts that should always be offset by solid on-the-ground mitigation measures.

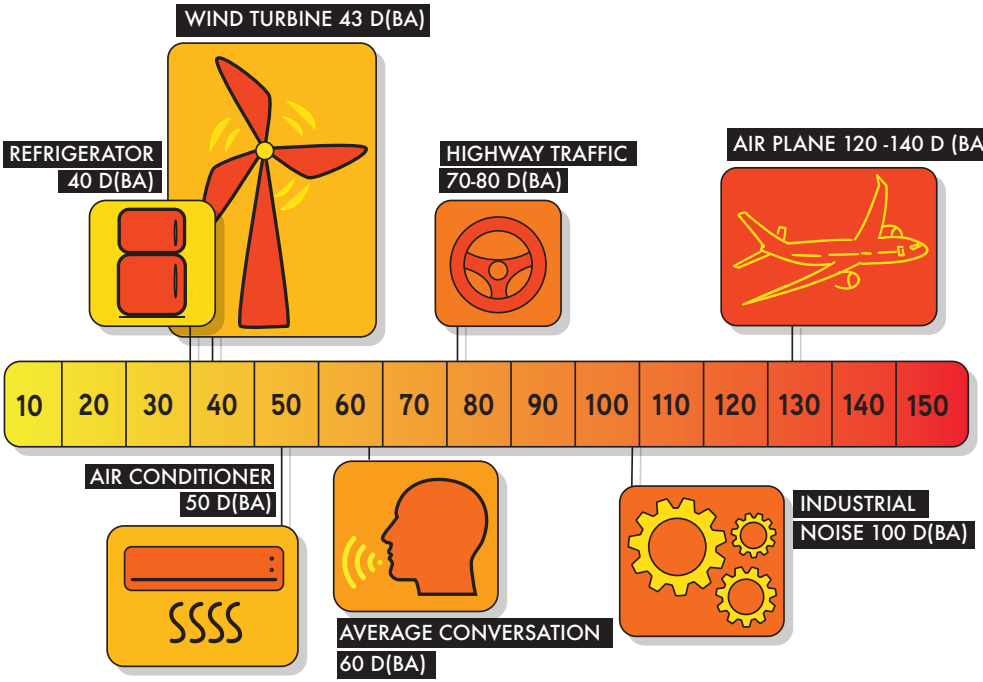
The American Bird Conservancy recognizes the need for wind energy as an important technology to offset fossil fuels. They have worked to minimize the impacts to birds from wind energy development for more than a decade. By ensuring that this development is done right, we can realize the benefits of renewable energy while protecting our vulnerable bird populations.

Another common misinformation trope we run into is wind energy is bad for people's health. **Current reports show that wind turbines have no negative effects on public health.** While there have been reports of symptoms such as dizziness or nausea, there is no scientific evidence that turbines are causing these symptoms. In some instances, scientists notes that dizziness and headaches can be caused simply be tilting one's head and looking up for long periods of time and some people might mistake this for the wind turbine



Accounting for all human caused fatalities among birds, communication towers kill almost 5 times as many birds, power lines kill 25 times as many birds, windows - 100 times more birds, and cats kill 200-400 times more birds annually.

**this graph does not statistically represent given data points*



caused health issues.

As far as the sound, wind turbines are cited at a distance where they are almost equivalent to the hum of a refrigerator and the wind powering them is often louder than the turbines themselves . See figure above.

These reported symptoms may be psychosomatic or a nocebo effect, which is when negative expectations of a patient cause a more negative outcome than would have happened otherwise. People can become nervous about new technology, and report symptoms relating them to the new technology. But again, there is no scientific evidence linking use of wind turbines to any negative health outcomes. However, with any technologies on a large scale, we should continue to investigate measurable health-related outcomes and see if they can be proven to fluctuate depending on exposure to wind turbines.

It's All A Matter of Perspective

The idea of Not In My Back Yard (isms) has been around for ages, arguably since humans invented property rights. Poor public understanding of electricity is a leading characteristic in NIMBYism. How we produced electricity over the past century has lent itself to invisibility and, for the most part, detachment, such that most people experience electricity as a strange and incomprehensible commodity.

This detachment means that people have forgotten that there is more to keeping homes supplied with energy than simply paying for it. Not to mention the fact that a very high percentage of fossil fuel emitting power plants are cited in low-income neighborhoods. This pollutes the air and water in these communities, where the majority of residents are disenfranchised minority groups. Unlike the fossil-fuel or nuclear power plants that

generate electricity far from population centers, wind turbines need to be placed where the wind blows. Placing easily visible wind turbines on mountain tops, near shorelines, near farmland forces electricity production into view and causes people to cognitively engage with where their energy comes from.

The effortlessness with which most consumers receive energy in their homes reflects a dramatic shift from formerly active energy producers to presently passive energy consumers. In the 1800s, for example, most inhabitants heated their homes with wood stoves, meaning that they also assumed responsibility for chopping and stacking wood.

But when electrification came to rural America, there was an effort to point out that transmission lines and distribution polls were a good thing. In a 1930s newspaper called the Rural Electrification News, they delightedly published photographs of power lines with captions like "***a pole-line is rapidly becoming a symbol of a progressive rural community***" and "***the rural line reflects a prosperous countryside***." People considered many elements of valued infrastructure as symbols of modernity or creating benefits that vastly outweighed their aesthetic costs. Perhaps we should maintain the same perspective towards the construction wind generated power.

Final Remarks

Taking a step back and looking at the wind industry as a whole provides a unique perspective on why wind power is crucial. Wind generated electricity is a thriving, promising, and needed industry that continues to support our modern society through improving reliability and energy security. But so often wind generated power is vilified through targeted misinformation campaigns.

For those who want to see their communities and environment prosper for generations to come, wind power is a powerful mechanism with which to realize that future. In the past American's have happily accepted similar 'improvements' in nature (e.g., telegraph wires and railroad tracks, and belching smokestacks). Back then people saw this as progress and enhanced nature rather than defilement of it. What if we saw wind power the same way? Perhaps the one reality of wind power is that it's all a matter of perspective.

Tori Cheatham
Policy & Outreach Coordinator

IS ENERGY EFFICIENCY THE NEW 'GRANITE COUNTER TOPS'?

Energy efficiency is perhaps the most important route we have in preparing for a clean energy future. Now, it also may be a great selling point for your house.

Over the past year, Renew Missouri worked to take over a project from the State's Division of Energy that **would allow homeowners and small businesses to place their buildings on a registry specifically designed to highlight energy saving improvements.**

The Best Kind of Energy

Despite our name, Renew Missouri sees energy efficiency as the most critical policy our society must utilize to ensure a clean energy future. The best kind of renewable energy, I always say, is the energy you don't use.

Simply put, energy efficiency is using less energy to perform the same task. For this reason, energy efficiency has become an incredibly powerful mechanism with which to reduce harmful emissions, save customers money, and improve housing stock. When a home is energy efficient, it decreases a customer's demand for energy, therefore negating the need to produce energy in the first place.

Energy Efficiency and Home Value

If you've ever bought a home, one piece of data that helps figure out monthly costs includes the average size of the utility bill. If a homeowner has made energy efficiency improvements, the home is more valuable, and this should be a selling point in the real estate market; it is an incredibly powerful tool and can do so much more serving as a marketing tool for homeowners. According to the U.S. Department of Energy, the typical household spends at least $2,200 per year on energy bills. Energy efficiency updates can reduce that expense by a third.

Studies have also shown that green homes sell faster and for more money than homes without energy efficiency improvements. In fact, homes with high energy efficiency ratings sold for 2.7% more on average compared to homes that did not.

When the state's Division of Energy—under some pressure not to be associated with anything "green"—approached Renew Missouri about potentially taking over their green building registry, there was some reluctance. Yes, we want to promote energy efficiency use by making it as enticing as possible, but what did we know about connecting homeowners with energy auditors? What did we know about what actually goes into these energy saving scores you see plastered all over ads for appliances and HVAC products?

2.7%

On average, homes with high energy efficiency ratings sell for 2.7% more compared to lower rated homes.

$2.2k

A typical family spends $2,200 per year on energy bills.

A Collaboration

Enter Pearl Certification, a business dedicated to transforming the national housing market into one that rewards energy efficiency. They help homeowners while simultaneously partnering with businesses and public entities to build a market that rewards energy efficiency. This holistic approach increases both the supply

of and demand for sustainable and energy-efficient housing. Pearl's Certification reports drive demand for these features by making them visible at the time of sale. They enable home sellers to capture the value of their investments and buyers to find the homes they want.

Through this collaboration, we are developing Missouri's clean energy registry into a comprehensive program that will increase homeowner energy efficiency adoption and create accurate market value for these homes in the real estate market. **Energy efficiency is undervalued when it comes to buying and selling homes. Our program brings together the nexus of energy efficiency and proper home valuation through home certification**!

Renew Missouri and Pearl Certification have worked to design a program where **Pearl finds and recruits high-quality contractors to make improvements in homes. Once the improvements are made and deemed satisfactory, then the home is certified with an official Missouri Certification that designates specific levels of energy savings the home can expect to receive.** Subsequently, Pearl will train real estate agents and appraisers on how to use the Missouri Certification to market and value the home. Renew Missouri and Pearl are exploring ways to coordinate this program with the rebates offered by the state's leading electric utilities.

What's Next

When fully developed, this program will share space online with Renew Missouri's current website (www.mosaves.com) that helps customers find energy efficiency programs by zip code. Creating a one-stop shop for finding efficiency programs, or finding high-performing clean homes, will help Missourians become more energy efficient customers.

To value the sustainable assets of a home, homebuyers need trustworthy data. Through this new registry we aim to influence housing stakeholders such as realtors, appraisers, and financiers and have them incorporate energy in the home buying and selling process.

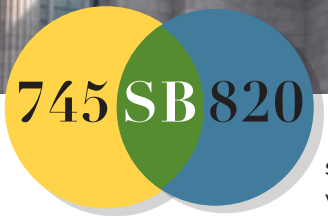
This program will drive energy efficiency home improvements and improve the housing stock of Missouri homes. In turn, we expect to see a legitimate reduction in regional emissions. Maybe someday, energy efficiency will be as appealing to home shoppers as a granite countertop.

James Owen
Executive Director

2022 LEGISLATIVE WRAP-UP

As local governments like Boone and Buchanan Counties stifle renewable energy development, the Missouri Legislature passed three different pieces of legislation that will help break down barriers for solar and wind.

While Renew Missouri spends much of its time fighting bad bills written to harm clean energy progress (and there was plenty of that this year as well), let's talk about some victories we had in 2022 and what's heading to Governor Mike Parson's desk.



Senate Bills 745 and 820 were passed by the House and Senate with similar pro-solar language.

First off, both bills prohibit homeowner associations (HOAs) from barring their members from installing solar. Rather, HOAs must adopt "reasonable restrictions." Given Renew Missouri fields dozens of calls a year from frustrated citizens unwittingly pitted against their neighbors over vague and outdated covenants, this legislation will give property owners clarity and relief.

Both proposed laws also provide a sales and use tax exemption for solar equipment. While large-scale solar arrays have enjoyed this exemption, administrative tribunals have said solar mounted on your property was not covered under existing law. These provisions will fix the language and allow solar installers to pass savings onto their customers.

Finally, two task forces will be created: one to commission and review a Value of Solar study. Another will discuss a proposed property tax for solar equipment. Both task forces will meet over several months and ultimately will make suggestions to changes in energy and fiscal policy. Renew Missouri worked with sponsors to ensure these task forces will have fair representation and lead to better clean energy laws.

James Owen
Executive Director

HB 2005

House Bill 2005 promises to end the multi-year legislative fight over the Grain Belt Express. The transmission line, or GBX for short, will deliver wind energy from Kansas to the rest of the country while providing clean power to municipalities around Missouri with savings in upwards of $12million per year. While approved by the Public Service Commission (PSC) in 2019 after five years of legal battles, GBX has faced numerous efforts to undo this PSC decision in the Capitol building. While such bills were clearly un-Constitutional, they were supported by powerful interests like the Farm Bureau and the Missouri Cattleman's Association.

But this year, all interested parties sat down and found common ground. GBX will be allowed to proceed. Moving forward, a number of eminent domain reforms will take place that will require more money to go into transmission projects across Missouri but will not be prohibitive to such efforts. Plus, landowners will get more money in their pocket and lines will have to deliver more power to Missouri residents. It's a win-win.

We hope you agree solar and wind did pretty well in 2022. Renew Missouri spends lots of time in the hearing rooms and hallways of the Capitol for the five-month session. We cannot do this work or hire lobbyists without private support. We hope you look at the success our group obtained this year and see a donation to Renew Missouri is a good investment into our state's clean energy future. Heck, if you give a certain level of donation, we can provide you legislative updates every week. Just email me at james@renewmo.org to learn more about our Renewable Energy and Efficiency Leadership (REEL) Council!

THE RENEW CREW

the team that makes it all possible

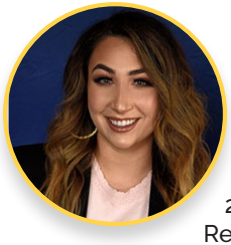
JAMES OWEN
Executive Director

James is Executive Director of Renew Missouri, having served after taking the reins from co-founder P.J. Wilson in 2017. In addition to handling the day-to-day management of the group, James also oversees fundraising, communication, government relations, and corporate governance. He also serves as an expert witness for the organization in dozens of cases as well as working with other advocacy groups in Kansas and Kentucky to offer insight and testimony on clean energy throughout the region.

James lives in Columbia with his wife, Claire, and their daughter, Cecile. For fun, he pens a film column for the Columbia Daily-Tribune and is currently writing a non-fiction book about an unsolved murder in Southwest Missouri. (shameless plug: he needs an agent.)

ANDREW LINHARES
St. Louis Regional Director & Senior Counsel

Andrew serves as the Regional Director and Senior Counsel in Renew Missouri's St. Louis office. Andrew is the State Lead for the Missouri Energy Efficiency for All (EEFA) coalition, which focuses on energy efficiency for affordable multifamily housing and energy equity for disadvantaged communities. Andrew is also the administrator for Renew STL Solar, a commercial solar group buy program serving the St. Louis region. Andrew graduated with a J.D. from St. Louis University School of Law in 2011, and is a licensed member of the Missouri Bar. Andrew love to play music, barbque, and enjoy the outdoors with his wife and daughter.



ALISSA GREENWALD
Kansas City Regional Director & Counsel

Alissa joined Renew Missouri in August of 2021 as the Kansas City Regional Director and Counsel. She focuses on carrying out our clean energy advocacy in KC and is part of the legal team that represents Renew Missouri at the Missouri PSC. Alissa graduated from University of Kansas School of Law in 2021 and is a licensed member of the Missouri Bar. She graduated from South Dakota State University with a degree in Political Science. In her free time she enjoys baking, walking her dog, and spending time with her nephews.

PHILIP FRACICA
Director of Programs

Philip currently serves as the Regional Director in Renew Missouri's Kansas City Office. In addition to this role, Philip serves on the Missouri Weatherization Assistance Program Policy Advisory Council to help improve the state's weatherization program. Over the past year, his focus turned to rural issues and he will be heading back to Columbia this Summer to work full time on improving rural access to clean energy throughout Missouri. Throughout the pandemic Philip has been raising a kitten named Mac and has been honing his cooking skills.

TORI CHEATHAM
Policy and Outreach Coordinator

Tori started at Renew in April 2020. She has her M.S. in Environmental Science from Southern Illinois University: Edwardsville and works in our St. Louis office assisting with various advocacy efforts including: social media and graphic design, policy research, and coalition building. Tori has lived in St. Louis most of her life. She loves boxing, swimming and camping with her friends. She enjoys reading sci-fi novels and painting in her free time.

A SPECIAL THANKS

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