

EMPOWER KENTUCKY



BUILDING A BRIGHT FUTURE. TOGETHER.

Executive Summary of the Empower Kentucky Plan

A people's plan to shape a Just Transition to a clean energy economy in Kentucky.

Kentuckians For The Commonwealth

EMPOWER KENTUCKY

Today, Kentuckians have an important opportunity to design a new, clean energy system for our Commonwealth. Empower Kentucky project invites Kentuckians to Pikeville to share your vision for a bright future, one that is good for all of us. Each state to write our political leaders have said the same: If the political



WE ARE KENTUCKIANS. BUILDING A BRIGHT FUTURE - FOR EVERYONE

We are determined to build a bright energy future — one that works for all of us. Today our commonwealth has the opportunity to build a new, clean energy economy in ways that create jobs, advance equity and support a Just Transition while protecting our health and climate. All Kentuckians deserve a seat at the table and a voice in shaping those decisions. Together we can ensure that our next energy system reflects the values and serves the interests of all Kentuckians, not just a powerful few.

1. OVERVIEW

Empower Kentucky is a homegrown effort to shape a people’s energy plan for our state, one that reflects a shared vision and produces positive outcomes for all Kentuckians. This project is the outgrowth of decades of grassroots organizing by Kentuckians affected by coal, energy and just transition issues in our commonwealth.

The Empower Kentucky Project launched in mid-2015, at a time when most politicians in the state were lining up to oppose the EPA’s Clean Power Plan (CPP). But the vision and strategy that shaped this effort have always been broader than the narrow question of whether and how Kentucky should comply with the federal climate rule. Instead, the Empower Kentucky Project is an effort to host an informed, creative and inclusive public conversation about the energy future we want, and the best ways to shape a Just Transition to a clean energy economy.

The Clean Power Plan created an important opportunity for that kind of public conversation. The rule gave unprecedented flexibility to each state to shape its own energy plan. However, in Kentucky the CPP was met by fierce opposition from leaders of both political parties. In the absence of responsible public leadership or any effort to develop a state plan, our grassroots organization, Kentuckians For The Commonwealth, stepped up to take on the task. KFTC members decided we would engage Kentuckians in every region of our state to learn people’s energy stories, vision and ideas. And together we would write a people’s plan reflecting the hopes, concerns and best ideas we gathered for creating jobs, improving the quality of life in our state and reducing climate pollution.

Over the past two years, KFTC members directly engaged more than 1,200 people across every congressional district in this effort. We formed diverse and active workteams to understand Kentucky’s changing energy landscape, examine policies and practices, and evaluate the implications of key choices. With guidance from a broad range of experts, our teams created an Environmental Justice Analysis for Kentucky, developed key recommendations and analyzed the outcomes of our plan compared to a business-as-usual scenario.¹

The Empower Kentucky Plan demonstrates that a Just Transition to a clean energy economy is possible in Kentucky. By emphasizing energy efficiency and renewable energy and putting a low price on CO₂ pollution, the plan produces more jobs, less health-harming pollution and lower average bills than Kentucky’s business-as-usual scenario over the next 15 years. By 2032, Empower Kentucky Plan invests nearly \$400 million in a Just Transition for affected communities and workers, reduces average bills by 10% compared to business-as-usual, and slashes CO₂ pollution from Kentucky’s power sector by 40%. The plan also prioritizes energy efficiency in low-income communities, and limits Kentucky’s reliance on risky and polluting energy options.²

¹ The business-as-usual case assumes that the Clean Power Plan does not exist, and that no new regulations are adopted over the next 15 years. It assumes Kentucky’s utilities continue to achieve current levels of energy efficiency savings. And it assumes that energy demand in Kentucky grows slowly, at a rate equal to the weighted average of official projections made by utilities in Kentucky. For more details, see the *Empowering Kentucky Report* by Synapse Energy Economics at www.empowerkentucky.org.

² These and other findings, along with a description of key inputs and data sources, are described in an analysis by Synapse Energy Economics available at www.empowerkentucky.org.

2. THE EMPOWER KENTUCKY PLAN: KEY RECOMMENDATIONS AND OUTCOMES

The Empower Kentucky Plan describes a broad range of steps Kentuckians can take to shape a Just Transition to clean energy economy by accelerating energy efficiency and renewable energy across our economy. The plan includes actions that can be taken by state and local governments, utilities, schools and universities, businesses, nonprofits and residents. Some recommendations simply remove barriers to renewable energy and energy efficiency in current state policies. Others are designed to ensure equity, support a Just Transition and prioritize health. Still others would incentivize and promote clean energy jobs and investments and locally-owned renewable energy across Kentucky.

The plan’s recommendations fall in seven main categories, including:

- Create Jobs and Support a Just Transition
- Prioritize Health and Equity
- Accelerate Energy Efficiency and Renewable Energy
- Support Local, Community-based Solutions
- Fully and Fairly Invest In Our Energy Transition
- Meet Our Responsibilities to Act on Climate
- Engage Everyone to Transform Other Essential Systems

Deploying more energy efficiency (EE) and renewable energy (RE) across our economy is the cornerstone of the Empower Kentucky Plan. Together these strategies are low-cost and low-risk energy solutions that can deliver multiple benefits for Kentuckians. By ramping up investments in energy efficiency and renewable energy, Kentucky can spur local job creation and help families and businesses save money on their energy bills. These approaches can avoid or delay the need for risky and expensive investments in new fossil fuel generation. They also result in less power plant pollution, benefiting our health, climate and economy.

To compare the outcomes of our plan to outcomes of a business-as-usual scenario, we focused on a set of key recommendations contained within the broader Empower Kentucky Plan and commissioned Synapse Energy Economics Inc. to do the analysis. They modeled the outcomes of the following set of Empower Kentucky recommendations:

- Reduce electricity demand in Kentucky by 17% across our economy by 2032
- Generate 25% of Kentucky’s electricity from solar, wind or hydropower in 2032
- Ensure that 18% of all energy savings benefit low-income residents
- Produce at least 1% of electricity from distributed solar by 2032
- Install at least 1,200 MW of combined heat and power to help commercial and industrial customers save money and energy by 2032
- Put a low price on CO₂ pollution from our power sector, starting at \$1 in 2018 and rising to \$3 in 2030
- Invest 20% of CO₂ revenue in a Just Transition for affected workers and communities, and the remainder of those revenues in energy efficiency across the economy.
- Limit the use of risky and polluting options, including biomass.

SYNAPSE ENERGY ECONOMICS ANALYSIS

Synapse modeled the impact of this package of proposals on jobs, pollution, costs, bills and Kentucky’s energy system, and compared the outcomes to the results we would expect to see under a business-as-usual scenario.

Their analysis found that by 2032 the Empower Kentucky Plan will:

- Create 46,300 more job-years for Kentuckians than business-as-usual
- Improve health by avoiding 93 thousand tons of SO₂ and 132 thousand tons of NO_x pollution over 15 years
- Lower residential electric bills by 10%, compared to business-as-usual
- Invest \$387 million in a Just Transition for Kentucky’s coal workers and communities
- Cut CO₂ pollution by 40% from Kentucky’s power sector from 2012 to 2032, exceeding the Clean Power Plan’s requirement
- Invest \$11 billion in energy efficiency across our economy, and prioritize energy savings that benefit low-income households
- Result in a cleaner, more efficient and more diverse energy system
- Build 1,000 MW more solar, 600 MW more wind and 800 MW less natural gas capacity in Kentucky, and rely less on coal generation, than business-as-usual.

The Empower Kentucky Plan produces more jobs, better health and lower bills than business-as-usual, invests in a Just Transition and slashes CO₂ emissions from our power sector by 40%. Interestingly, the plan results in the same number of coal plant retirements by 2032 as the business as usual case, although generation from coal is lower in the Empower scenario. The Empower Kentucky Plan also reduces the amount of new natural gas capacity built in Kentucky over the next 15 years, and helps spur the growth of clean energy jobs and investments statewide.

The Empower Kentucky Plan assumes the Clean Power Plan exists, but its recommendations are worthwhile for Kentuckians, whether or not that federal rule is ever implemented. Kentuckians do not need to wait for a federal mandate to begin to make progress. We can begin today to implement this homegrown energy plan that achieves better outcomes for workers, residents and businesses than the business-as-usual course.

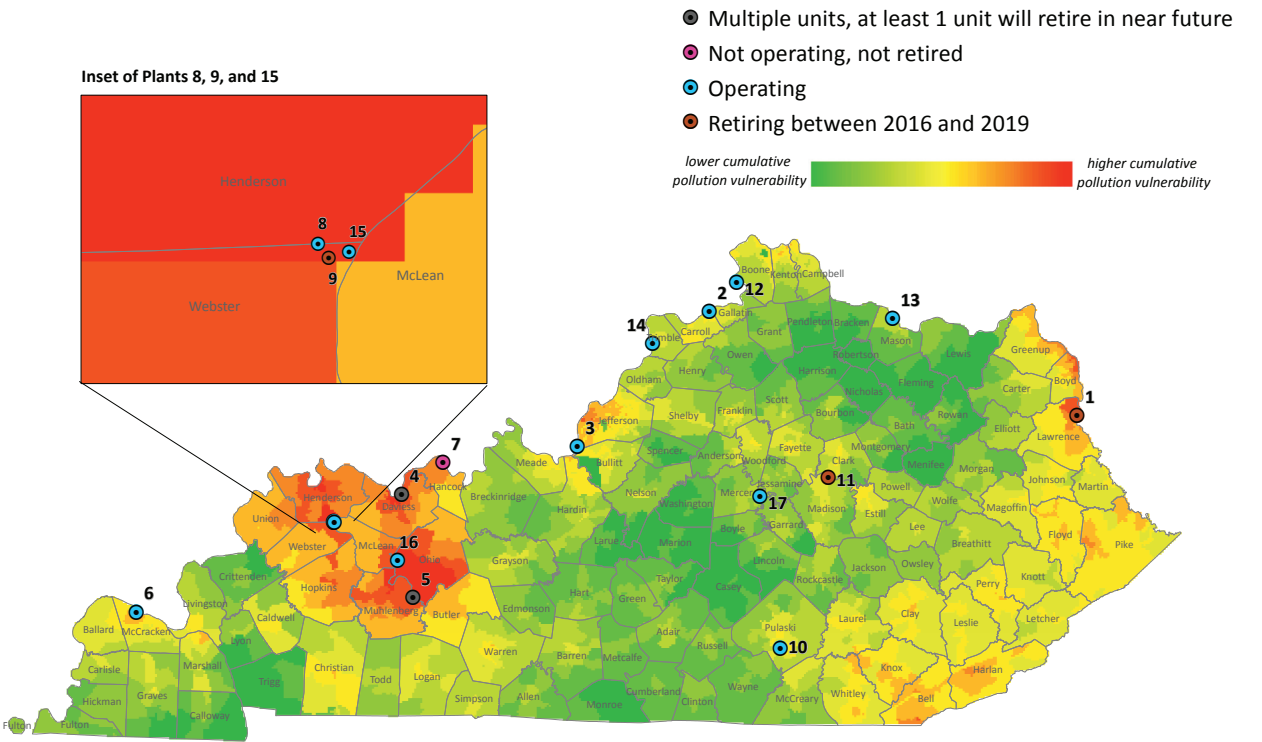
“I think the biggest issue here in eastern Kentucky is figuring out how to transition to a more diverse and dependable economy because we have very few jobs remaining in coal. That’s the big looming question.”

— A Seat At The Table participant, Hindman

3. AN ENVIRONMENTAL JUSTICE ANALYSIS FOR KENTUCKY³

As part of the Empower Kentucky planning process, KFTC members developed an Environmental Justice Analysis for Kentucky to document and better understand relationships among pollution, health, race and poverty in our state. KFTC’s Environmental Justice Workteam included nearly a dozen people, including community members, public health professionals and cartographers from across the state.

Environmental Justice is defined by the U.S. EPA as “the fair treatment and meaningful involvement of all people regardless of race, color, national origin or income” with respect to environmental protection. EPA’s Clean Power Plan rule encourages states to do an environmental justice analysis to inform their state implementation plans. An EJ analysis can identify how low-income and people of color communities are affected by pollution, and can shine a light on the need for policies that reduce the pollution burden on vulnerable communities.



Cumulative Pollution Overlay and Coal Plants in Kentucky Map

KFTC’s Environmental Justice Analysis for Kentucky explored the distribution of about a dozen types of pollution across our commonwealth to identify areas with the highest burden of cumulative pollution. We also examined the distribution of a number of health conditions that are known to be related to pollution exposure, including: asthma in adults and children and the rates of hypertension, premature death, and heart disease deaths. Lastly, we examined the distribution of a number of demographic factors, including poverty rates, percent minority, education attainment and age distribution. This map shows the areas of our state with the highest overall pollution burdens. More information and documentation can be found at www.empowerkentucky.org.

3 The Environmental Justice Analysis and interactive webmap are available at www.empowerkentucky.org.

The KFTC Environmental Justice Workteam used tools and data offered by the EPA to do our own environmental justice analysis, and we went several steps further. We expanded the scope of our analysis to include a number of Kentucky-specific pollution indicators, including proximity to oil and gas wells, surface and underground mines, and other pollution sources that were not included in national datasets provided by the EPA's EJ screen tool. Our analysis also examined how different populations and communities across Kentucky are affected by specific health conditions that are known to be related to pollution exposure.

Our Environmental Justice Analysis for Kentucky finds that pollution from energy sector sources is “directly, strongly and positively correlated with health problems in Kentucky.” It also finds important differences in the types of pollution that affect Kentucky’s poorest counties, compared to the kinds of pollution that affect Kentucky’s counties with the highest percentage of people of color.

Additional findings from our Environmental Justice Analysis include:

- Kentuckians are impacted by pollution from many sources and, while pollution from the energy sector plays a large role, it is not the whole story.
- Different pollution sources affect low-income and minority communities in Kentucky.
- There are strong relationships between exposure-related health problems and vulnerable demographics, such as poverty, educational level and certain age groups.
- Many of Kentucky’s coal-burning power plants are located in areas which exhibit high cumulative pollution exposure and/or demographic vulnerability.



“Prioritizing health, equity and just transition came up a lot during the stories we heard at events last spring. My own story is just one example. My father-in-law was just laid off from his mining job in Western Kentucky. My family lives here in the Ohio River Valley where asthma rates are sky-high, especially for African Americans. And my neighborhood needs more affordable and energy efficient housing. All of us – and I mean all of us – deserve an energy plan that prioritizes health, equity and just transition.”

— Serena Owen

Serena Owen is KFTC member from northern Kentucky. She has been active in every phase of the Empower Kentucky Project, including as a table host for a community conversation about Kentucky’s Energy Future and as a member on several planning workteams.

4. WHY INCLUDE A PRICE ON CARBON, AND WHY SUCH A LOW PRICE?

During the course of the Empower Kentucky planning process, our research found that ramping up energy efficiency and renewable energy generation would not be enough, on its own, to achieve significant pollution reductions from Kentucky’s power sector. A preliminary analysis by Synapse Energy Economics determined that utilities in Kentucky would sell more coal power to other states if Kentuckians reduced our own demand for it.

After learning this outcome, the Empower Kentucky planning team considered additional policy options necessary to prioritize health and achieve deeper pollution reductions. With assistance from Synapse, we examined the implications of putting a price on CO₂ pollution from our power sector. Synapse modeled the impact of various CO₂ price scenarios to evaluate their impact on emissions, jobs, average bills and the share of Kentucky’s energy mix produced by coal, gas and renewable energy.

The Empower Kentucky Plan recommends putting a low price on CO₂ pollution from Kentucky’s power sector and on the CO₂ content of imported electricity. We call for a fee of \$1 per short ton of CO₂ pollution in 2018, which gradually increases to \$3 over 15 years. By 2032 this policy will generate nearly \$2 billion in revenue, all of which will be reinvested in efficiency programs statewide and in efforts to create jobs and support a Just Transition for affected workers and communities.

KFTC recommends a low CO₂ price at this time because our analysis found that higher levels would greatly accelerate the build-out of new natural gas plants in Kentucky. Our proposed level appears high enough to achieve significant pollution reductions and invests in Just Transition, but not so high to drive rapid growth in Kentucky’s natural gas infrastructure.

As the costs of renewable energy continue to plummet, Kentucky may soon reach a point where a higher price on CO₂ will result in greater investments in renewable generation, rather than in more natural gas capacity. Until then, a relatively low price is necessary to prioritize health while also supporting Kentucky’s transition to a clean energy future.

KFTC shares concerns held by environmental justice and economic justice organizations about many carbon-pricing policies. We believe any such policy must be designed carefully, after a good public process, as part of a comprehensive strategy to achieve meaningful pollution reductions, address racial and economic equity, and support a Just Transition. We intend for this Kentucky-specific proposal to reflect those shared values and make a constructive contribution to the broader national discussion.



5. OUR PROCESS: EVERYONE DESERVES A SEAT AT THE TABLE

At the core of the Empower Kentucky Project is the belief that Kentuckians have an opportunity, right now, to shape a bright energy future, one that works for all of us. We believe that change for the better is possible when people on the frontlines – those directly affected by poverty, pollution, racism and the decline of family-sustaining jobs – are at the front and center of shaping solutions.

In all, more than 1,200 Kentuckians shared their vision and ideas to inform this plan.

- 750 people took part in events held in each congressional district called A Seat At The Table: Community Conversations about Kentucky’s Energy Future
- Hundreds participated in workshops, listening sessions, house parties, interviews, a two-day conference and/or an online survey
- 250 people attended a two-day conference, the Empower Kentucky Summit, to learn about and provide feedback on a draft plan
- Informed by this public input, several KFTC planning teams worked over many months to shape the Environmental Analysis and Empower Kentucky Plan.

Participants in these events shared stories and offered ideas for change. Many spoke about family members with asthma or black lung disease. Some described efforts to become more energy efficient or use renewable energy in their homes. Some talked about family members who worked in the mines, or described their own careers working for utilities, retrofitting power plants or working on coal river barges and rail lines. Some talked about pollution and health problems related to living near power plants or strip mines. Many shared stories about high electric bills, and the struggles faced by renters and people living in old and leaky homes.

Reflecting on the power of the stories that were shared, one person said, “We’re ready for an energy transition, but we understand the complexity.” Another observed, “We need to make a transition. And it starts by respecting and understanding affected workers.”

As KFTC Chairperson Elizabeth Sanders said at the time, “We’re going to design a blueprint for Kentucky that will make our communities more livable, improve our health – for everyone, from those living near strip mines to those living in the shadows of smokestacks – strengthen our economy, and support a Just Transition for workers and communities. **Our process and our plan will be beautiful, diverse and full of life and power.**”

6. WHERE WE GO FROM HERE

The release of the Empower Kentucky Plan takes place in a troubled moment for Kentucky, the country and the world. The power of fossil fuel industries is everywhere evident in our democracy. There appear to be few opportunities and little support for advancing a Just Transition to a clean energy economy within the Kentucky General Assembly or the U.S. Congress. Instead, our country is on the verge of lurching backwards on clean energy and climate commitments, a possibility that poses grave risks for our economy, health and climate.

Despite that reality, members of Kentuckians For The Commonwealth, along with many other Kentuckians, remain determined. This plan reminds us that even a coal-dominated state like Kentucky has options – choices we could make today – that are good for workers, residents and our climate. The Empower Kentucky Plan and process offer a hopeful model about what is needed, and what it will take, to build shared political will for a Just Transition.

While we are realistic about political roadblocks, we refuse to be limited by them. The stakes are too high. We'll continue to organize for better state and federal energy policies. And we'll seize every opportunity to implement incremental pieces of this plan and make progress at a local level. This plan offers a positive vision and a menu of good ideas that can be taken up by mayors and city council members, state legislators, candidates running for office, community organizations, labor leaders, students, health advocates, congregations, the Public Service Commission and utilities themselves.

Today many people across Kentucky and the U.S. are in motion. They are organizing for better jobs, better health, racial and economic justice, climate action, just transition and a healthy democracy. They are working to advance clean energy projects and policies locally, including within our cities, school districts and local utilities. They are showing up at town hall meetings, rallies and offices to demand better from state and national leaders. And many are making decisions to run for office themselves or support others to run with a vision for Empowering Kentucky.

It is our hope and intention that this plan, and the grassroots process that created it, will contribute to powerful local, state, and national organizing campaigns in the months and years ahead.

7. KENTUCKIANS FOR THE COMMONWEALTH

Kentuckians For The Commonwealth (KFTC) is a 35-year old grassroots social justice organization with more than 11,000 members and 14 chapters that span from Pikeville to Paducah.

We are Kentuckians. We are determined to build a bright energy future – one that works for all of us. Today our commonwealth has the opportunity to build a new, clean energy economy in ways that create jobs, advance equity and support a just transition while protecting our health and climate. We believe all Kentuckians deserve a seat at the table and a voice in shaping those decisions. Together we can ensure that our next energy system reflects the values and serves the interests of all Kentuckians, not just a powerful few.

We seek to build a new clean energy system that ...

- is fair and equitable
- invests in a Just Transition for affected workers and communities
- creates good quality jobs and opportunities
- significantly reduces risks and harm to our health, environment and climate
- prioritizes low-risk, no-regrets energy solutions
- encourages self-reliance, local ownership and community-based solutions
- empowers and assists all Kentuckians to save energy and benefit from renewable energy
- supports healthy and sustainable communities, now and for future generations
- reflects sound science, a vision for a just society and an inclusive, democratic process

Contact

Kentuckians For The Commonwealth
PO Box 1450
London, Kentucky 40743
606-878-2161
Email: lisa@kftc.org or info@kftc.org
www.kftc.org and www.empowerkentucky.org

Acknowledgements

Kentuckians For The Commonwealth is indebted to thousands of people who shared stories, expertise, experience, time and resources to make the Empower Kentucky Project possible.

While it is impossible thank everyone deserving of mention, specific acknowledgements can be found at www.empowerkentucky.org.



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BEVERLY WAY
FLOYD COUNTY

“All Kentuckians are going to be part of this. This is a chance for us to shape the future of our state. We need to make sure that the energy system we build is one that works for everyone. We need to make sure that the energy system we build is one that works for everyone. We need to make sure that the energy system we build is one that works for everyone.”

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1. OVERVIEW

EMPOWER KENTUCKY

Empower Kentucky is a homegrown effort to shape a people’s energy plan, one that works for all of us. The plan is loaded with practical steps Kentucky can take to create jobs, improve health, ensure affordable energy, support a Just Transition, advance equity and protect our climate.

Deploying more energy efficiency (EE) and renewable energy (RE) across our economy is the cornerstone of the Empower Kentucky Plan. Together these strategies are essential low-cost and low-risk energy solutions with multiple benefits for Kentuckians. By ramping up investments in energy efficiency and renewable energy generation, Kentucky can spur local job creation and help families and businesses save money on their energy bills. These approaches help avoid or delay risky and expensive investments in new fossil fuel generation. They also result in less power plant pollution, benefiting our health, climate and economy.

By 2032, the Empower Kentucky Plan will:

- Create 46,300 more job-years for Kentuckians than business-as-usual.
- Improve health by avoiding 93 thousand tons of SO₂ and 132 thousand tons of NOx pollution over 15 years.
- Lower residential electric bills by 10%, compared to business-as-usual.
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- Cut CO₂ pollution by 40% from Kentucky’s power sector from 2012 to 2032, exceeding the Clean Power Plan’s requirement.
- Invest \$11 billion in energy efficiency across our economy, and prioritize energy savings that benefit low-income households.
- Result in a cleaner, more efficient and more diverse energy system.
- Build 1,000 MW more solar, 600 MW more wind and 800 MW less natural gas capacity in Kentucky, and rely less on coal generation, than business-as-usual.

Over many months, Empower Kentucky project hosted many creative ways for diverse groups of people to come together to learn about and discuss our energy future. In all, more than 1,200 Kentuckians from Pikeville to Paducah shared their vision and ideas to inform the plan.

The Empower Kentucky Plan offers a vision and platform to guide long-term organizing. There are many practical ideas that can be put into action immediately. But to make progress, it’s going to take all of us, working together. There is a need and a role for everyone. Learn how you can get involved.

To make change for the better, we need to understand how our energy system works, how it’s changing and what’s possible. We need to examine how different energy choices affect specific communities and workers. And we need to shape solutions that are fair and equitable and don’t leave anyone behind.

2. OUR PROCESS

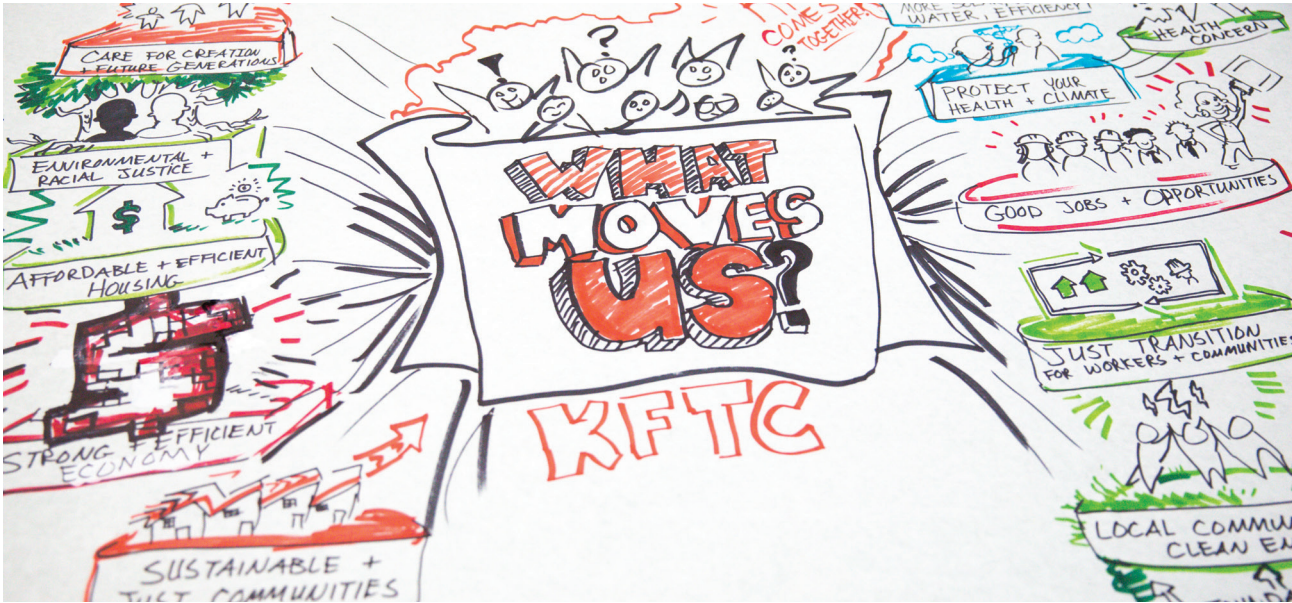
EVERYONE DESERVES A SEAT AT THE TABLE

The Empower Kentucky project is a grassroots-led effort to ensure that everyone has a voice and a seat at the table in decisions that affect our jobs, health, economic well-being and climate.

At the core of this effort is a belief Kentuckians have an opportunity, right now, to shape a bright energy future, one that works for all of us. Change for the better is possible when people on the frontlines – those directly affected by poverty, pollution, racism and the decline of family-sustaining jobs – are at the front and center of shaping solutions.

When officials in Kentucky refused to take even the first steps towards compliance with the EPA’s Clean Power Plan, members of a grassroots organization, Kentuckians For The Commonwealth, rolled up our sleeves up do the job. In the fall of 2015 we launched the Empower Kentucky Project: a public process to shape a people’s energy plan.

As KFTC Chairperson Elizabeth Sanders said at the time, “We’re going to design a blueprint for Kentucky that will make our communities more livable and improve our health – for everyone, from those living near strip mines to those living in the shadows of smokestacks – strengthen our economy, and support a Just Transition for workers and communities. **Our process and our plan will be beautiful, diverse, and full of life and power.**”



“What Move’s Us”
A live drawing created by Jessica Bellamy during a group activity at the Empower Kentucky Summit held in October 2016.

More than 1,200 Kentuckians from every walk of life and from Pikeville to Paducah participated directly in the creation of this plan. They took part in community conversations held in every congressional district, and participated in workshops, listening sessions, house parties or interviews. Several hundred shared their views via an online survey.

Each community conversation featured local foods, music, art and even a brief theater performance. We shared brief presentations about Kentucky's energy system today, ways it is changing, and key opportunities and challenges. Then participants discussed their stories, vision and ideas with one another about the best ways to shape a Just Transition to a clean energy economy in Kentucky. Participants were later invited to attend a 2-day Empower Kentucky Summit and where we shared and discussed a draft of this plan.

Informed by public input, several planning teams then worked to build the Empower Kentucky Plan. One group of community leaders, health professionals and geographers examined data about pollution, health outcomes and demographics and created an environmental justice analysis for Kentucky. Another team sifted through the public feedback and worked closely with consultants to conduct research and analysis and shape the plan's recommendations.

COMMUNITY CONVERSATIONS

In the spring of 2016, 750 people participated in a series of six community conversations – one in each congressional district – about Kentucky's energy future. These events, called “A Seat At The Table,” were held in Bowling Green, Hindman, Lexington, Covington, Louisville and Paducah. The events were free and open to the public, and every seat was sold out.

By design, A Seat At The Table events were welcoming and inclusive spaces attended by participants from many diverse backgrounds. The three-hour program featured a local foods dinner, a brief informative presentation, and live music and theater performances, followed by in depth table conversations. Volunteers invited many of the guests and facilitated discussions at each table.

Participants included many students and youth leaders, public health professionals, union organizers and members, affordable housing providers, energy and utility workers, low-income residents, workforce development professionals, immigrant rights advocates, renewable energy business owners, faith leaders, farmers, artists, climate activists, parents, grandparents, about a dozen elected officials and candidates, and two utility CEOs. At least one table shared their conversation in Spanish.



Volunteers at each table welcomed participants and got the conversation started by asking everyone to share a brief story about their relationship to Kentucky's energy system.

People spoke about family members with asthma or black lung disease. Some described efforts to become more energy efficient or use renewable energy in their homes. Some talked about family members who worked in the mines, or described their own careers working for utilities, retrofitting power plants, or working on coal river barges and rail lines. Some talked about pollution and health problems related to living near power plants or strip mines. Many shared stories about high electric bills, and the struggles faced by renters and people living in old and leaky homes.

Reflecting on the wide range of deeply personal stories that were shared, one person said, “We’re ready for an energy transition, but understand the complexity.” Another observed, “We need to make a transition. And it starts by respecting and understanding affected workers.”

After hearing each other's stories, the table conversations then focused on three questions:

1. What is your vision for Kentucky's energy future?
2. What do you think that will take?
3. What are your ideas to ensure that all Kentuckians benefit and no one is left behind as we make the transition to a clean energy economy?

KENTUCKIANS WANT BETTER ENERGY OPTIONS

The ideas generated through these conversations were carefully reviewed and have informed key recommendations of the Empower Kentucky Plan. Below is a summary of the most significant and consistent feedback we received:

- Kentuckians are not happy with our energy choices, and want better options.
- An overwhelming majority – 81% – of participants said they want renewable energy and especially solar energy to play a key part in our energy future.
- People want Kentucky to make steady progress towards a future powered by energy efficiency and renewable energy. They know it won't happen overnight. They want to get started.
- Many participants stressed the importance of investing in a Just Transition for miners, affected workers and their communities. They also said that affected workers should play a key role in shaping the transition.
- People want Kentucky's energy sources to be more diverse. And they want more of our electricity to come from locally and community-owned renewable energy.
- Motivations mentioned most often were concern for climate change, health, affordability and jobs.
- Many people also called for changes far beyond the power sector, including a more sustainable food system and expanded mass transit.
- When asked “What will it take?” to make change for the better, the two most common responses were “education” and “political will.”

EMPOWER KENTUCKY SUMMIT

In the fall of 2016, nearly 250 Kentuckians gathered for an inspiring two-day summit in Louisville to learn about and provide feedback on a draft of the Empower Kentucky Plan. In addition to a diverse crowd from many regions of Kentucky, the summit drew guests, presenters and performers from at least 12 other states.

The Summit featured a panel discussion about the draft Empower Kentucky Plan and another about Building Political Will. Participants chose among a dozen workshops on key topics related to Kentucky’s energy transition, and enjoyed performances from local and nationally recognized musicians, cultural workers and artists.

The keynote address was given by Curtis Wynn, the CEO of Roanoke Rural Electric Cooperative. Mr. Wynn is the first African American to lead a rural co-op in the U.S. He told the story of his cooperative in rural North Carolina, which has pioneered an innovative energy efficiency program. And he asked a provocative question: **“What if ... Kentucky’s rural electric cooperatives significantly scaled up their energy efficiency programs to create jobs and energy savings in the communities they serve?”**



The keynote address by Curtis Wynn, the CEO of Roanoke Rural Electric Cooperative



Holmes Hummel of Clean Energy Works

Among many outstanding presenters and performers were Jacqui Patterson, director of the NAACP’s environmental and climate justice program; Michael Leon Guerrero, director of the Labor Network for Sustainability; Eboni Cochrane, a community leader of REACT, a group working to end toxic air pollution in West Louisville; Ahmina Maxey, a campaigner with GAIA, Global Alliance for Incinerator Alternatives; Simon Mahan of the Southern Wind Energy Alliance; Matt Partymiller and David Brown Kinloch, who run renewable energy businesses in Kentucky; Meegan Kelly, an expert in industrial efficiency at the American Council for an Energy Efficient Economy; Holmes Hummel of Clean Energy Works; and many more.



When asked what they liked best about the summit, one participant wrote, **“The feeling of hope that one gets when working with people who actually have a plan of action to make Kentucky a better place with specific regards to carbon emissions and climate change issues.”** Another said, **“I appreciate how the Empower Kentucky project is changing the start of the conversation about energy to include the things which are common to us all.”**

Workshop options included:

- 1. The role of faith communities in addressing climate change
- 2. Accelerating renewable energy
- 3. Cultural organizing: using story circles to generate understanding
- 4. Risky business: not all energy options are created equal
- 5. Rural co-ops leading the way on energy efficiency
- 6. Shaping a Just Transition
- 7. Prioritizing health and racial and economic justice within our energy system
- 8. Ramping up energy efficiency across our economy
- 9. Solar energy for all: expanding access to the benefits of solar
- 10. Creating good jobs in the clean energy economy – where they are needed most
- 11. Putting a price on carbon and investing in equitable solutions
- 12. Shaping a new narrative about climate and energy issues

3. OUR PLAN

Empower Kentucky is a homegrown effort to shape a people’s energy plan for our state that reflects a shared vision and produces positive outcomes for jobs, health, affordability, a Just Transition, equity and climate.

We seek to build a new clean energy system that ...

- is fair and equitable
- invests in a Just Transition for affected workers and communities
- creates good quality jobs and opportunities
- significantly reduces risks and harm to our health, environment and climate
- prioritizes low-risk, no-regrets energy solutions
- encourages self-reliance, local ownership and community-based solutions
- empowers and assists all Kentuckians to save energy and benefit from renewable energy
- supports healthy and sustainable communities, now and for future generations
- reflects sound science, a vision for a just society, and an inclusive, democratic process

“I think the biggest issue here in eastern Kentucky is figuring out how to transition to a more diverse and dependable economy because we have very few jobs remaining in coal. That’s the big looming question.”

— A Seat At The Table participant, Hindman



A SHARED VISION FOR KENTUCKY’S ENERGY FUTURE

When we asked Kentuckians about their vision for Kentucky’s energy future, we heard many common refrains. Kentuckians want a future powered by energy efficiency and renewable energy, and we want to get started now. We want all people to have access to safe, decent, affordable and energy efficient housing. We want our communities and workers to benefit from the booming clean energy economy and create thousands of new jobs close to home. We want a Just Transition for coal workers and more clean energy investments in communities with high poverty, unemployment and racial disparities. We want to greatly reduce pollution that is harmful to our health and climate, and avoid false solutions. We want more community-based clean energy solutions, including locally owned solar farms, revolving loan funds, pay-as-you-save financing and worker-owned cooperatives. We want our industries to be leaders in efficient manufacturing and advanced renewable energy systems. And we want our energy system to reflect our core values, including justice, sustainability and democracy.

EMPOWER KENTUCKY PLAN

The Empower Kentucky Plan is loaded with recommended actions that are needed to make progress towards that shared vision. Many of these proposals already are working right now in parts of Kentucky or other places around the country. But better public policies are needed to remove barriers and open doors so all Kentuckians to benefit from the booming clean energy economy.

The plan’s recommendations fit in seven main categories:

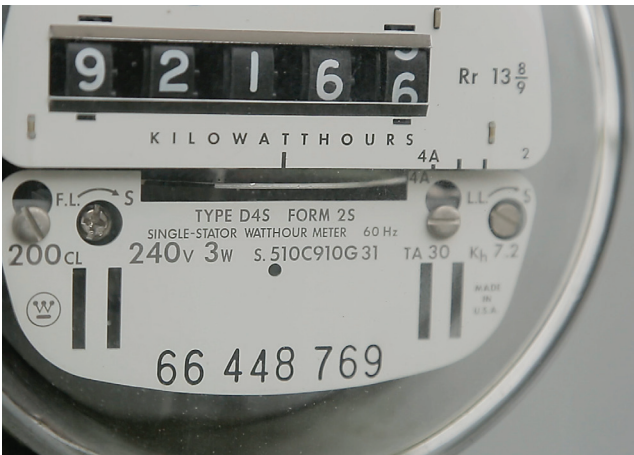
1. Create Jobs and Support a Just Transition
2. Prioritize Health and Equity
3. Accelerate Energy Efficiency and Renewable Energy
4. Support Local, Community-based Solutions
5. Fully and Fairly Invest In Our Energy Transition
6. Meet Our Responsibilities to Act on Climate
7. Engage Everyone to Transform Essential Systems

Overall, the Empower Kentucky Plan achieves better results for Kentuckians — in terms of jobs, health and average bills — than a business-as-usual scenario over the next 15 years. It invests nearly \$400 million in a Just Transition for affected workers and communities. It prioritizes racial and economic justice. It exceeds the EPA’s requirements for reducing CO₂ pollution from our power sector. And it puts Kentucky on a path towards a clean energy economy by shifting investments towards no-regrets energy strategies and away from risky and dirty sources.

SYNAPSE ENERGY ECONOMICS ANALYSIS

An analysis by Synapse Energy Economics examined the main recommendations from this plan, and compared the outcomes with a business-as-usual scenario. Synapse found that by 2032 the Empower Kentucky Plan will:

- Create 46,300 more job-years for Kentuckians than business as usual.
- Improve health by avoiding 93 thousand tons of SO₂ and 132 thousand tons of NO_x pollution over 15 years.
- Lower average residential electric bills by 10%, compared to business as usual.
- Invest \$387 million in a Just Transition for Kentucky’s coal workers and communities.
- Invest \$11 billion in energy efficiency, with an emphasis on low-income communities.
- Reduce CO₂ pollution from power plants by 40% from 2012 levels, exceeding the Clean Power Plan’s requirement for Kentucky.
- Result in a cleaner, more efficient and more diverse energy system.
- Build 1,000 MW more solar, 600 MW more wind and 800 MW less natural gas capacity in Kentucky, and rely less on coal generation, than business-as-usual.



Video stills from “Empowering Kentucky – Energy Efficiency in Benham.” Learn more of that history at kftc.org/benham.



INVEST
20% of CO₂
REVENUE
IN A JUST TRANSITION for affected
WORKERS & COMMUNITIES.

I. Create Good Jobs and Support a Just Transition

What is a Just Transition, and why is it important?

In this moment of rapid changes in our energy sector, Kentuckians have the opportunity to shape a Just Transition to a clean energy economy, one that works for all people.

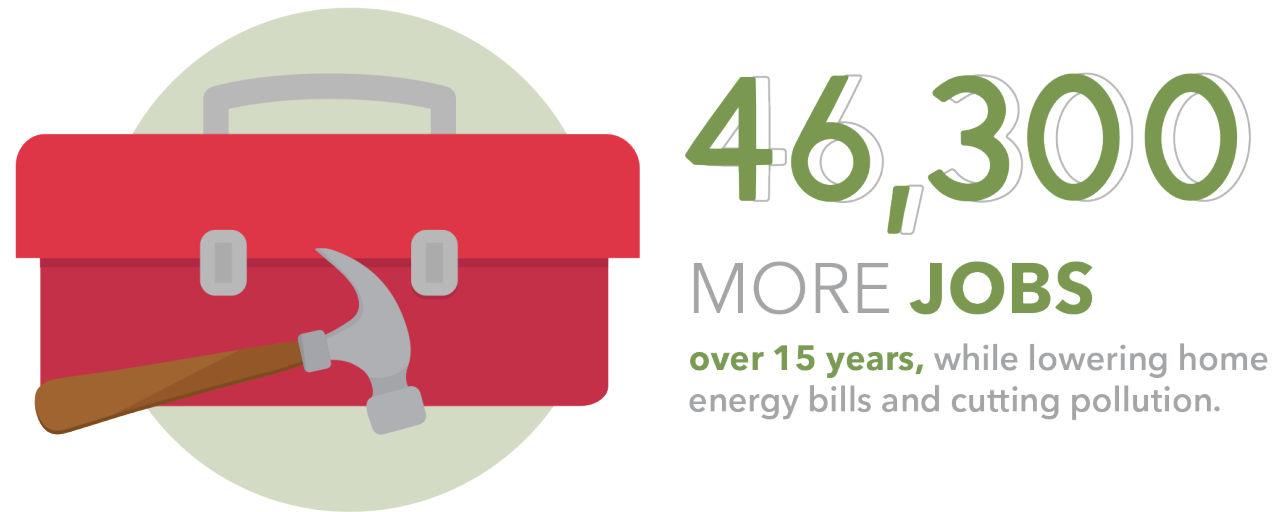
There are important and varied perspectives about what Just Transition means here in Kentucky and around the world. In the Empower Kentucky Plan, Just Transition means an all-in, inclusive process to protect the well-being of affected workers and communities, address racial and economic inequality, and build a new, just and sustainable economy.

This understanding of Just Transition has been shaped over many years by the work of members of Kentuckians For The Commonwealth and our labor and community allies around the country. In 2013, KFTC identified the following principles for a Just Transition:

- Improve the quality of life for people and communities affected by economic disruption, environmental damage, and inequality
- Foster inclusion, participation and collaboration
- Generate good, stable and meaningful jobs and broad, fair access to them
- Promote innovation, self-reliance and broadly held local wealth
- Protect and restore public health and environment
- Respect the past while strengthening communities and culture
- Consider the effects of decisions on future generations

A Just Transition in Kentucky starts by involving affected communities and workers to shape strategies to protect their well-being and support a bright future. Kentucky has lost more than 13,000 mining jobs since 2009, with coal employment dropping in 2016 to its lowest point since 1898. The workers who have labored and risked their health and safety in our coal-based economy deserve our respect and financial security, along with opportunities to create and have good, meaningful livelihoods in the next economy.

But the work of Just Transition doesn't stop there. A Just Transition also means directing investments to places where jobs have been lost and where poverty and/or racial disparities are high. It means scaling up energy efficiency and supporting locally owned renewable energy to create new clean energy jobs across Kentucky. It means ensuring full and fair access to job training and good jobs for disadvantaged workers, including displaced coal workers, women, people of color, young people, LGBT individuals, veterans, formerly incarcerated and others. It means supporting worker owned cooperatives, homegrown small businesses and entrepreneurs. And it means laying a solid foundation for thriving local economies by investing in good schools, public transportation, broadband infrastructure, public services, access to health care and a strong public safety net.



“I work for a union, SEIU/NCFO, that represents rail workers in Kentucky. Hundreds of our members have lost jobs as less coal is being shipped. We need to shift to cleaner energy. And we need to know: What does a Just Transition actually mean for those workers?”

— A Seat At The Table participant, Louisville

HOW DOES THIS PLAN SUPPORT JOB CREATION AND A JUST TRANSITION?

Many reports, including the Empower Kentucky Plan, show that shifting to a clean energy economy leads to better health and more new jobs overall, while also contributing to some job losses in the fossil fuel sector.

For example, an analysis by the Labor Network for Sustainability showed that strategies to reduce overall CO₂ emissions by 80% by 2050 would create, on average, 550,000 net new jobs per year for 35 years in the U.S. Most of those new jobs would be in manufacturing and construction industries, while most of the jobs lost would be in mining and gas extraction. The Economic Policy Institute took a comprehensive look at the job impacts of the EPA's Clean Power Plan, which has a narrower goal of reducing CO₂ emissions from only the electric power sector by 32% from 2005 levels by 2030. It found the CPP would lead to a net increase of 360,000 jobs by 2020, with net job creation falling to 15,000 jobs by 2030. This report also found that jobs being lost tended to be in industries that pay higher wages, are more likely to be union jobs, and are more likely to be held by workers without a college degree than the jobs being created in the clean energy sector or the economy as a whole.

An analysis of the Empower Kentucky Plan by Synapse Energy Economics shows it creates 46,300 net additional job-years (an average of 3,100 net new jobs in each year for 15 years) for Kentuckians, compared to the business-as-usual scenario. Most of the new jobs created by this plan are driven by the emphasis on energy efficiency, including jobs in construction, engineering, installation, and electrical and energy services. Most of the jobs lost are directly or indirectly related to coal mining and power plants.

Deliberate actions and investments are needed to ensure that jobs created in the growing clean energy economy are high-quality, good paying jobs. Strong public policies can result in more better paying jobs located in the communities that need them most, and accessible to dislocated and disadvantaged workers. Achieving those goals requires significant, sustained public investment, as well as collaboration, plans, actions and policies.



Benham Power Board and water treatment facility.

EMPOWER KENTUCKY RECOMMENDATIONS

A. Support a meaningful public process to shape a Just Transition to a clean energy economy.

1. Meaningfully engage a broad, diverse set of Kentuckians (individuals, workers, businesses, communities, organizations, unions, educational institutions and utilities) to shape a shared vision for an energy system that is good for all Kentuckians.
2. Adopt strong statewide goals and a policy framework for reducing risk and harm to our health and climate and shaping a Just Transition to a clean energy economy.

B. Create a Just Transition Fund to invest in workers and communities affected by job losses in the coal industry and utility sector.

1. Establish a Just Transition Commission with diverse and strong community and worker representation, to shape policy recommendations, direct public investments in a Just Transition and monitor outcomes.
2. Create a Just Transition Fund, seeded with 20% of revenues from a price on CO₂ pollution. Proceeds from this fund, totaling \$387 million over 15 years, and other public investments should be directed to support displaced and disadvantaged workers, create clean energy jobs, and build a more diverse and sustainable local economy in affected communities. Possible uses include:
 - secure workers' pension and health benefits;
 - provide high quality job training, career counseling and education;
 - support apprenticeship and pre-apprenticeship programs that offer paid on-the-job training;
 - offer stipends or support during job training, search or moves;
 - provide early retirement;
 - support local infrastructure improvements – especially clean energy projects;
 - support the development of worker cooperatives and entrepreneurship;
 - leverage other investments in local job creation, especially energy efficiency and renewable energy projects and energy efficient affordable housing.

The Empower Kentucky proposal to put a fee on CO₂ pollution from Kentucky's power plants is addressed in other sections of this plan will be mentioned only briefly here. This plan establishes a price on CO₂ pollution from Kentucky's electric power sector and the CO₂ content of imported power, starting at \$1 in 2018 and rising to \$3 over 15 years. By 2032 this policy will generate nearly \$2 billion in revenue. Eighty percent of those funds will be plowed back into efficiency programs across our economy, while 20% is invested in to support a Just Transition and job creation for affected workers and communities.

Establishing a fee on CO₂ pollution is a necessary part of the Empower Kentucky Plan for several reasons. It is needed to achieve significant pollution reductions in Kentucky. It also generates funds to support equitable public investments in a Just Transition for workers and communities and build an energy efficient economy. And importantly, it is part of an overall plan that results in more jobs, lower average bills and better health in Kentucky by 2032 than the business as usual scenario.

C. Make additional sustained, equitable public investments in communities most affected by energy sector job losses, cumulative pollution, high poverty and racial disparities.

1. Pass the RECLAIM Act, a bill in Congress to invest \$1 billion from the Abandoned Mine Lands Fund to restore and develop mine sites in Central Appalachia; and the Miners Protection Act, a bill to ensure pension and health benefits for retired miner workers.
2. Invest additional state and federal resources in Just Transition efforts, including support for affected workers and communities and clean energy transformation in affected communities. One example is a bill introduced in 2015 by Sen. Bernie Sanders. Another is a bill recently passed in the Kentucky General Assembly creating a Kentucky Coal Fields Endowment Fund to support infrastructure projects and economic diversification in coal communities. The Obama administration's Power+ Plan and Promise Zone Initiative offer examples of the kinds of diverse investments that are possible and needed.
3. Ensure that 18% of energy efficiency savings directly benefit low-income residents, and require at least 5% of shares in community solar projects to directly benefit low-income residents. These recommendations are described more fully in other sections of this plan. These recommendations apply statewide and would directly benefit Just Transition efforts in distressed coal communities.

D. Make sure new clean energy jobs are good jobs, and ensure fair access

1. Set state job standards – including wages, benefits, and a percentage of jobs to be filled by disadvantaged workers and local hires – for renewable energy and energy efficiency projects receiving state grants and incentives.
2. Local governments, schools and utilities should establish job standards – including wages, benefits and job access – before putting energy efficiency or renewable energy projects out to bid. Alternatively, they should use “best value contracting” which rewards bids that provide good quality jobs and ensure access to those jobs for disadvantaged workers.
3. Utilities, unions, workforce development agencies, community colleges and community organizations should collaborate to offer high quality pre-apprenticeship programs that provide training, skills certification, on-the-job training and pathways to careers in the clean energy sector. These programs should prioritize participation by displaced and disadvantaged workers in affected communities.

“I look at buildings and wonder about efficiency. Can we get miners back to work making our communities stronger and more efficient?”

— A Seat At The Table participant, Hindman

2. Prioritize Health and Equity

What does this mean and why is it important?

Prioritizing health and equity means making sure the Empower Kentucky Plan improves the health of all Kentuckians and directly engages and benefits communities most affected by pollution, racial injustice and poverty.

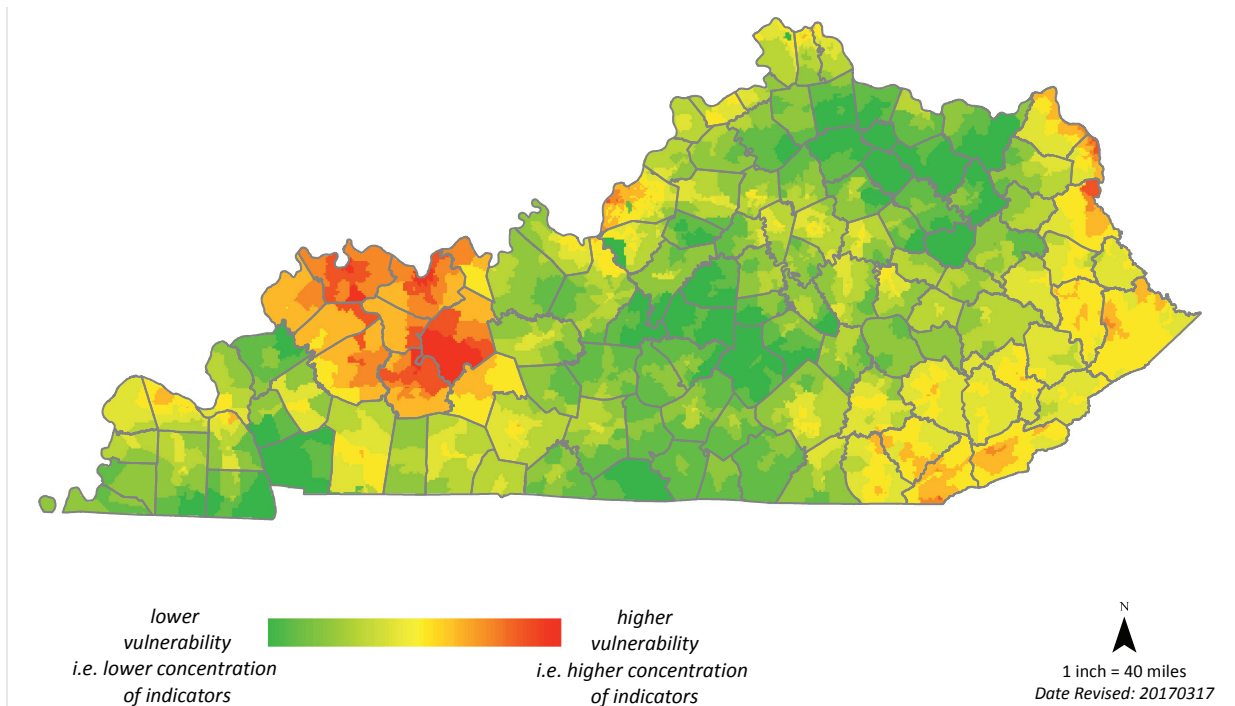
Kentucky's energy system contributes to many serious health conditions.

- Coal plants are major sources of many pollutants harmful to health, including soot, sulfur dioxide and nitrogen oxides.
- According to a report by the Clean Air Task Force, our commonwealth ranks at or near the top of all states for the rates of premature death, lung disease, heart disease and asthma linked to power plant pollution.
- Our power plants also are a primary source of mercury pollution, which affects the nervous system and brain development in children. As a result, all waterways in Kentucky are covered under a state mercury advisory which cautions residents to reduce or restrict consumption of local fish.
- Additionally, power plants are the largest source of CO₂ pollution in the U.S., contributing to global climate change and increasing Kentuckians risk of harm from extreme weather events like floods and severe storms, as well as from intense heat, insect borne diseases, allergens and other health impacts.
- People living near strip mines in eastern Kentucky and Central Appalachia have higher rates of cancer, heart disease and birth defects than people in similar, nearby non-mining counties.
- Coal miners face serious health and safety risks, including on-the-job injuries and an alarming recent spike in the number of cases of advanced black lung disease.
- And people living in heavily polluted communities often experience high levels of stress and poor mental health.

The harmful health impacts of pollution are not evenly distributed. People of color and low-income people are more likely to live in heavily polluted places and to suffer higher rates of related health conditions. Nationally, three out of four African Americans live within 30 miles of a coal plant. African American children are three times more likely to be admitted to the hospital for an asthma attack, and twice as likely to die of asthma. In Kentucky, high poverty communities have significantly higher rates of many health conditions linked to pollution exposure, including heart disease, cancer and premature death.

Prioritizing health and equity means carefully evaluating the risks and the benefits of our energy choices to achieve better outcomes for all Kentuckians, especially low-income people and communities of color. There are many proposals to address climate change, but not all proposals would actually improve health, benefit ratepayers or reduce pollution in the most affected communities. For example, to meet our climate obligations, Kentucky can accelerate investments in low-risk and no-regrets energy solutions like efficiency, solar, wind and hydropower. Or we could do things like build out our natural gas infrastructure, burn more trees or trash to generate power, or expand nuclear generation – options that come loaded with higher risks to ratepayers and our health and climate.

For all these reasons, prioritizing health and equity has been a central theme of the Empower Kentucky process and plan. For us it means paying special attention to the relationships between pollution, health, race, poverty and power. It means making sure the communities who are most affected by pollution, poverty and racism are front and center in any planning process. It means developing policies that will invest in frontline communities and deliver real benefits, including less pollution, more jobs and lower bills. And it means avoiding risky energy options that could threaten our health, and climate and energy policies that could make matters worse for frontline communities.



Cumulative Pollution Map

KFTC's Environmental Justice Analysis for Kentucky explored the distribution of about a dozen types of pollution across our commonwealth to identify areas with the highest burden of cumulative pollution. We also examined the distribution of a number of health conditions that are known to be related to pollution exposure, including: asthma in adults and children and the rates of hypertension, premature death, and heart disease deaths. Lastly, we examined the distribution of a number of demographic factors, including poverty rates, percent minority, education attainment, and age distribution. This map shows the areas of our state with the highest overall pollution burdens. More information and documentation can be found at www.empowerkentucky.org.

WHAT ARE WE LEARNING FROM OUR ENVIRONMENTAL JUSTICE ANALYSIS OF KENTUCKY?

To better understand relationships among pollution, health outcomes, race and poverty in Kentucky, KFTC members developed an Environmental Justice Analysis as part of the Empower Kentucky planning process. Environmental justice is defined by the U.S. EPA as “the fair treatment and meaningful involvement of all people regardless of race, color, national origin or income” with respect to environmental protection.

The EPA encourages states to do an environmental justice analysis to identify communities most affected by power plant pollution and to inform the development of state energy plans. To create an Environmental Justice Analysis for Kentucky, we examined a broad range of pollution sources associated with Kentucky’s energy sector and other industries. We examined nearly a dozen pollution and risk indicators, including proximity to surface and underground mine sites, oil and gas wells, injection wells, coal haul roads, high traffic areas, waste disposal facilities and other high risk facilities, and exposure to ground level ozone, particulate matter, lead and more. We also analyzed the rates of exposure-related health conditions across the commonwealth.

Our analysis finds that pollution from energy sector sources is “directly, strongly and positively correlated with health problems in Kentucky.” It also finds there are important differences in the types of pollution that affect Kentucky’s poorest counties compared to the types of pollution that affect our counties with the highest percentage of people of color.

For example: Kentucky’s counties with high poverty rates are more likely to be exposed to pollution from coal mines, oil and gas drilling, and coal haul highways. On the other hand, our counties with a high share of minority residents are correlated with high concentrations of particulate matter, which contributes to asthma and many respiratory diseases. People of color in Kentucky are also more likely to live near power plants and coal ash impoundments and in counties with high rates of lead exposure, concentration of ozone, traffic pollution, waste facilities and plants handling hazardous materials.

CONCLUSION

Kentuckians have an opportunity to protect and improve the health of our families and communities while slashing CO₂ emissions that are harmful to the stability of our climate. By designing a state plan that emphasizes energy efficiency and renewable energy (and relies less on coal, natural gas and biomass), we can produce multiple health benefits for Kentuckians.

Cleaning up our energy system will reduce harmful air pollution like SO₂, NO_x and fine particulate matter that contribute to higher asthma, cardio-respiratory diseases and premature deaths in our state. Burning less coal also reduces mercury pollution, which is harmful to brain development in our children. And relying less on fossil fuels will reduce exposure to pollution for people living near every stage of energy extraction, transportation, processing, burning and waste disposal.

Designing a state energy plan that prioritizes health and equity means being intentional to make sure that all Kentuckians benefit from lower pollution and clean energy jobs, especially low-income and people of color communities who are most affected by cumulative pollution and poor health conditions today.

Prioritizing health, equity and Just Transition came up a lot during the stories we heard at events last spring. My own story is just one example. My father-in-law was just laid off from his mining job in Western Kentucky. My family lives here in the Ohio River Valley where asthma rates are sky-high, especially for African Americans. And my neighborhood needs more affordable and energy efficient housing. All of us – and I mean all of us – deserve an energy plan that prioritizes health, equity and Just Transition.”

— Serena Owen

Serena Owen is KFTC Member from Northern Kentucky. She was active in every phase of the Empower Kentucky project, including as a table host for a community conversation about Kentucky’s Energy Future and as a member on several planning workteams.

EMPOWER KENTUCKY RECOMMENDATIONS

A. Host a meaningful public process to shape Kentucky’s energy future

1. Meaningfully engage a broad, diverse set of Kentuckians (individuals, workers, businesses, communities, organizations, unions, educational institutions and utilities) to shape a shared vision for an energy system that is good for all Kentuckians.
2. Adopt strong statewide goals and a policy framework for reducing risk and harm to our health and climate and shaping a Just Transition to a clean energy economy.

B. Do a comprehensive environmental justice analysis

- 1. Establish an Environmental Justice Commission with diverse and strong community representation, to create an environmental justice analysis, recommend energy policies, and monitor impacts on health and equity.
- 2. Develop a comprehensive state environmental justice analysis to deepen our understanding of relationships between pollution, health, race and poverty in Kentucky.

C. Put a price on CO₂ pollution to achieve significant pollution reductions, and reinvest nearly \$2 billion in a just energy transition over next 15 years

When we first started shaping the Empower Kentucky plan, our goal was to come up low-risk energy strategies that result in better outcomes in terms of jobs, health and average bills, and meet the Clean Power Plan’s requirement to reduce CO₂ pollution. To do so, we worked closely with Synapse Energy Economics to evaluate the outcomes of specific policy and energy strategies. Along the way we learned something important about Kentucky’s energy system: energy efficiency and renewable energy are not enough to achieve significant pollution reductions in Kentucky, unless we also include a price on pollution as part of our plan.

Here’s the rub: Unless we put a price on CO₂ pollution, utilities in Kentucky would simply sell more coal energy to other states as Kentuckians demand less of it. Other states could comply with the CPP’s climate requirements by burning less coal themselves and buying more of Kentucky’s dirty power. In essence, we would become a regional designated smoking area. This unfortunate outcome is partly due to the fact that the Clean Power Plan itself is far weaker than expected and would impose low costs on Kentucky’s utilities if they pollute in excess of the CPP’s CO₂ standard.

After learning this outcome, the Empower Kentucky planning team explored how putting a modest price on CO₂ pollution would affect our energy system, including the impact on emissions, jobs and average bills. We also looked at the impact of various carbon prices on the share of Kentucky’s energy mix that would come from coal, gas and renewables.

We recommend putting a price on CO₂ pollution in our electric power sector starting at \$1 in 2018 and rising to \$3 over 15 years. By 2032 this policy will generate nearly \$2 billion in revenue, which will be plowed back into efficiency programs and efforts to create jobs and support a Just Transition for affected workers and communities.

This scenario still results in lower average bills – and more jobs – in Kentucky by 2032 than the business as usual scenario, while reducing CO₂ emissions by 40% from 2012 levels. That exceeds the CPP’s requirements, and it is good news for our health in Kentucky, since less CO₂ from power plants also means lower emissions of soot, sulfur dioxide, nitrogen oxides, mercury and other harmful pollutants.

While some may find any talk of a price on CO₂ alarming, we acknowledge others may find our recommended level far too low. For example, the Obama administration calculated that the actual costs to society of CO₂ pollution is just under \$40 per ton. Carbon trading programs in the northeastern states and California result

in CO₂ costs that range from about \$3.50 to \$12 per ton. Our planning team recommends a low price at this time because we discovered that any higher cost on CO₂ would simply accelerate Kentucky’s rush to build new natural gas plants.

This relatively low CO₂ price seems to be not-too-hot and not-too-cold for Kentucky. It’s high enough to drive power plant pollution below the CPP requirement. But it’s not so high that it drives massive additional investments in a natural gas infrastructure. As the costs of renewable energy continue to plummet, we may soon reach a moment in Kentucky where a putting a higher price on CO₂ will result in greater investments in renewable generation rather than gas. Until then a relatively low price seems necessary to prioritize health while also supporting Kentucky’s transition to a clean energy future.

“When you look at who’s most impacted by the burning of fossil fuels and production of energy, it’s mostly low-income folks and people of color. We’re seeing our most vulnerable communities impacted most.”

– A Seat At The Table participant, Lexington

D. Prioritize low-risk energy solutions and consider the full range of costs, risks and benefits when making decisions about our energy future

- 1. Do not allow burning of wood, biomass or waste to count as a low-carbon or carbon-neutral strategies under state or federal policy.
- 2. Instruct the Kentucky Public Service Commission to carefully consider a full range of risks to ratepayers when making decisions about ways utilities propose to generate, purchase, store or save energy.
- 3. Instruct the Kentucky Public Service Commission to consider and account for a full range of social and environmental costs and benefits of utility proposals, including the costs of carbon dioxide and other pollutants.
- 4. Direct utilities to maximize cost-effective energy efficiency measures before investing in new generation capacity.

E. Ensure low-income people and communities benefit from clean energy solutions that reduce their home energy costs and improve health

- 1. Require utilities to get at least 18% of their energy savings through programs serving low-income households.
- 2. Require community solar developers to ensure that at least 5% of their installed capacity benefits low-income households, and incentivize them to do even more.

EMPOWER KENTUCKY RECOMMENDATIONS

A. Set high standards

1. Require utilities in Kentucky to achieve 17% cumulative energy savings and 2.5% annual savings from energy efficiency programs by 2032.

To achieve this standard, Kentucky utilities must steadily improve the energy efficiency programs offered to all classes of customers. In 2015, Kentucky's utilities helped their customers save an amount of energy equivalent to .38% of electricity sales. By 2030 and each year after, they should achieve 2.5% annual energy savings, an outcome leading states are meeting today.

2. Require utilities to achieve 18% of their total energy savings – or about 40% of residential energy savings – from energy efficiency programs serving low-income customers.

Only a few states have a low-income efficiency standard, and there isn't a clear benchmark for setting this goal. This standard we propose is several times larger than what Massachusetts, a leading state, achieves today. That's appropriate, given Kentucky's high poverty rate, greater reliance on electricity for heating and cooling, and the large number of older and inefficient houses, apartments and manufactured homes in our state. It's also critically important since in many Kentucky communities residents already spend more than 15% of their monthly income on electricity, far above the national average of less than 3% of household income.

3. Develop 100 MW of combined heat and power (CHP) capacity by 2021, and 100 MW annually after that through 2032, for a total of 1,200 MW of new CHP capacity.

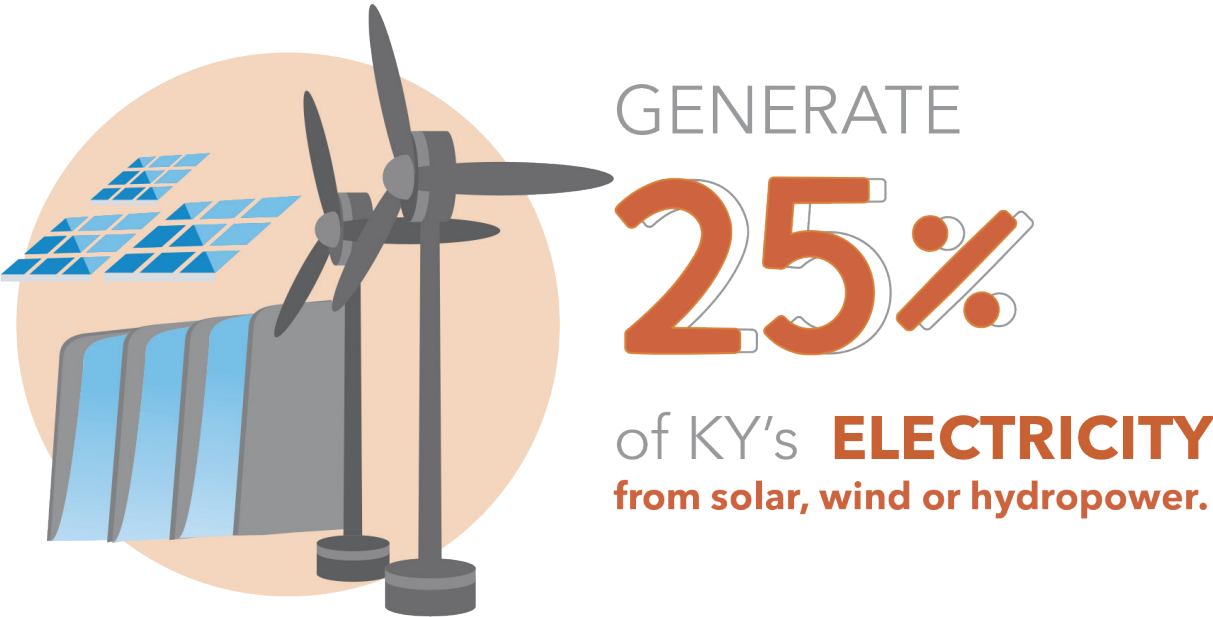
Combined heat and power (CHP) systems allow industrial or commercial properties to generate heat or hot water and electricity from the same energy source, which is often located on-site or near the point of use. CHP systems significantly reduce wasted energy and decrease the amount of electricity demanded from the electric grid. CHP systems are among the most cost effective ways to achieve energy savings. Expanding deployment of CHP should play a key role in any strategy to help Kentucky's industrial and commercial enterprises reduce their energy costs and stay competitive.

The Empower Kentucky Plan calls for Kentucky to install 1,200 MW of new CHP capacity by 2032. Meeting this goal means developing about one third of the state's existing potential CHP sites, as identified in a 2016 Department of Energy study.

4. Require utilities in Kentucky to get 25% of electric sales from solar, wind or hydroelectric sources by 2032, including 1% from distributed solar.

In 2014, Kentucky generated just 3.4% of our electricity from hydroelectric generation and produced no energy from utility-scale wind or solar. Since then a few utilities have installed a small amount of new hydro and tiny amounts of new solar generation. But Kentucky lags far behind the nation, where 11.3% of all electricity was produced from those renewable sources in 2015.

The Empower Kentucky Plan proposes a 25% renewable standard for Kentucky, and calls for distributed solar to provide 1% of the state's total electric sales by 2032. Across the U.S. state renewable energy standards are a proven and powerful driver of renewable energy jobs and investment. Twenty-nine states and Washington DC currently require utilities to get an increasing share of their generation from renewable sources. Twenty-two of those states also include a specific goal for solar and/or for distributed renewable generation. Hawaii aims to be 100% powered by renewables by 2045. North Carolina will generate 12.5% from renewable sources by 2021. Most state policies fall somewhere in between.



To meet the goal for distributed solar, Kentucky's installed rooftop solar (and other forms of distributed solar capacity) would grow from 17.6 MW to 613 MW between 2016 and 2032. Kentucky utilities could meet the rest of the 25% renewable standard by building their own renewable energy infrastructure or purchasing renewable energy credits from in-state or out-of-state renewable energy developers. As a result, an analysis by Synapse Energy Economics expects in-state solar will reach 1,000 MW and wind will reach 600 MW by 2032. Those predictions are conservative; and Kentucky's renewable generation could far exceed those levels if renewable costs continue to fall faster than federal government projections.

B. Support energy transformation across our economy

The recommendations below describe some of the best strategies we’ve identified to accelerate energy efficiency and renewable energy across our economy. They reflect the fact that each household, business and sector has specific needs and challenges to participate in and benefit from clean energy solutions. For a low-income family the biggest barrier to energy efficiency may be paying for the upfront costs of home retrofits. For renters, the barrier may be persuading a property owner to make needed upgrades. For a manufacturing company the deciding factor might be the number of years it takes for an energy investment to pay for itself. For schools, churches and many small businesses the greatest needs may include access to energy expertise and low-cost financing.

Similarly, the barriers to investing in renewable energy can differ for each type of customer. Upfront costs may be the biggest obstacle for many Kentuckians wanting to benefit from renewable energy. For those customers, lifting Kentucky’s restrictions on third party ownership and allowing true community solar could open up better options. Yet for many commercial and industrial customers, it may be more important to lift Kentucky’s restrictive cap on the size of net-metered renewable energy systems.



1. Recommendations to help renters and homeowners

About 35% of Kentucky’s electricity sales were made to the residential sector in 2014. From 2010 to 2016 our residential rates were about 20% lower than the national average, while our average bills were 4% higher. That startling result is due to the fact that Kentucky homes use a lot more electricity than in other states. Kentucky’s high poverty rate and low wages mean home energy bills take a big bite out of household incomes. And those factors – high average consumption and low average incomes – leave Kentuckians vulnerable as our electric rates rise. They also mean our state is among the places that could benefit most from high-quality, comprehensive residential efficiency programs and policies. Starting immediately, Kentucky should:

a. Make inclusive financing (also known as Pay-As-You-Save) programs widely available to assist customers with the upfront costs of energy efficiency and renewable energy

Inclusive financing programs make energy efficiency upgrades possible for many residential customers, including renters and low-income residents. Under this model, a utility or local government provides the capital for cost effective energy investments. Those investments are paid back by the occupant or owner over time with a portion of the energy savings. The obligation to repay the investment is assigned to the property and is transferable to the next owner or occupant. These types of deals don’t depend on a customer’s credit rating. A property qualifies if there are cost effective energy efficiency measures.

A number of Kentucky’s rural electric cooperatives offer How\$mart, a nationally recognized pay-as-you-save program. However, there is an urgent need for those co-ops to scale up their programs by increasing customer participation, and for other utilities in the state to offer their customers the same benefits. State government should provide performance incentives to encourage all utilities, including investor owned, to offer high-quality, large-scale, inclusive financing programs. Also, the General Assembly should remove a restrictive state law that bars local governments from providing “property assessed” financing for energy upgrades on residential properties with fewer than five units.

b. Provide comprehensive support for residential energy efficiency and renewable energy

Kentucky should adopt a comprehensive package of new incentives and grant programs to spur investments in residential efficiency and renewables. These policies should be designed to prioritize clean energy projects that benefit low-income communities, people of color communities and places most affected by coal industry job losses.

For example, Kentucky should establish a grant pool to support clean energy retrofits benefitting low and moderate-income households (in Maryland, this fund is supported with \$9-10 million annually and is allocated to counties based on the number of low and moderate income households). Kentucky should increase support for an existing program benefitting customers who trade in old, energy-inefficient manufactured homes for Energy Star homes. The state should establish meaningful, refundable tax credits for households that install qualifying energy efficiency and renewable energy systems. And we should offer meaningful incentives for new residential construction and new manufactured homes that substantially exceed efficiency requirements.

c. Maximize our ability to access federal resources for efficiency and renewables

Kentucky should choose to participate in the Clean Energy Incentive Program, a voluntary program within the Clean Power Plan that directs resources towards energy efficiency and renewable energy investments in low-income communities. The state should also immediately remove policy barriers to rooftop and community solar (including restrictions on third party ownership, system size and virtual net-metering) so that Kentuckians can take full advantage of the 30% federal tax credit for renewable energy that lasts through 2019. This credit is scheduled to drop in several steps to zero by 2023.

d. Strengthen enforcement of building codes statewide

Building codes set minimum safety and energy efficiency standards, yet many counties in Kentucky don't have anyone who is responsible for code enforcement. Kentucky should establish a state-funded program to support code enforcement in counties without their own local programs.

A current program offered by the Kentucky Energy and Environment Cabinet offers a positive example of how state government can add value to the work of local code enforcement programs. In 2016 the Kentucky Division of Efficiency and Conservation offered a series of trainings for the professional staff who enforce building codes in local communities, and they are in the process of evaluating the impact of those trainings in terms of energy savings for residential customers.

e. Consider providing energy rebates to low-income households, using a portion of revenues from a price on CO₂ pollution.

There is evidence from the nine states participating in the Regional Greenhouse Gas Initiative (RGGI) that reinvesting CO₂ revenues in energy efficiency provides greater customer benefits than offering direct bill rebates. However, Kentucky should carefully evaluate the impact of rising energy rates on low-income households over time. Some direct rebates may be warranted.

2. Recommendations to help Kentucky's public sector

Many valuable community institutions — including schools, churches, hospitals, clinics, service agencies and local governments — have limited budgets and face growing community needs. Helping the public sector take advantage of clean energy solutions is an important way to generate savings that can be reinvested in local salaries, jobs and public services. The following recommendations can help:

a. State and local governments should set and work to achieve strong renewable energy and energy efficiency goals for all public buildings, including schools, by 2032.

b. Assist local governments to develop and track community-wide goals and plans for energy conservation and renewable generation, including planning grants and technical assistance.

c. Issue a \$100 million state bond to provide low-interest capital for energy efficiency and renewable energy projects on public infrastructure between now and 2032.

d. Offer a range of grants and incentives for efficiency and renewable projects benefitting the public sector.

Many states offer a variety of grants, incentives, and low-interest capital to make cost-effective public sector projects possible. For example, New Mexico has a \$20 million bond fund for clean energy investments on schools and state buildings. Maryland offers support for energy efficiency upgrades by local governments. And Arkansas permits local governments to issue their own bonds for energy efficiency and renewable energy projects on public properties. Kentucky's public sector programs should be designed to prioritize projects in low-income and people of color communities and in places most affected by the decline in mining and power plant jobs.

e. Require all new public school buildings in Kentucky to be net-zero.

Net-zero schools are highly energy efficient buildings that generate as much on-site renewable energy as they use in a year. Richardsville Elementary in Bowling Green, Kentucky was the first net zero school in the nation. Along with Turkey Foot Middle School in northern Kentucky, it offers a compelling example of the many economic and educational values of energy efficient, net-zero school design. By requiring all new school construction to be net-zero, Kentucky will help school districts reduce their operating expenses now and for decades to come.

f. Raise the limit on the size of net-metered systems to at least 2,000 MW (up from 30 kW) and allow power-purchase agreements for renewable energy.

Kentucky's restrictive renewable energy laws prevent many otherwise cost-effective renewable energy investments by the public sector. Kentucky caps the size of net-metered rooftop solar at 30 kW. In West Virginia the cap is 2,000 kW. In Indiana the limit is 1,000 kW, and in Virginia it's 500 kW.

Kentucky is also one of just four states to ban third party ownership and power-purchase agreements for renewable energy. This means that a church or city council can't make a deal with a solar energy developer to install a rooftop system for little or no upfront cost, and then pay for the energy the system generates over time. Lifting the restriction on third party ownership will allow more churches, schools and commercial businesses to make mission-driven and cost-effective investments in rooftop solar and other forms of renewable energy.

g. At the very least, Kentucky should immediately pass a five-year pilot program allowing nonprofits and public buildings to install 500 kW rooftop solar systems and enter power-purchase agreements.

If Kentucky's policy makers aren't willing to remove Kentucky's restrictions on rooftop solar altogether, one incremental but meaningful step would be to follow Virginia's lead by temporarily lifting the restrictions on nonprofits and public buildings. A five-year pilot project in Kentucky should allow churches, schools and other buildings to install larger, net-metered rooftop solar arrays and reduce their upfront costs by entering into power-purchase agreements. This approach would allow project investors take advantage of federal tax credits, which will begin to decline in 2019 and will disappear altogether by 2023.

“I’m from Webster County in western Kentucky. A lot of mines have shut down over the past few years. How do we have conversations about an energy transition with families who have relied on coal for generations?”

— A Seat At The Table participant, Paducah



3. Recommendations to help Kentucky’s commercial and industrial sectors

Kentucky’s industrial sector comprises just 1% of all utility customers in the state, but consumes 41% of our electricity, a share that far exceeds the national average of 26%. Our state is home to many energy-intensive industries, including aluminum smelters, chemical plants, steel mills and a broad range of manufacturing plants. Those industries and the jobs they provide are a vital part of our state’s economy. Kentucky should do everything possible to partner and assist our manufacturers and industries to be the most energy efficient and advanced in the world.

Kentucky’s commercial sector consumes about 25% of Kentucky’s electricity, a smaller share than the national average. As is true for other sectors, energy saving programs offered by utilities in other states – including Illinois, Ohio, Indiana, and Missouri – outperform many commercial programs offered in Kentucky.

To accelerate clean energy investments that benefit our commercial and industrial sector, Kentucky should:

a. Provide state incentives for Combined Heat and Power (CHP) systems and establish fair interconnection standards for these projects.

Combined heat and power (CHP) systems allow industrial or commercial properties to generate heat or hot water and electricity from the same energy source, which are often located on-site. CHP systems significantly reduce wasted energy and decrease the amount of electricity demanded from the electric grid. They are among the most cost effective ways to achieve energy savings and a powerful way to help industrial and commercial sectors cut energy costs and reduce their exposure to the risk of rising rates.

Many states – but not yet Kentucky – offer a range of targeted incentives for hospitals, universities, office buildings, manufacturers and industrial facilities that install CHP projects. Maryland invests \$4 million per year in CHP, with incentives of \$425 to \$575 per kW and up to \$500,000 per project. New York created a 3-year, \$20 million “acceleration fund” to provide grants up to \$1.5 million to industries and state and local governments for combined heat and power projects. New Jersey pays 30-40% of installed project costs up to \$250,000 for smaller scale combined heat and power systems installed by commercial, industrial, nonprofit, government, educational, agricultural or multi-family housing customers.

CHP offers a good example of why states and utilities need to partner with industrial customers in order to take full advantage of available, cost effective efficiency measures. CHP systems are a least-cost energy solution. But many industries may still choose not to invest their capital in a CHP system on their business, unless the payback can be measured in a few short years. A package of state and/or utility incentives, along with clear, fair interconnection standards for CHP systems, can make all the difference. By investing in energy efficient CHP systems today, Kentuckians can help our industries be more competitive and our jobs more secure over the long term.

b. Offer comprehensive support for commercial and industrial customers who invest in energy efficiency and renewable energy systems.

Many states and utilities offer a comprehensive package of incentives, grants, technical assistance and low-cost capital to support clean energy investments that benefit commercial and industrial customers.

There is a great need across Kentucky for high-quality, customized and affordable technical assistance – in addition to incentives and low-cost financing – to help businesses and industries benefit from cost effective energy upgrades. We do have some important assets around which a stronger system of support could be built. The Kentucky Pollution Prevention Center, based at the University of Louisville, is a state program providing research and technical assistance to businesses, industrial customers and utilities in Kentucky about ways to save energy. The Mountain Association for Community Economic Development offers technical assistance and low-cost financing for energy efficient upgrades for nonprofit and for-profit enterprises in the Appalachian region of Kentucky.

But many commercial enterprises don’t have access to the energy services they need to identify and implement the best strategies for saving energy and money. While some utilities will do commercial energy audits, it often requires an upfront cost to the customer. And Kentucky’s small corporate tax credits for energy efficiency and renewable energy systems expired in 2015. We can and should do much better. The following steps would help:

c. Raise the limit on the size of net-metered systems to at least 2,000 MW and allow customers to enter into power purchase agreements for distributed renewable energy.

d. Continue to support on-farm energy efficiency and renewable energy projects with grants through the Kentucky Agricultural Development Fund, technical assistance and other incentives.

e. Close a loophole that allows industrial customers to opt-out of energy efficiency programs.

Kentucky’s industrial customers are currently allowed to opt-out of utility-sponsored energy efficiency programs. They make the argument that they will, of course, do whatever is cost effective on their own, so it’s not necessary for utilities to offer efficiency programs. They also balk at paying for utility-sponsored industrial efficiency programs that any given company might or might not take advantage of in a given year.

However, experiences in other states indicate that such “opt-out” policies leave important efficiency gains on the table. Kentucky’s opt-out policy should be revisited as part of a comprehensive approach to ensure our manufacturing sector is resilient and competitive in a changing world. One alternative is to allow some industrial customers to self-direct their energy efficiency spending, rather than opt out. This allows qualifying industrial customers to direct their share of energy efficiency fees towards projects at their own facility, with oversight to ensure efficiency savings are achieved.

f. Consider bill rebates for Kentucky’s most trade-exposed energy intensive industries, using a portion of revenues from a price on CO₂ pollution.

There is evidence from the nine states participating in the Regional Greenhouse Gas Initiative (RGGI) that reinvesting CO₂ revenues in energy efficiency provides greater customer benefits than offering direct bill rebates. However, Kentucky should carefully evaluate the impact of rising energy rates on low-income households over time. Some direct rebates may be warranted.



4. Support Local, Community-based Solutions

What does this mean and why is it important?

A thriving, local, clean energy economy – one where power flows from the bottom up – can produce good local jobs, lower and more stable energy costs, more individual choices and opportunities to be self-reliant, and less money leaving the community.

This is the vision most Kentuckians described when asked what a bright energy future looks like. We want to use less energy overall, and generate more of what we do use from local sources. We want successful worker-owned cooperatives to provide energy efficiency and renewable energy services in our communities. We want access to community solar farms and local revolving loan funds for energy efficiency. And we want more local people to get hired or be able to start their own clean energy businesses, especially young folks, displaced coal workers and other disadvantaged workers.

A dramatic restructuring of our energy economy is underway in Kentucky and across the country. But it’s not inevitable that these changes will lead us in the direction of our shared vision. We face critical choices. And at every step there are powerful forces pushing hard in the other direction.

Right now, for example, many utilities and energy companies are making a big push for laws and rates designed to protect their interests and profits in this time of change. Utilities in Kentucky lobbied hard for a bill that would have brought our homegrown solar industry to a screeching halt by imposing new fees and restrictions on rooftop solar (fortunately, the bill did not pass in the 2017 General Assembly). Simultaneously, some are pushing for new rates designed with a high, flat monthly fee, a feature that makes it hard, if not impossible, for customers to save money on their energy bills by investing in efficiency or renewables.

Elected officials who stand up for consumer choice and a fair, local, clean energy economy will find strong public support for those positions, support that crosses traditional partisan and ideological lines. Most Kentuckians don’t want to be beholden to an electric utility. We want solutions that help us cut our electric bills, create local jobs and breathe easier. And more and more of us want to be an active part of shaping Kentucky’s energy transition, from the bottom up.

EMPOWER KENTUCKY RECOMMENDATIONS

1. **At least 1% of electric sales should come from distributed solar generation by 2030.**

To meet this requirement, utilities would purchase distributed renewable energy credits or offer other incentives to encourage Kentuckians to install at least 610 MW of distributed solar capacity by 2030, up from less than 20 MW today. That would be about five times more solar capacity than is currently allowed under the net-metering law, so legislators would need to lift that cap.

2. **Remove unfair barriers to distributed renewable energy. This includes:**

- **Allow power purchase agreements for distributed renewable energy systems.** Kentucky is among just four states that ban power purchase agreements, while 15 states have adopted laws to expressly authorize and regulate these agreements. PPAs are contracts between individuals or companies who install renewable energy systems and homes, businesses or schools who buy the energy. Kentucky's restriction stems from the law that gives utilities a legal monopoly to provide power in their service territory. Georgia recently passed a law making an exception to allow power purchase agreements for residential distributed solar.
- **Allow virtual net-metering.** Virtual net-metering allows an owner of a renewable energy system to assign credit from one meter to one or several other meters. A policy allowing virtual net-metering would let a farmer transfer credit from solar panels installed on their barn roof to their house account. And it would allow credits from energy produced by solar panels on a reclaimed mine site or apartment complex to be shared by multiple customers living nearby.
- **Raise the limit on the size of net-metered systems from 30 kW to 2,000 kW (2 MW) and remove the cap on total amount of net-metered renewable energy in Kentucky.**
- **Get started immediately by approving a five-year pilot project to accelerate rooftop solar for Kentucky's public sector.** Kentucky could adopt a policy similar to a law passed recently in Virginia. It allows churches, schools, nonprofits and public agencies to install net-metered systems up to 500 kW and use power purchase agreements for renewable energy on their property. Just a five-year pilot project would help ensure that important community institutions are able to benefit from generous federal tax credits for renewable energy, which start to decline in 2019 and disappear altogether in 2023.
- **Exempt solar and wind energy systems used to supply energy to taxable property from being assessed for purpose of property tax for 20 years.**
- **Develop a rigorous and transparent method for assessing the full range of benefits and costs of distributed renewable generation,** before making any changes to the credit net-metering customers receive for energy provided to the grid. Across the country and in Kentucky, many utilities are seeking to undo the one-for-one credit provided by net-metering policies. They argue that net-metering customers don't pay the full costs of the energy services they receive, and advocate higher fees or reduced credits to those customers. However, when state public service commissions and many other analysts have looked closely at these issues, it becomes clear that rooftop solar provides many benefits (as well as costs) to utilities and non-participating customers. Any process to set a "value of solar" in Kentucky needs to include the full range of costs and benefits and use a rigorous and transparent method to arrive at a fair determination.

3. **Write new rules to allow independently owned community solar farms and encourage their growth.**

Community solar refers to any solar project whose benefits – including electricity, net-metering credits or return on investment – are shared by more than one participant. Community solar is a way for people to "go solar" whether or not their own rooftop is a good site for panels. Community solar offers a way for renters to benefit from solar generation. It also allows households or businesses to lease any number of panels that best fits their energy needs and budget.

In Kentucky, the only community solar projects now permissible are ones owned by utilities themselves. But other states have adopted policies that allow and encourage independently owned community solar farms, which may be owned by towns, nonprofits, private companies or group of investors. These community solar farms often provide cost savings to participating customers, and can help build local wealth and assets.

According to a 2016 study by Deloitte, a small set of state policies are responsible for the rapid growth of true community solar projects, especially virtual net-metering policies and community solar mandates. Virtual net-metering policies allow net-metering credits from renewable energy produced at one location to be assigned to one or more other meters. Community solar mandates require utilities to accept and administer independently owned community solar projects under a defined set of rules, which vary state to state.

For example, the rules set forth in Colorado's Solar Garden Act specify: The law applies only to investor-owned utilities, renewable energy credits from community solar gardens count towards the utility's renewable energy standard, solar gardens must be 2 MW or smaller, there must be at least 10 subscribers, each subscription must be at least 1 kilowatt (with an exception for low-income customers), subscriptions cannot supply more than 120% of the average annual consumption of each subscriber's account, subscribers must live with the same county or an adjacent county to the community solar array, and the project must provide at least 5% of panels to low-income customers.

Imagine what could be possible if Kentucky allowed widespread community solar development. Neighbors in eastern Kentucky could pool their resources to install a solar project on strip mined land above their homes. Together they could share net-metering credits, renewable energy credits (RECs), and the federal Investment Tax Credit for renewable energy projects. An affordable housing developer could install a solar project to benefit multiple apartments or several single-family homes in a neighborhood.

Those types of outcomes aren't yet possible in Kentucky under current policies, but several utilities in the state have recently developed modified community solar projects of their own. Customers of Berea Municipal Utility and East Kentucky Power Cooperative can purchase a long-term lease for one or more panels by paying a one-time per-panel fee. The leases last for 20 years and may be sold or transferred to another customer account within the same service territory. Participating customers receive a credit on their bills for the power generated by their panels. LG&E and KU customers, on the other hand, may become "solar subscribers" by paying a \$40 one-time fee per panel, plus a

monthly subscription fee. In return they receive a credit on their bills for solar power generated from their share of the utility's solar array. LG&E and KU subscribers are not allowed to bank credits if their consumption is less than their solar generation, and the value of the credits they receive isn't comparable to traditional net-metering.

These utility-sponsored solar offerings can be seen as a positive development, if the goal is to offer additional ways for Kentuckians to get some or all of their power from solar generation. But depending on their design, they may fall short on other important criteria, like ensuring fairness and equity or building local wealth. Each program varies widely in terms of how much customers pay, how they are credited and whether they ever come out ahead financially. None of the utility programs has provisions for low-income participation. And, except for Berea's program, these utility-sponsored solar projects do not offer the same credit for energy generated as traditional net-metering.

Kentucky should open our doors to true community solar by adopting virtual net-metering and establishing a community solar mandate. These measures would help spur innovation and investment, expand access to low-cost and low-risk energy options, and bring the benefits of solar to many low-income communities

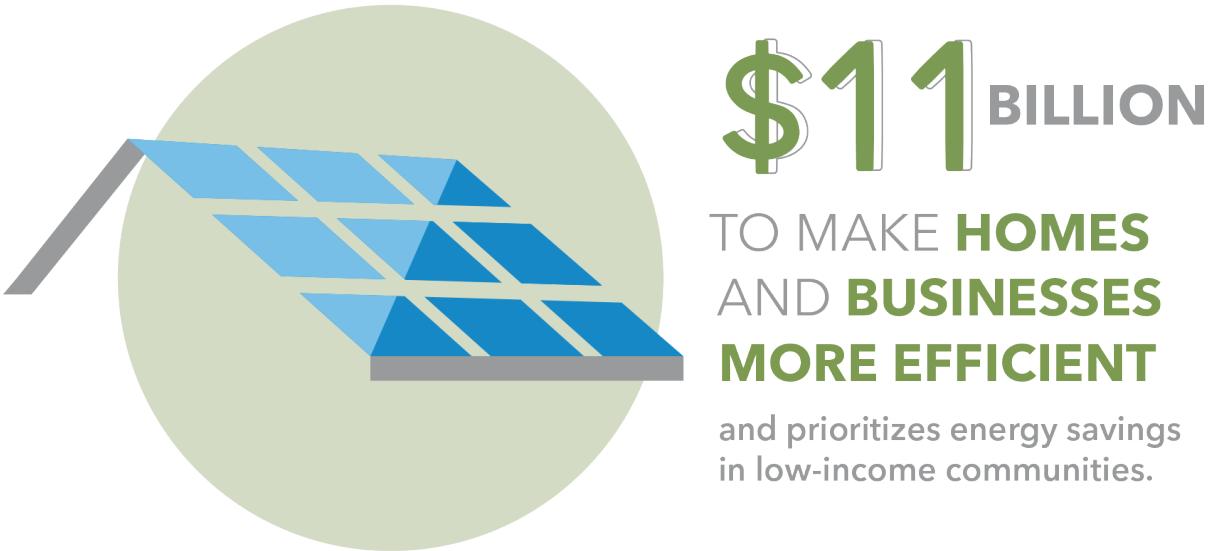
4. Ensure community solar farms in Kentucky benefit low-income customers.

As part of a thoughtful solar policy, Kentucky should require community solar developers, including utilities, to set aside at least 5% of all leases or subscriptions for low-income customers. Project developers could partner with community organizations and agencies and offer subsidies to qualifying customers. In addition, state government should incentivize community solar projects that significantly exceed the required share of low-income participation.

5. Forgive debt owed to the federal government by Kentucky's rural electric cooperatives on coal plants retired between 2018 and 2032, up to \$1 billion, for every new dollar invested in energy efficiency and clean renewables.

Kentucky's co-ops are indebted to the U.S. Rural Utility Service (RUS) for loans they received over many years to build a fleet of coal-burning power plants. As a result of those investment decisions, which were encouraged and supported by federal policies at the time, our co-ops and the communities they serve face steep financial challenges.

The Rural Utility Service should invest in a Just Transition for our rural co-ops and communities by agreeing to cancel or restructure debt owed on retiring coal plants in return for investments made in energy efficiency and renewables. This approach could inject up to \$1 billion in upgrades to housing, public buildings, small businesses, farms and industries across rural Kentucky. It could generate good local jobs and valuable energy savings throughout the region. And it would help our rural co-ops and communities face a changing energy landscape from a position of strength and resilience.



6. Support and incentivize rural electric cooperatives and municipally owned electric utilities to expand high-quality on-bill financing programs for efficiency and renewable energy.

As mentioned elsewhere in this report, a number of Kentucky's rural electric cooperatives pioneered an innovative and powerful approach to residential energy efficiency upgrades, called How\$mart. This program pays the upfront costs for residential energy efficiency retrofits. Those investments are paid back over time on customers' bills, using a portion of the energy savings.

This model is now being put to work by co-ops in North Carolina and Arkansas, and it is picking up steam in Tennessee. However, progress scaling up the program here in Kentucky has been slow. To help these programs expand statewide, state government should become an active partner working with our rural electric co-ops and key stakeholders. Support could include grants and incentives, research and analysis, plus coordination with workforce development and job training programs, affordable housing providers, contractors, energy service providers and other stakeholders.

Kentucky should also assist and encourage our 30 municipally-owned electric utilities to offer their own high-quality, on-bill energy programs. At this time, Benham\$aves is the only municipal program in Kentucky. They and other municipals across the state need resources and technical assistance to do a financial analysis, raise low-cost capital, and design and administer effective programs. The Kentucky Department for Local Government and Kentucky Energy and Environment Cabinet should partner with Kentucky Municipal Utility Association, nonprofit energy service providers like MACED, and individual municipal power boards to develop model business plans, offer customized and coordinated technical assistance, and provide a range of financial incentives.

7. Local governments should lead by example and take the following steps to support a Just Transition to clean energy.

- Set and meet local renewable energy and energy efficiency goals for all public buildings by 2032
- Develop, track and support community-wide goals and plans for energy conservation and renewable generation across all sectors of the local economy
- Offer local incentives for residents and businesses who do energy retrofits or install renewable energy systems
- Establish and invest in a local Affordable Housing Trust Fund to leverage and support greater investments in energy efficient affordable housing
- Offer low-cost financing for local clean energy projects by opting into a program called Energy Property Assessment District, or EPAD. Louisville is among the cities already offering this option. In Kentucky, EPAD financing covers the upfront costs of many energy efficiency upgrades, renewable energy systems or water conservation measures installed on commercial, industrial or agricultural properties or on multi-family apartments. The investment is paid back over time on the property's annual tax bill, and the obligation transfers to the next owner if the property is sold.
- Require energy information to be disclosed before property is leased, rented or sold. Many cities and states currently require energy disclosure and benchmarking for commercial properties and multi-family units. Maine asks all residential property owners to fill out a disclosure form describing the type of heating and cooling systems used, type of insulation, average energy use and other basic information.
- Strengthen and enforce local building code requirements related to energy efficiency, and offer technical assistance, support and accountability to help local builders and property owners comply

8. Schools, colleges and universities also should lead the way.

- Adopt campus sustainability goals, including goals for reducing energy consumption and increasing the share of electric power from renewable energy. Four colleges and universities in Kentucky (Berea, Centre, ECU, University of Louisville) already have made such commitments public by signing onto a national program. In 2016, after years of student organizing, the University of Kentucky announced its own version of a campus climate commitment, including a pledge to reduce greenhouse gas emissions by 25% by 2025 from 2010 levels.
- Offer high-quality education about energy, climate and sustainability issues across all levels of curriculum. This includes engaging students from elementary school to engineering school (and every level in between) in analyzing information, designing and building projects, and collaborating to solve real world problems.
- Create student-led revolving green funds to support on-campus energy conservation and renewable energy projects. Students at Centre College created a model program in Danville in 2016.
- Significantly expand the range of educational and job training programs offered by our vocational schools, community colleges and universities to give Kentuckians many pathways to good careers in the booming clean energy economy.
- Require all new school buildings, including K-12, to maximize energy efficiency and, to the greatest extent possible, to be net-zero. This means new K-12 buildings should generate as much energy as they use in a year from on-site renewable energy systems.



5. Meet our Responsibility to Act on Climate

What does this mean and why is it important?

Kentuckians have a moral obligation to protect the well-being of our children and future generations by reducing emissions of CO₂ and other greenhouse gases harmful to our climate. Global climate change makes many life-threatening health risks and conditions more likely and more severe. The consequences of rising temperatures are evident now in Kentucky and around the world. And the risks are intensifying over time.

Meeting our responsibility to address climate change means doing everything we can in Kentucky, starting now, to reduce harmful greenhouse gas emissions. It means engaging with, rather than opposing or obstructing, EPA's Clean Power Plan. It means making plans and taking actions to meet – or better yet exceed – the CPP's requirement that Kentucky reduce CO₂ pollution from our power sector by 31% by 2030. It means making sure our energy transition doesn't just replace coal plants with other risky and polluting energy sources. And it means recognizing that the electric power sector is just one of many systems (including transportation, waste, food and agriculture, and community planning) that are in need of transformation.

Meeting our responsibility also means taking seriously the threat climate change poses to our health and well-being. The American Public Health Association has declared 2017 the “Year of Climate Change and Health,” and for good reason. In Kentucky and beyond, we are seeing more days of extreme heat, more frequent and extreme storms, more severe flooding events and more serious droughts. Those conditions contribute to higher rates of heat stroke, heat stress, asthma, allergies and cardio-respiratory failure, and storm-related deaths. Rising temperatures mean many insect-borne diseases – including Zika virus, dengue fever and dangerous tick diseases – are affecting more places and more people. Climate change also puts more people at risk of water and food shortages or of becoming environmental refugees.

Importantly, the steps needed to reduce the risks of climate change also can produce immediate benefits for Kentucky's economy, health and resiliency today. Relying more on efficiency and renewable energy sources makes the air we breathe cleaner and healthier right now. Clean energy sources, including efficiency, can create jobs, reduce costs and encourage private investment across Kentucky right now. On the other hand, delaying action only makes our problems worse and the eventual solutions more expensive.

Kentucky has been a leading coal state for more than a century. Today we must play a leadership role by stepping up to do our part to protect our health and climate. A Just Transition to a clean energy economy is possible here in the commonwealth. The steps we take in that direction are the legacy we leave to our children and grandchildren. Our story, the story of how we shaped a Just Transition, can inspire the world.

EMPOWER KENTUCKY RECOMMENDATIONS

A. Develop an energy plan for Kentucky that exceeds the minimum requirements of the Clean Power Plan, whether or not the federal climate rule is ultimately upheld.

- 1. Repeal a state law that prohibits Kentucky's energy agency from developing a meaningful plan for reducing CO₂ pollution from our power sector.**

The Kentucky General Assembly passed a law in 2014, before the EPA had issued the first draft of the Clean Power Plan, making it essentially impossible for the Kentucky Energy and Environment Cabinet to develop a plan that complies with the climate rule.

- 2. Prioritize no-regrets, low-risk energy solutions and take into consideration multiple important goals and outcomes when developing an energy plan for Kentucky.**

Reducing CO₂ pollution is an essential goal of any state energy plan, but it is not the only one. The Empower Kentucky Plan shows it is possible to shape an energy plan that prioritizes low-risk energy solutions and achieves better outcomes for Kentuckians across many important measures, including jobs, health, average bills and Just Transition.

Keeping multiple goals in view during a planning process can help bring Kentuckians together to creatively address our shared challenges. It can also help our state make wise decisions, and avoid risky ones.



LIMIT the use of
**RISKY &
POLLUTING
OPTIONS,**
including biomass.

3. Adopt policies to reduce CO₂ pollution from Kentucky's electric power sector by at least 31% by 2030 from 2012 levels.

The Empower Kentucky Plan cuts CO₂ pollution from Kentucky's power sector by 40% over the next 15 years, exceeding the Clean Power Plan's requirement. Our state government should do no less, and adopt policies that, at a minimum, meet the rule's pollution reduction standard of 31% by 2030.

4. Do not allow biomass or waste incineration to count as low-carbon or carbon neutral energy under a state energy plan.

Kentucky cannot meet our responsibility to protect our health and climate by burning more garbage or trees. Incinerating waste, mixing wood pellets with coal or burning trees to generate electricity are sometimes promoted as so-called clean or low-carbon energy solutions. But not only do those strategies emit large amounts of particulate matter, dioxins and other pollutants dangerous to our health, they also load our atmosphere with harmful CO₂. Biomass and waste should not be considered carbon neutral simply because the original source of the CO₂ pollution is not a fossil fuel.

The EPA punted in the Clean Power Plan on the question of whether or not waste and biomass may count as low-carbon or carbon neutral strategies in state energy plans. The agency left that determination largely up to states. Kentucky should write our own rules to ensure that all CO₂ emissions from burning waste or biomass counts against the goal of reducing greenhouse gas emissions from our power sector.

B. Meeting our responsibility to address climate change means transforming other essential systems, including housing, food, transportation and waste.

Throughout the Empower Kentucky process, we heard calls for broader and deeper changes that are necessary to build just and sustainable communities and cut Kentucky's overall greenhouse gas emissions. While many of those important ideas go beyond the scope of a state energy plan, they are briefly outlined in the final section of this report.

“More than anything, we need people to change the story in their heads about what Kentucky can be. Because we’re never going to get there until we realize that we are worth so much more than we’re being told.”

- A Seat At The Table participant, Hindman

6. Fully and Fairly Invest in a Just Transition to Clean Energy

What does this mean and why is it important?

A Just Transition to a clean energy economy is possible in Kentucky with the right mix of equitable public investments and policy choices. Thoughtful public policies can leverage significant private investments in our energy transition and direct new jobs and investments towards the communities and workers who need them most.

Building our next energy economy in Kentucky means making choices about how we invest public funds and attract private investments to achieve the best possible outcomes for Kentuckians. It's important to remember that even if policymakers do nothing, utilities in Kentucky will still spend billions of dollars in the next 15 years to upgrade coal plants, build more natural gas plants and pipelines, and pay for the rising costs of fuel and pollution. Those are risky and expensive choices. We can make better ones.

Instead of spending resources for a future powered by fossil fuels, the Empower Kentucky Plan prioritizes investments in energy efficiency and renewables. These no-regrets, low-risk strategies will create more jobs, lower energy bills and ensure better health than the business as usual approach. And, along with investments in a Just Transition, they can help build a thriving clean energy economy across our commonwealth.

The energy efficiency goals of the Empower Kentucky Plan alone will lead utilities and customers to invest \$11 billion in energy conservation measures over the next 15 years. This plan also raises nearly \$2 billion from a fee on CO₂ pollution, and reinvests those resources in energy efficiency and a Just Transition Fund.

Importantly, an analysis by Synapse Energy Economics found that the overall cost of the Empower Kentucky Plan (including capital expenses, operating and maintenance, energy efficiency, environmental retrofits, transmission construction and imported electricity) is just 3% higher than the cost of business as usual. Meanwhile, average residential bills are actually lower under the Empower plan, due to the substantial priority on energy efficiency.

3. Accelerate Energy Efficiency and Renewable Energy Across our Economy

What does this mean and why is it important?

Energy efficiency (EE) and renewable energy (RE) form the cornerstone of the Empower Kentucky Plan.

Together these strategies are essential low-cost and low-risk energy solutions with multiple benefits for Kentuckians. By accelerating investments in energy efficiency and renewable energy generation across our economy, Kentucky can spur local job creation and help families and businesses save money on their energy bills. These approaches help avoid or delay risky and expensive investments in new fossil fuel generation. They also result in less power plant pollution, benefiting our health, climate and economy.

Energy efficiency is often called “low-hanging fruit” because it is cheaper to save energy, on average, than it is to generate that same amount of power from any new source. But it may be more accurate to think of efficiency upgrades that are not taken as fruit that is left rotting on the ground. State policies that encourage and support Kentuckians to make our homes and businesses more efficient (by insulating buildings, improving lighting, or upgrading appliances and machinery, and more), generate multiple benefits for Kentuckians. These include: lower monthly bills, increased comfort, elevated property values, and improved business productivity and competitiveness. As Kentucky energy specialist Chris Woolery often says, “Energy efficiency investments literally pay for themselves.”

Renewable energy is among of the fastest growing sectors of the U.S. economy, driven by plummeting costs and strong policies in some states. Many forms of utility-scale wind and solar are now cheaper than new coal and cost competitive with new natural gas plants across much of the U.S., and are increasingly cost competitive in Kentucky. Across the South and Midwest, local renewable energy businesses are thriving as many states (including Georgia, North Carolina, Maryland, Michigan, Minnesota and Ohio) have adopted policies to encourage investments in renewables, including utility-scale as well as rooftop and community solar.

Diversifying Kentucky’s energy mix with more wind, solar and hydro lowers risks for our ratepayers and residents and helps ensure affordable, stable energy prices. While natural gas costs are near an historic low, the risks to Kentuckians of investing in an expensive new natural gas infrastructure – investments that will be with us for at least the next 40 years – are many. Renewables help reduce our exposure to financial, regulatory, health and climate risks that are written into any deal that expands our dependence on fossil fuels. Renewable energy can also be quickly scaled up as needed over time, compared to all-or-nothing major investments in new gas plants and pipelines.

Investments in efficiency and renewables support good, local jobs in every corner of our commonwealth.

The types of jobs created by these industries include skilled HVAC installers, insulation installers, solar and wind technicians, renewable energy installers, general contractors, electricians, energy auditors and specialists, lighting and refrigeration specialists, and more. According to the American Council for an Energy Efficient Economy, clean energy jobs are more likely to be open to workers without special credentials, and they are more likely to pay those workers above average wages than jobs in the fossil fuel sector. States with renewable friendly policies also are more likely to attract and grow related enterprises, including manufacturing, research and development, energy consulting, business headquarters and more. Additionally, access to renewable energy is often a priority for many non-energy related businesses when making decision to locate in a particular state or community.



Investments in efficiency and renewables deliver economic and health benefits to the whole state, not just the customers who retrofit their homes or businesses. When their customers demand less electricity, utilities spend less on pollution control, fuel costs, new infrastructure and costly peak demand. Those benefits accrue to all ratepayers, not just the customers who install energy efficiency measures or solar panels. Kentucky’s economy benefits when residents and businesses spend less on electricity and have more to spend locally. Public health also improves as Kentuckians use less electricity from polluting power plants, saving lives and reducing costs for both families and employers alike.

Despite these many benefits, Kentucky lags far behind other states for efficiency and renewable energy. The Empower Kentucky Plan recommends many steps to accelerate these solutions and achieve better outcomes across our economy.

Why a fee on CO₂ pollution from Kentucky power plants?

The Empower Kentucky Plan recommends a price on CO₂ pollution in our electric power sector starting at \$1 in 2018 and rising to \$3 over 15 years. By 2032 this policy will generate nearly \$2 billion in revenue. Eighty percent, or \$1.5 billion, will be reinvested in efficiency programs across our economy and \$387 million will be directed to a Just Transition Fund for affected workers and communities.

The recommended price of \$1-3 per ton may appear too low to some, while alarming others. In fact, this proposed fee is far lower than many other policies across the U.S. According to a determination by the Obama administration, the true cost to society of CO₂ pollution is just under \$40 per ton. Carbon trading programs in the northeastern states and California currently result in CO₂ prices that range from about \$3.50 to \$12 per ton. And recent long-term plans submitted to the Kentucky Public Service Commission by LG&E, Big Rivers, Duke, Kentucky Power and other utilities show they anticipate paying anywhere from \$10 to \$54 per ton of CO₂ over the next 20 years.

The Empower Kentucky Plan recommends the low \$1-3 price per ton of CO₂ pollution during the next 15 years. With help from Synapse Energy Economics, we evaluated a number of other scenarios, ranging from \$1-30, to examine the impacts on emissions, jobs, bills and Kentucky’s energy mix. In the process, we discovered that higher prices for CO₂ at this time will likely accelerate Kentucky’s rush to build new natural gas plants. The relatively low CO₂ price we propose seems “not-too-hot and not-too-cold” for this time frame in Kentucky. It is high enough to drive down power plant pollution, but not so high that it drives us towards a larger natural gas infrastructure.

“It’s going to take teams of people to bring people to town hall meetings or community forums. We need a process to find out what people are saying and asking for. It’ll take pilot programs to see what works, and training people how to do the work. And we’ll need funding to really make solutions work.”

— A Seat At The Table Participant, Covington

As the costs of renewable energy continue to plummet, we may soon reach a moment in Kentucky where a higher price on CO₂ will result in greater investments in renewable generation, rather than in natural gas. Until then, we believe the relatively low price we propose achieves important objectives of protecting our health and climate while also supporting Kentucky’s Just Transition to a clean energy future.

Of course there are different ways to design CO₂ policy, and there are different ways to allocate or reinvest the revenue. Along with many groups working for environmental justice and a Just Transition, we have deep reservations about carbon trading proposals and some approaches to carbon taxes. To address those concerns, proposals to tax carbon pollution should:

- Be part of an overall, comprehensive approach to improve health, create jobs, reduce energy bills, advance equity and a Just Transition, and reduce harmful pollution.
- Reinvest in a Just Transition, in clean energy projects benefitting low-income and people of color communities, and in clean energy transformation across our economy.
- Ensure that polluters can’t game the system by making windfall profits or claiming pollution reductions that don’t actually exist or don’t hold up under scrutiny.
- Avoid incentivizing risky energy solutions that further endanger our health or climate.
- Avoid schemes that unfairly benefit powerful industries and wealthy individuals, or that reduce revenue for other essential public structures and services, including schools.
- Include rigorous monitoring and mechanisms to ensure that actual pollution reductions occur in low-income and people of color communities, and systemwide.



**PUT A PRICE ON
CO₂ POLLUTION**

FROM THE POWER
SECTOR OF \$1-\$3

EMPOWER KENTUCKY RECOMMENDATIONS

A. Make equitable public investments in a Just Transition for workers and communities most affected by energy sector job losses, cumulative pollution, high poverty and racial disparities by putting a price on CO₂ pollution.

As described above and elsewhere in this report, we recommend a fee on CO₂ pollution from Kentucky's electric power sector and imported electricity, starting at \$1 in 2018 and rising to \$3 over 15 years. By 2032 this policy will generate nearly \$2 billion in revenue.

Eighty percent of these revenues, or \$1.5 billion, will be reinvested in efficiency programs, including for projects that benefit low-income households, all Kentuckians, local schools and governments, small businesses, farms, and energy-intensive industries across Kentucky. In another section of the Empower Kentucky Plan, we identify a broad range of policies and best practices to ramp up energy efficiency and renewables across our economy. Those incentives and programs could be funded, at least in part, through this mechanism.

An additional \$387 million will be directed to a Just Transition Fund and used to support workers and communities most affected by Kentucky's energy transition. The Just Transition section of the Empower Kentucky Plan describes many programs and investments that could be funded, at least in part, through this mechanism.

B. Make additional, sustained state and federal investments in Kentucky's clean energy and Just Transition strategies, including:

1. Pass the RECLAIM Act, a bill in Congress to invest \$1 billion from the Abandoned Mine Lands Fund to restore and develop abandoned mine sites, many of which are in Kentucky and other Central Appalachian states; and the Miners Protection Act, a bill to ensure pension and health benefits for retired miner workers.
2. Invest additional state and federal resources in Just Transition efforts, including support for affected workers and communities and clean energy transformation in affected communities. One example is a bill introduced in 2015 by Sen. Bernie Sanders. Another is a bill recently passed in the Kentucky General Assembly creating a Kentucky Coal Fields Endowment Fund to support infrastructure projects and economic diversification in coal communities. The Obama administration's Power+ Plan and Promise Zone Initiative offer examples of the kinds of diverse investments that are possible and needed.

C. Encourage private investment in clean energy and expand access to low-interest or "patient" capital and inclusive financing.

1. Attract private investment to Kentucky by providing high quality education and workforce training, supporting research and development in advanced energy technologies, and creating a business and political climate that supports a growing clean energy sector.
2. Eliminate policy barriers to third party ownership of renewable systems and design utility rates in ways that encourage and reward customers who choose to invest in energy efficient upgrades and distributed renewable systems.
3. Make inclusive financing programs (including on-bill financing, property assessed financing or other low-cost and patient financing) widely available to help all customers – including homeowners, businesses, renters, and people with low and moderate incomes – be able to afford and benefit from investments in energy efficiency and renewable energy.
4. Issue a \$100 million state bond to provide low-interest capital for energy efficiency and renewable energy projects on public infrastructure, and authorize local governments to issue their own bonds for energy efficiency projects and investments.

D. Divest from fossil fuel companies and eliminate public subsidies for fossil fuel industries.

1. Individuals, colleges and universities, religious organizations, labor unions, cities and other institutions can join the growing number of investors making the choice to divest from fossil fuel companies and reinvest instead in clean energy funds and Just Transition initiatives, especially projects that directly benefit communities most affected by a legacy of fossil fuel extraction.
2. Eliminate state and federal subsidies for fossil fuels. U.S. taxpayers spend \$10 to \$52 billion annually to subsidize some of the richest companies and industries on earth. Those figures don't begin to describe the true costs to our health and climate.

"More than anything, we need people to change the story in their heads about what Kentucky can be. Because we're never going to get there until we realize that we are worth so much more than we're being told."

- A Seat At The Table participant, Hindman

7. Engage Everyone to Transform Everything

What does this mean and why is it important?

When we asked Kentuckians, “What will it take?” to make a Just Transition to a clean energy economy, the top two responses were: education and political will. And they shared lots of specific ideas related to those themes. Kentuckians want our elementary students, college students, voters and elected officials to have a full and accurate understanding of complex energy and climate issues. We want our children to be well informed about clean energy options, and to have pathways to good jobs in the growing clean energy economy. We want our politicians to be well grounded in science. We want voters and public officials alike to be equipped to listen, learn, analyze and lead.

Nearly every conversation we had about Kentucky’s energy future also revealed ways energy, climate and Just Transition issues are linked to other important parts of our lives. To build just and sustainable communities, many people told us we’ve got to grapple with issues of racial and economic justice. We’ve got to pay close attention to how our economy is structured and how our democracy works. We’ve got to have a strong social safety net, a fair tax system and equitable public investments in education, art, infrastructure, health and safety. And we’ve got to learn to treat each other well and build community.

Lastly, throughout this project many Kentuckians told us that their commitment to addressing climate change extends far beyond the electric power sector. A lot of good work is already in motion, and more is needed, to transform other essential systems. Across Kentucky people are collaborating and innovating to build local food systems, reduce waste, design sustainable communities, and build our homes and transportation systems to be more resilient and less damaging to the land, air, water and climate. And as is true for energy issues, many of those strategies also can achieve other important co-benefits, including job creation and improved health outcomes.

The recommendations following are a sampling of the many specific responses we heard when we asked “What will it take to build a bright energy future in Kentucky?” Of course, any of these could be a jumping off point for a deeper planning process.

“What will it take? I think organizing, getting people to raise their voices and tell their stories. We need to get legislators on board to help make good things happen.”

— A Seat At The Table participant

EMPOWER KENTUCKY RECOMMENDATIONS

A. Engage, educate and involve everyone about clean energy, climate and Just Transition issues – and the intersections with racial and economic justice.

1. Kentucky’s K-12 schools should provide all students with a broad and accurate understanding of energy and climate issues and prepare them to work and lead in the clean energy economy.
2. Kentucky’s community and technical colleges, colleges and universities, and vocational programs should prepare students for careers in the clean energy economy, including skills to research, analyze, design, build, install, repair, collaborate and lead.
3. Schools and colleges should support and encourage students at all levels to participate in real world problem solving, do research and think critically about data.
4. Students at all levels should have opportunities to explore relationships between energy, economy, health, environment, climate, democracy and culture; and they should be encouraged to consider the intersections with race, poverty and principles of justice.
5. Utilities and local governments should provide all customers and residents high quality, easy to understand information about ways to save energy, use more renewable energy and benefit from clean energy programs and incentives.
6. Together, Kentuckians should support and invest in art and culture, especially in artists and projects that provoke new thinking, create connections and inspire diverse groups of people to work together to advance a Just Transition in Kentucky.
7. Civic organizations and media should provide voters with access to good information about public policies and positions taken by candidates and elected officials on clean energy, climate and Just Transition (and so much more).
8. Public officials should have a broad and accurate understanding of climate and energy issues, be informed by the best available science, listen to diverse viewpoints and be responsive to the interests of all Kentuckians.

“There are solutions all over the world that are worker and community owned, whether it’s energy, food or any economic endeavor you could imagine. I want to see that here.”

- A Seat At The Table participant

B. Work together to build New Power, including new energy power, economic power and political power to advance a Just Transition.

1. Organize and work to pass state and local policies that encourage homegrown clean energy businesses and open doors for more investments in locally owned, clean energy projects.
2. Build and support worker-owned and consumer-owned cooperatives that provide affordable energy efficiency and renewable energy services, and build local wealth.
3. Create opportunities for diverse people to share stories, build a shared vision, and learn and organize together for a bright energy future, one that is good for all Kentuckians.
4. Join and build strong, diverse organizations, networks and social movements to advance the Empower Kentucky Plan, win positive changes and hold public officials accountable.
5. Support elected leaders and candidates who lift up the vision and ideas of the Empower Kentucky Plan.
6. Encourage good people – perhaps even oneself – to Empower Kentucky by running for office or by providing leadership in other ways, including at home, work and worship.

C. Transform housing, food, transportation, waste and other essential systems.

1. Adopt policies and invest in strategies to improve soil health, avoid forest loss, and protect our watersheds and wetlands.
2. Transform agriculture in ways that are more sustainable, less energy and chemically intensive, healthier and more just for all who produce, process, buy, sell and eat food.
3. Adopt policies and invest in more energy efficient, affordable and non-discriminatory housing, so that all Kentuckians have access to safe and secure housing.
4. Develop and support meaningful, community solutions to prevent gentrification of communities; encourage community control over development decisions; and invest in strategies that make it possible for all people to live in healthy, sustainable, safe and affordable communities.
5. Invest in effective and efficient public transportation systems that serve rural and urban communities, and develop good infrastructure to support safe biking and walking within neighborhoods and community-wide.
6. Design fair utility rates in ways that encourage and support the electrification of our public bus systems, and reduce harmful pollution by shifting as quickly as possible from diesel to electric buses.
7. Design fair utility rates in ways that encourage and support the electrification of our public bus systems, and reduce harmful pollution by shifting as quickly as possible from diesel to electric buses.
8. Adopt state, local and institutional policies to reduce food waste, encourage redistribution of excess good-quality food and the composting of food waste.

4. AN ENVIRONMENTAL JUSTICE ANALYSIS FOR KENTUCKY

KFTC developed an Environmental Justice Analysis for Kentucky to document and better understand relationships among pollution, health outcomes, race and poverty, and inform this plan.

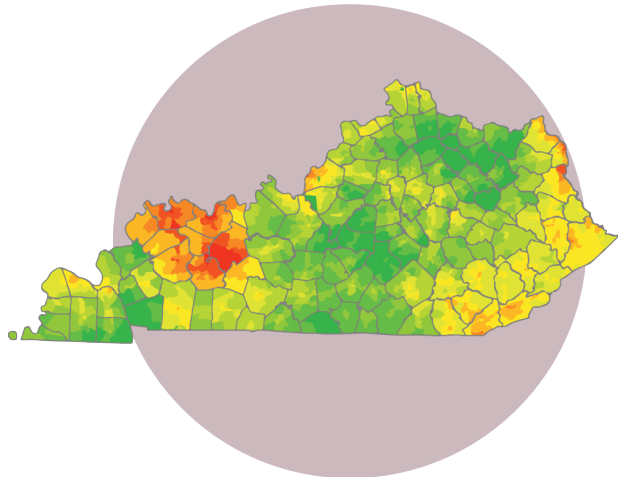
Environmental Justice is defined by the U.S. EPA as “the fair treatment and meaningful involvement of all people regardless of race, color, national origin or income” with respect to environmental protection.

Key findings of KFTC’s Environmental Justice analysis include:

- Kentuckians are impacted by pollution from many sources and, while pollution from the energy sector plays a large role, it is not the whole story.
- Different pollution sources affect low-income and minority communities in Kentucky.
- There are strong relationships between exposure-related health problems and vulnerable demographics, such as poverty, educational level and certain age groups.
- Many of Kentucky’s coal-burning power plants are located in areas that exhibit cumulative pollution exposure and/or demographic vulnerability.

Our analysis finds that pollution from energy sector sources is “directly, strongly and positively correlated with health problems in Kentucky.” It also finds important differences in the types of pollution that affect Kentucky’s poorest counties, compared to the types of pollution affecting our counties with a high percentage of people of color.

This Environmental Justice Analysis informed many aspects of the Empower Kentucky Plan, including recommendations related to prioritizing health and equity.



**IMPROVE
HEALTH BY
LOWERING
HARMFUL
POLLUTION**

while creating jobs and lowering bills

5. AN ANALYSIS OF THE EMPOWER KENTUCKY PLAN'S IMPACT ON JOBS, POLLUTION, RATES AND BILLS

A key goal of the Empower Kentucky Project is to describe a set of no-regrets energy solutions that produce better outcomes for Kentuckians than business-as-usual, whether or not the Clean Power Plan is ultimately upheld. Specifically, we set out to produce a plan that is better for jobs, health, average bills, Just Transition and equity than staying on Kentucky's current path. We also aimed to produce a plan that meets or exceeds the Clean Power Plan's requirements for reducing CO₂ pollution from Kentucky's power sector.

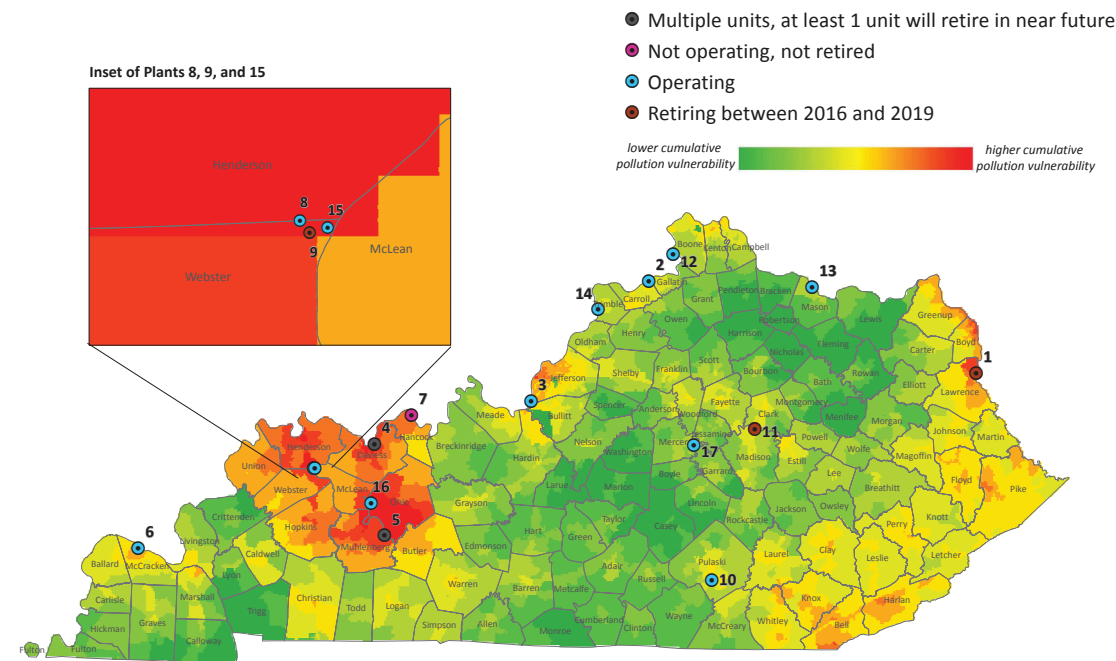
To accomplish those goals, KFTC members worked closely with Synapse Energy Economics to examine Kentucky's existing energy landscape and develop key policy recommendations. A detailed report by Synapse compares the results of the Empower Kentucky Plan with a business-as-usual scenario in terms of jobs, pollution, average bills, energy system costs, investments in Just Transition and overall energy portfolio.

The Synapse analysis focused on the following policy choices within the Empower Kentucky Plan:

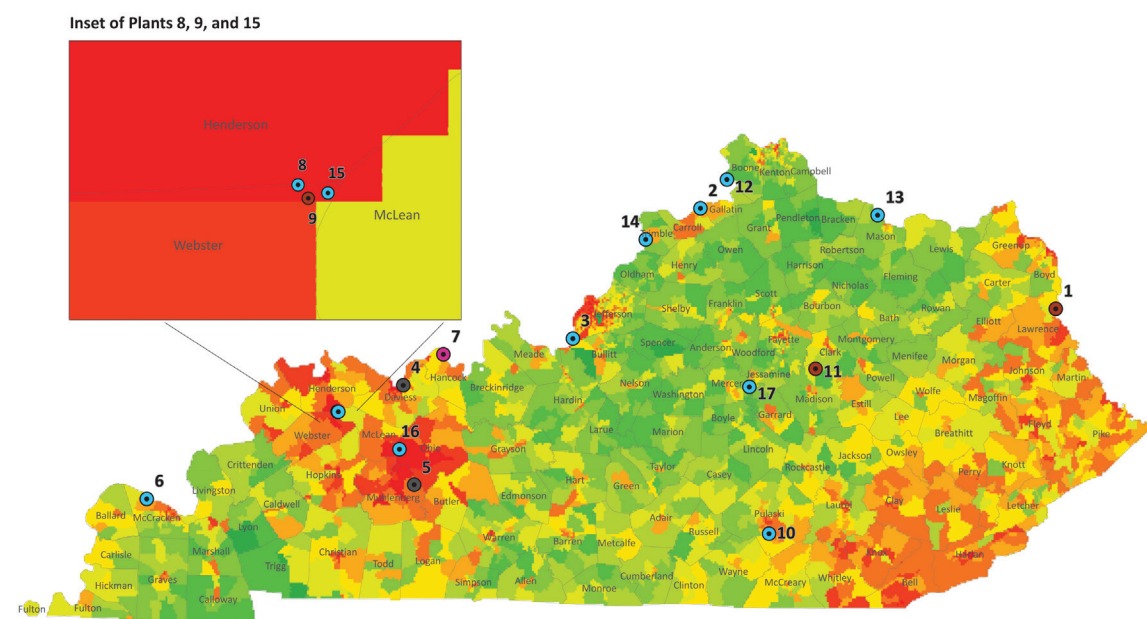
- Reduce electricity demand by 17% over next 15 years through energy efficiency, with 18% of energy savings coming from programs benefiting low-income households.
- Get 25% of Kentucky's electric generation from solar, wind or hydropower by 2032, with 1% of all generation coming from distributed solar.
- Put a price on CO₂ pollution, starting at \$1 in 2018 and rising to \$3 by 2030; invest 20% of the revenue in a Just Transition for affected workers and communities; and invest the remainder in energy efficiency projects across our economy and commonwealth.
- Don't allow biomass to count as low-carbon or carbon neutral energy source.

"It's really important to realize that our energy system has a human story. That can make our conversations difficult."

— A Seat At The Table participant, Bowling Green, Kentucky



Cumulative Pollution Overlay and Coal Plants in Kentucky Map

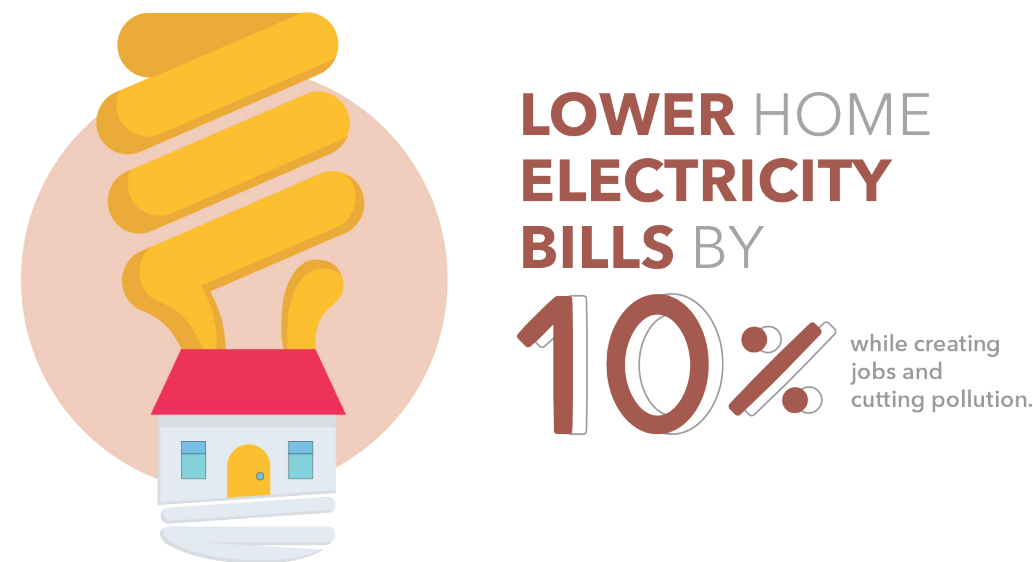


Cumulative Demographics Overlay and Coal Plants in Kentucky

KFTC's Environmental Justice Analysis for Kentucky explored the distribution of about a dozen types of pollution across our commonwealth to identify areas with the highest burden of cumulative pollution. We also examined the distribution of a number of health conditions that are known to be related to pollution exposure, including: asthma in adults and children and the rates of hypertension, premature death, and heart disease deaths. Lastly, we examined the distribution of a number of demographic factors, including poverty rates, percent minority, education attainment and age distribution. This map shows the areas of our state with the highest overall pollution burdens. More information and documentation can be found at www.empowerkentucky.org.

Over the next 15 years, the Synapse analysis finds the Empower Kentucky Plan produces better results for Kentuckians than the business-as-usual case in terms of jobs, health, bills, climate and Just Transition. Specifically, it finds that by 2032 the Empower Kentucky Plan will:

- Create 46,300 more job-years for Kentuckians than business-as-usual.
- Improve health by avoiding 93 thousand tons of SO₂ and 132 thousand tons of NO_x pollution over 15 years.
- Lower residential electric bills by 10%, compared to business-as-usual.
- Invest \$387 million in a Just Transition for Kentucky's coal workers and communities.
- Cut CO₂ pollution by 40% from Kentucky's power sector from 2012 to 2032, exceeding the Clean Power Plan's requirement.
- Invest \$11 billion in energy efficiency across our economy, and prioritize energy savings that benefit low-income households.
- Result in a cleaner, more efficient and more diverse energy system.
- Build 1,000 MW more solar, 600 MW more wind and 800 MW less natural gas capacity in Kentucky, and rely less on coal generation, than business-as-usual.



“And when I say I want to see solar panels, I want our local people installing them. If the jobs aren’t local, what good is it to us?”
- A Seat At The Table participant, Hindman, Kentucky

6. KENTUCKY’S CHANGING ENERGY LANDSCAPE, AT A GLANCE

The energy system we have today in Kentucky is – for the most part – the one we’ve had for decades, although that reality is shifting fast. Rapid changes are now reshaping our energy system in Kentucky and around the world, presenting us with many opportunities, risks and challenges. Consider the following:

- Nearly all of Kentucky’s energy eggs are in one basket. For decades, more than 90% of our electricity came from burning coal. But now that historic trend is rapidly changing. In 2015, coal’s share fell to 87%, and in 2016 it dropped further to 83%. This is still a very different picture than for the rest of our country. For the U.S. as a whole, just 33% of electricity was generated from coal in 2015.
- Kentucky ranks at or near the top of all states for the rates of premature death, lung disease, heart disease and asthma linked to coal plant pollution.
- Nationally, three out of four African Americans in the U.S. live within 30 miles of a coal-burning power plant. African American children are three times more likely to be admitted to the hospital for an asthma attack and twice as likely to die of asthma.
- The amount of coal mined in Kentucky fell by more than 30% in 2015. Coal employment in the state fell to 6,371 jobs by the end of 2015, 24% lower than the previous year.
- Kentucky has the fourth lowest overall electricity rates in the U.S. but our electric bills are actually above the national average. This outcome is due to the fact that our homes and businesses consume a lot more electricity than the nation as a whole.
- Kentucky’s historically low rates have attracted many energy-intensive industries to our state, including aluminum smelters, manufacturing plants, steel mills and chemical plants. Industrial customers are less than 1% of all utility accounts in Kentucky. Yet the state’s industrial sector consumes 40% of all electricity, compared to 27% nationally.
- A large percentage of Kentucky homes use electric heat, and many buildings are poorly insulated. As a result, Kentucky households consume about 25% more electricity than the national average.
- A large percentage of Kentucky homes use electric heat, and many buildings are poorly insulated. As a result, Kentucky households consume about 25% more electricity than the national average.
- In many Kentucky communities, residents pay 15% of their household income for electricity, compared to a national average of less than 3%. In 2013, Kentucky tied with Alabama for the highest rate of electricity consumed per dollar of state GDP.
- Electricity rates have nearly doubled in Kentucky in the last 15 years, in large part due to the rising cost

of steam coal and investments aimed at reducing harmful pollution.

- Between 2013 and 2016, utilities in Kentucky retired 2,900 MW of coal capacity, roughly 16% of the fleet of coal generation plants operating in 2012. According to Synapse Energy Economics, an additional 5.7 gigawatts of coal capacity is expected to retire in Kentucky between 2016 and 2032, under either the business-as-usual scenario (which assumes no CPP) or the Empower Kentucky Plan (which exceeds CPP requirements).
- Many of Kentucky's retiring coal plants are being replaced by new natural gas plants. More than 800 MW of new natural gas combined cycle capacity has been built in recent years, and an additional 1,900 MW is under construction now or proposed to be built. Beyond those planned additions, the business-as-usual scenario calls for an additional 1.3 GW of new natural gas to be built over the next 15 years, while the Empower Kentucky scenario anticipates another .8 GW of natural gas capacity will be built by 2032.
- In 2015, Kentucky got about 3.4 percent of our electricity from renewable energy, mostly from hydropower plants built decades ago. Several new hydropower additions will soon bring that total to more than 4 percent. A few utilities in Kentucky also generate a tiny amount of their electricity from a handful of 8-10 MW solar arrays. There is no utility scale wind generation operating in Kentucky at this time. Meanwhile, about 0.5% of our electric generation in 2015 came from burning wood or other biomass.

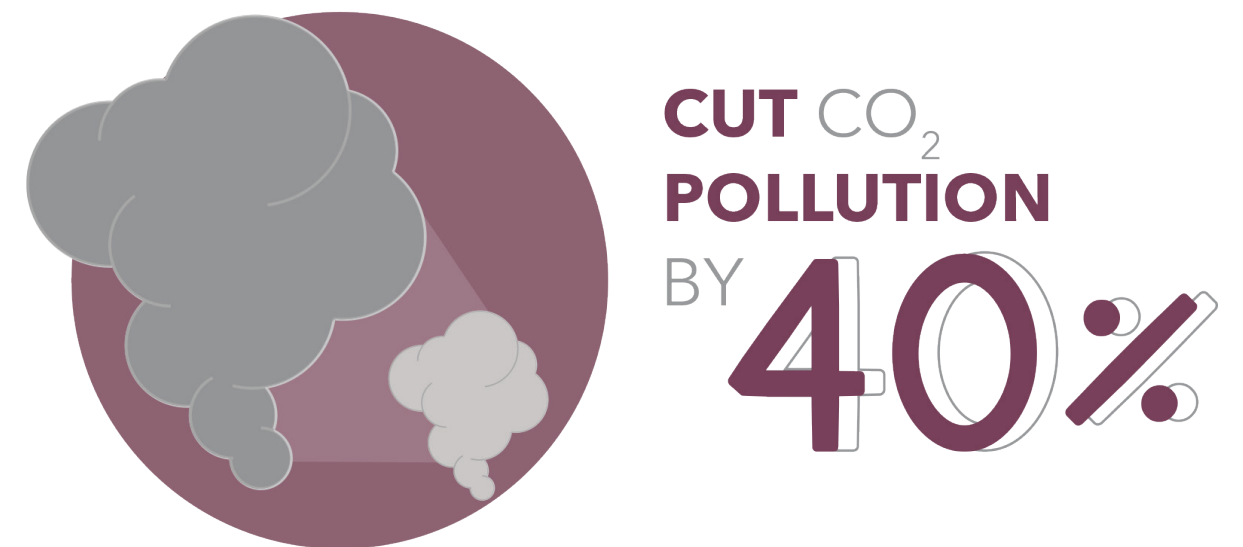


7. THE CLEAN POWER PLAN AND KENTUCKY

In the fall of 2015 the EPA issued a rule, called the Clean Power Plan, requiring states to reduce greenhouse gas pollution from the electric power sector. The CPP required Kentucky to cut our carbon pollution by 31% by 2030, and gave the state lots of flexibility and time to get the job done.

Even before that announcement, Kentucky's political leaders made clear their intentions to obstruct rather than lead a Just Transition to a clean energy economy. In 2014, the Kentucky General Assembly passed a law making it essentially impossible for the state to comply with CPP, which at the time had not even been released in draft form. In 2015, Kentucky joined with other states and coal companies in a legal challenge to the CPP. The Kentucky Energy and Environmental Cabinet never took the first step to gather public input or develop an energy plan to comply with the rule.

Given those entrenched positions, the members of Kentuckians For The Commonwealth decided to tackle the job ourselves. In the fall of 2015 KFTC launched the Empower Kentucky Project to engage Kentuckians and design a people's energy plan. We understood the CPP wasn't perfect. But we believed then, and we continue to believe now, that the rule creates an important opportunity to engage diverse people from every corner of our state in a conversation about what's best for Kentucky, and how we get there.





To comply with the CPP, the EPA told every state to organize a meaningful public process and develop a multi-year energy plan to meet specific CO₂ reduction goals. States were required to do “meaningful public engagement” and encouraged to do an “environmental justice analysis” to assess how various policies might affect workers, businesses, families and the health of vulnerable communities. Elsewhere in the Empower Kentucky Plan, we describe steps KFTC took to listen to and involve a broad range of people from all regions of our state and to do an environmental justice analysis exploring relationships between pollution, health, poverty and race across our commonwealth.

The Clean Power Plan is currently on hold until legal challenges are resolved. A court decision could come at any time. The Trump administration is trying to get the case dismissed, but many states and environmental groups continue to push for a ruling. On March 28, 2017, President Trump issued an Executive Order directing the EPA to begin the process of undoing the Clean Power Plan. That process will be long and contested, and the outcomes are uncertain.

However, with or without the CPP, the nation and the world’s energy landscape continues to transform, driven by the low costs of renewables, efficiency and natural gas; the increasing power and competitiveness of energy storage technologies; and the public demand for safer and cleaner energy options. In the midst of so much uncertainty and change, Kentuckians face a clear choice. With or without the Clean Power Plan, we can come up with a homegrown plan to invest in clean energy, create jobs and reduce harmful pollution, or we can continue on the course we are on, while clean energy jobs and investments flow to other states.

8. WHERE WE GO FROM HERE

The release of the Empower Kentucky Plan takes place in a troubled moment for Kentucky, the country and the world. The power of fossil fuel industries is everywhere evident in our democracy. There appear to be few opportunities and little support for advancing a Just Transition to a clean energy economy within the Kentucky General Assembly or the U.S. Congress. Instead, our country is on the verge of lurching backwards on clean energy and climate commitments, a possibility that poses grave risks for our economy, health and climate.

Despite that reality, members of Kentuckians For The Commonwealth – along with many other Kentuckians – remain determined. This plan reminds us that even a coal-dominated state like Kentucky has options – choices we could make today – that are good for workers, health, ratepayers and our climate. The Empower Kentucky Plan and process offers a hopeful model about what is needed and what it will take to build shared political will for a Just Transition.

Today many people across Kentucky and the U.S. are in motion. We are organizing for better jobs, better health, racial and economic justice, climate action, Just Transition and a healthy democracy. We are working to advance clean energy projects and policies locally, including within our cities, school districts and local utilities. We are showing up at town hall meetings, rallies and offices to demand better from state and national leaders. And many of us are making decisions to run for office ourselves, or support others to run with a vision for Empowering Kentucky.

The Empower Kentucky Plan offers a Just Transition framework and positive vision that can fuel those and other powerful organizing campaigns in the months and years ahead. It provides a menu of good ideas that can be taken up by mayors and city council members, state legislators, candidates running for office, state agencies, the governor, community organizations, labor leaders, students, health advocates, congregations, the Public Service Commission, utilities and others.

To build a bright future, Kentuckians need public leaders who embrace a positive vision, listen to community voices, and offer informed plans for shaping a just, clean energy future.

“I think each of us has a little bit of our own power to make change happen. When we work collectively, we put that power together. That’s how we’re going to win, and how we’ll be stronger and more resilient in the future.”

— A Seat At The Table participant

9. TAKING ACTION

Your help is needed to Empower Kentucky. This plan describes steps we can take, starting today, to grow jobs and reduce energy bills while protecting our health and climate. But good ideas alone are not enough. To make progress, it's going to take all of us organizing and working together.

- Share your vision and ideas about Kentucky’s energy future**
Write letters to the editor. Talk with your co-workers and neighbors. Post on social media using #EmpowerKentucky. Host conversations in your home or community center. Encourage others to make their voices heard. Ask questions. Share information. Demand better from public leaders.
- Organize locally**
Take steps to cut your own energy use. Meet with your utility to push for better clean energy programs and choices. Organize to get your campus, congregation, employer or local government to be more energy efficient and use renewable energy. Work with local organizations to set up clean energy projects that benefit your community.
- Support candidates who commit to Empower Kentucky, or run for office yourself**
Demand that candidates and elected leaders offer a vision for Kentucky’s bright energy future. Or run for office yourself. Or encourage and get behind new leaders who will work to Empower Kentucky.
- Demand progress on clean energy jobs, climate action and Just Transition**
Leave messages for your state senator and state representative by calling 800-372-7181. Messages for your two U.S. senators and U.S. representative can be left at 202-224-3121. When possible, make appointments to meet with lawmakers or their staff directly. Show up – and bring a crowd – when legislators and/or members of Congress hold local events or meetings.
- Join Kentuckians For The Commonwealth**
KFTC is a grassroots organization with nearly 11,000 members and 14 local chapters. Join today by making a donation of any size. Your support builds local, state and national campaigns for clean energy jobs, environmental and climate justice, and a Just Transition.

10. RELATED RESOURCES

- KFTC’s Environmental Justice Analysis**
A pdf of our environmental justice analysis and an interactive webmap are available at www.empowerkentucky.org
- Empowering Kentucky, an analysis by Synapse Energy Economics, Inc.**
A pdf of the Synapse analysis is available at www.empowerkentucky.org
- Just Transition resources**
 - Managing the employment impact of energy transition in Pennsylvania’s coal country**
A report by Mick Power for the BlueGreen Alliance, July 2015
(<http://www.bluegreenalliance.org/wp-content/uploads/2016/08/Managing-the-Employment-Impact-of-Energy-Transition-in-Pennsylvania-Coal-Country-vFINAL.pdf>)
 - The Clean Energy Future: Protecting the Climate, Creating Jobs, Saving Money**
A report by Labor Network for Sustainability, October 2015
(<http://climatejobs.labor4sustainability.org/national-report/>)
 - A Just Transition: What is It?**
An analysis by Labor Network for Sustainability, 2016
(<http://www.labor4sustainability.org/uncategorized/just-transition-just-what-is-it/>)
 - Just Transition**
One of seven toolkits developed by the Clean Power For All Collaborative, September 2016
(https://d3n8a8pro7vhmx.cloudfront.net/greenforall/pages/7020/attachments/original/1473442814/TOOLKIT_6_-_Just_Transition.pdf?1473442814)
 - Create Good Jobs in the Clean Energy Economy**
One of seven toolkits developed by the Clean Power For All Collaborative, September 2016
(https://d3n8a8pro7vhmx.cloudfront.net/greenforall/pages/7020/attachments/original/1469574437/TOOLKIT_5_-_Good-Jobs-in-a-Clean-Energy-Economy.pdf)
 - Towards A Just Transition in Eastern Kentucky**
A handout by Kentuckians For The Commonwealth, December 2013
(<http://www.kftc.org/sites/default/files/docs/resources/soar4pager.pdf>)
- Prioritize health and equity resources**
 - Defining Health Equity**
By Health Equity Institute at San Francisco State University
(<https://healthequity.sfsu.edu/content/defining-health-equity>)
 - Energy Efficiency and Health Fact Sheet**
Produced by American Council for Energy Efficient Economy and Physicians For Social Responsibility, October 2015
(<http://aceee.org/sites/default/files/ee-health-1008.pdf>)

Scientific Evidence of Health Effects from Coal Use in Energy Generation

University of Illinois at Chicago School of Public Health, April 2013
(<http://vindhyabachao.org/embeds/coal/Annexure%20A-7.pdf>)

How to Incorporate Equity and Justice into your State Power Planning Approach

A report by the Environmental Justice Leadership Forum on Climate Change, 2016
(<http://www.ejleadershipforum.org/wp-content/uploads/2016/01/EJ-State-Guidance-updated-March-7.pdf>)

Trees, Trash and Toxics: How Biomass Energy has become the New Coal

A report by the Partnership for Policy Integrity, 2014
(<http://www.pfpi.net/trees-trash-and-toxics-how-biomass-energy-has-become-the-new-coal>)

Cleaner Air and Better Health: The Benefits of Ohio’s Efficiency and Renewable Standards

A report by the Environmental Law and Policy Center and other groups, September 2015
(<http://e67ti2w9ws71a18xmnhs0zd3.wpengine.netdna-cdn.com/wp-content/uploads/sites/64/2015/09/ohio-clean-energy-standards-benefits-report.pdf>)

A Plan that Tackles Climate Change and Racial Discrimination

An article in Governing Magazine about Portland, Oregon’s plan to address climate and equity, March 2017
(<http://www.governing.com/topics/transportation-infrastructure/gov-portland-climate-change-racial-equity.html?utm>)

Energy Efficiency and Renewable Energy Resources

State policies and best practices for advancing energy efficiency, renewable energy, and combined heat and power

A report by the U.S. Environmental Protection Agency, 2015
(https://www.epa.gov/sites/production/files/2015-08/documents/guide_action_full.pdf)

Database of state incentives for renewables and efficiency

Updated continuously by the North Carolina Clean Energy Technology Center
(<http://www.dsireusa.org/>)

Big opportunities for small business: successful practices of utility small commercial energy efficiency programs

A report by the American Council for An Energy Efficient Economy, November 2016
(<http://aceee.org/research-report/u1607>)

Scaling up participation and savings in residential energy retrofits

A report by the American Council for an Energy Efficient Economy, October 2016
(<http://aceee.org/research-report/a1605>)

Lifting the high energy burden in America’s biggest cities: How energy efficiency can improve low-income and underserved communities

A report by the American Council for an Energy Efficient Economy, April 2016 (<http://aceee.org/research-report/u1602>)

Recognizing the value of energy efficiency’s multiple benefits

A report by the American Council for an Energy Efficient Economy, December 2015
(<http://aceee.org/research-report/ie1502>)

Combined Heat and Power Technical Potential in the United States

A report by the US Department of Energy, March 2016
(<https://www.energy.gov/eere/amo/downloads/new-release-us-doe-analysis-combined-heat-and-power-chp-technical-potential>)

The greatest energy story you haven’t heard: how investing in energy efficiency changed the US Power Sector and gave us a tool to tackle climate change

A report by the American Council for an Energy Efficient Economy, August 2016
(<http://aceee.org/research-report/u1604>)

A Wave of Net Zero Energy Schools Crests in the South

A story by Ken Edelstein for the Kendeda Fund, April 2017
(<http://livingbuilding.kendedafund.org/2017/04/11/net-zero-energy-schools-southeast/>)

Local, Community-based Clean Energy Resources

Community Shared Solar: Review and Recommendations

Prepared by the Commonwealth of Massachusetts, March 2013
(<http://www.mass.gov/eea/docs/doer/renewables/solar/community-shared-solar-model-frameworks-032813.pdf>)

Unlocking the value of community solar

A report by Deloitte, March 2016
(<https://www2.deloitte.com/us/en/pages/energy-and-resources/articles/community-solar-market-renewable-energy-trends.html>)

Low-income Solar Policy Guide

A report by the Center for Social Inclusion, GRID Alternatives, and Vote Solar, 2016.
(<http://www.lowincomesolar.org/>)

The Story of Roanoke Rural Electric

A video of the keynote address by Curtis Wynn, CEO of Roanoke Electric Cooperative in North Carolina, speaking October 2016 at the Empower Kentucky Summit
(<https://vimeo.com/187346521>)

A Cooperative Approach to Renewing East Kentucky

by Sara Pennington and Randy Wilson, The Solutions Journal, July 2010
(<https://www.thesolutionsjournal.com/article/a-cooperative-approach-to-renewing-east-kentucky/>)

Shining Rewards, the Value of Rooftop Solar Power for Consumers and Society

A report by Environment America, 2016
(<http://www.environmentamerica.org/sites/environment/files/reports/AME%20ShiningRewards%20Rpt%20Oct16%201.1.pdf>)

The Environmental Review of Solar Farms in the Southeastern US

A report by the Southern Environmental Law Project, March 2017
(https://www.southernenvironment.org/uploads/audio/Solar_EnvReviewProcess_SitingSolar_Final.pdf)

A Power Purchase Agreement Checklist for State and Local Governments

A report from National Renewable Energy Laboratory
(<http://www.nrel.gov/docs/fy10osti/46668.pdf>)

Climate Change Resources

National Climate Assessment

A report by the US Global Change Research Program on climate change impacts on the United States, 2015.
(<http://nca2014.globalchange.gov/>)

The Clean Power Plan

The federal rule announced by the US EPA in August 2015 to reduce CO₂ pollution from America’s power sector
(<https://www.epa.gov/cleanpowerplan/clean-power-plan-existing-power-plants>)

Carbon emissions from burning biomass for energy

A report by the Partnership for Policy Integrity
(http://www.pfpi.net/wp-content/uploads/2011/04/PFPI-biomass-carbon-accounting-overview_April.pdf)

Invest/Divest Resources

Divest-Invest

A website tracking divestment and investment campaigns
(<http://divestinvest.org/>)

Kentucky’s Energy System Resources

Kentucky’s Energy Profile - 5th edition

A report by the Kentucky Energy and Environment Cabinet, November 2015.
(http://energy.ky.gov/Kentucky_Energy_Profile/Kentucky%20Energy%20Profile%202015.pdf)

Kentucky State Profile and Energy Estimates

A report by the US Energy Information Administration, April 2016
(<https://www.eia.gov/state/analysis.php?sid=KY>)

Clean Power Plan Resources

Trump’s Executive Order to Tear up Obama’s Climate Policies, Explained

An article by Brad Plummer on vox.com, March 28, 2017
(<http://www.vox.com/energy-and-environment/2017/3/27/14922516/trump-executive-order-climate>)

The Clean Power Plan

The federal rule announced by the US EPA in August 2015 to reduce CO₂ pollution from America’s power sector
(<https://www.epa.gov/cleanpowerplan/clean-power-plan-existing-power-plants>)

Clean Power For All Policy Innovation Center

A website offering a set of toolkits for creating state energy plans that take on issues of fairness and inclusion for low-income communities and communities of color, 2016.
(<http://www.thecleanpowerplan.com/>)

KFTC’s comments to the EPA about the agency’s proposed model trading rules and proposed federal implementation plan

January 2016
(<http://www.kftc.org/sites/default/files/docs/resources/kftccommentsonfipfinal.pdf>)

KFTC’s comments to the EPA about the agency’s proposed Clean Energy Incentive Program

December 2015
(<http://www.kftc.org/sites/default/files/docs/resources/kftccommentsoncleanenergyincentiveprogram.pdf>)

Our Power Plan, a report to the EPA by the Climate Justice Alliance

January 2016
(https://d3n8a8pro7vhmx.cloudfront.net/ourpower/pages/135/attachments/original/1456539064/Our-Power-Plan-FINAL-online_2016-01-15.pdf?1456539064)

Carbon pricing resources

Putting a Price on Carbon is a Fine Idea. It’s not the End All, Be All

An article by David Roberts on Vox.com, April 22, 2016.
(<http://www.vox.com/2016/4/22/11446232/price-on-carbon-fine>)

The Political Hurdles Facing a Carbon Tax and How to Overcome Them

An article by David Roberts on Vox.com, April 26, 2016.
(<http://www.vox.com/2016/4/26/11470804/carbon-tax-political-constraints>)

Building democratic Support for Equitable Carbon Pricing

A publication of the Scholars Strategy Network, March 2016
(<http://www.scholarsstrategynetwork.org/sites/default/files/carbon-equity-forum-1.pdf>)

ACKNOWLEDGEMENTS

Kentuckians For The Commonwealth is indebted to thousands of people who shared stories, expertise, time, and resources to make this Empower Kentucky project possible.

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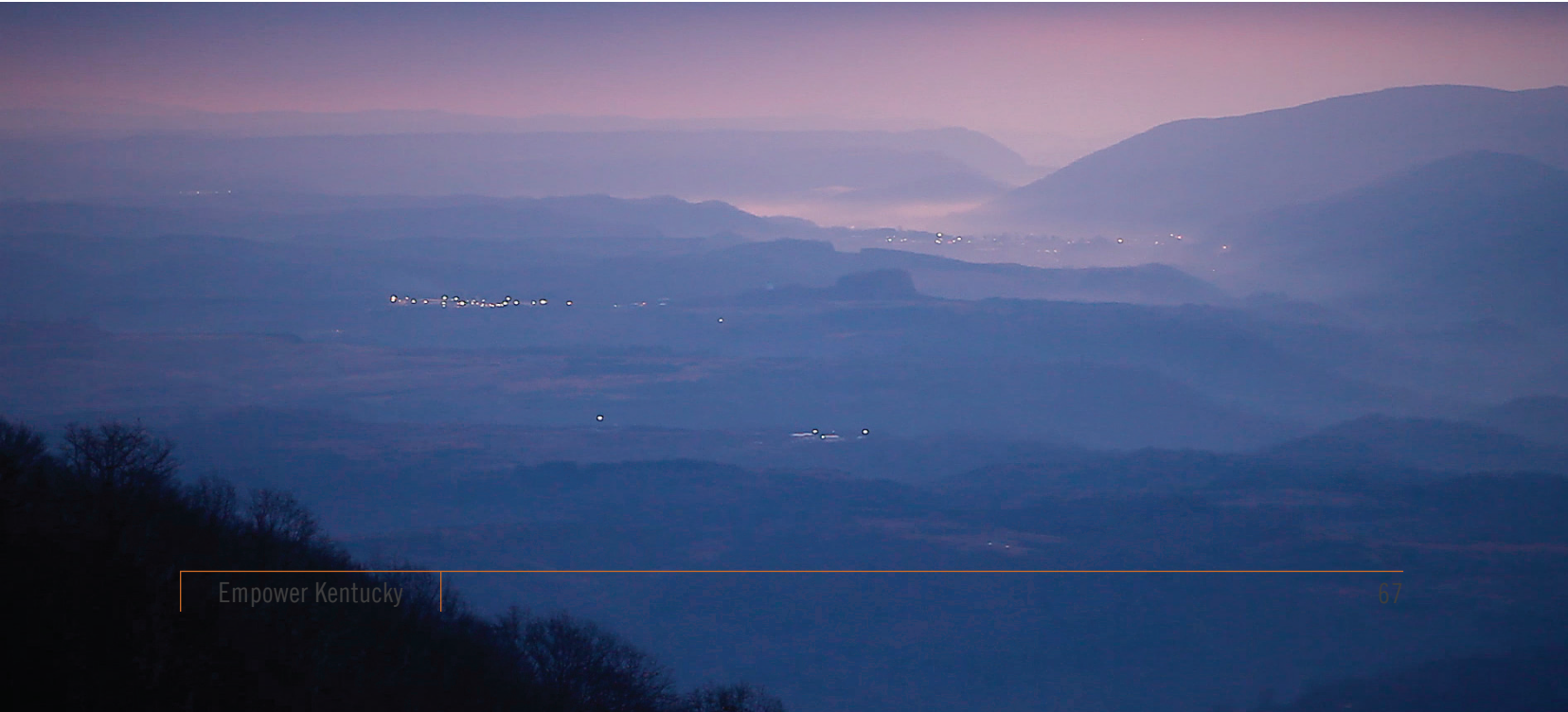
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KENTUCKIANS FOR THE COMMONWEALTH

Kentuckians For The Commonwealth (KFTC) is a 35-year old grassroots social justice organization with more than 11,000 members and 14 chapters that span from Pikeville to Paducah.

We are Kentuckians. We are determined to build a bright energy future – one that works for all of us. Today our commonwealth has the opportunity to build a new, clean energy economy in ways that create jobs, advance equity and support a just transition while protecting our health and climate. We believe all Kentuckians deserve a seat at the table and a voice in shaping those decisions. Together we can ensure that our next energy system reflects the values and serves the interests of all Kentuckians, not just a powerful few.

We seek to build a new clean energy system that ...

- is fair and equitable
- invests in a Just Transition for affected workers and communities
- creates good quality jobs and opportunities
- significantly reduces risks and harm to our health, environment and climate
- prioritizes low-risk, no-regrets energy solutions
- encourages self-reliance, local ownership and community-based solutions
- empowers and assists all Kentuckians to save energy and benefit from renewable energy
- supports healthy and sustainable communities, now and for future generations
- reflects sound science, a vision for a just society and an inclusive, democratic process

Contact

Kentuckians For The Commonwealth
PO Box 1450
London, Kentucky 40743
606-878-2161
Email: lisa@kftc.org or info@kftc.org
www.kftc.org and www.empowerkentucky.org

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Kentuckians For The Commonwealth