Implementing the
Energy Assurance Tool Kit
Workbook

Energy Assurance Tool Kit Project Workbook

Contents

Purpose

This workbook presents the core material that supports the implementation of the Kentucky Energy Assurance Tool Kit. The Tool Kit serves as both a repository for the essential elements needed to develop and institutionalize an Energy Assurance plan for a community or organization and a structured process to build a team, develop and acquire the required information and exercise the plan. The Tools

The Tool Kit Project has several components.

The physical Energy Assurance Tool Kit is an actual Excel Workbook containing a series of organized tabbed worksheets. The Excel Workbook is organized by following ten recommended steps to develop energy assurance published by the Department of Energy, the National Association of Regulatory Utility Commissioners, and the work done by PTI.

The Electric Infrastructure Security Council, working closely with the Kentucky Office of Energy Policy, structured the Energy Assurance Tool Kit for implementation at local and regional levels. The Tool Kit includes practical assessments and development tools. Local planning agencies will find that the Tool Kit process fits into current practices. Included in the EA Tool Kit is an HSEEP compliant Table Top Exercise (TTX) to support the training and testing of various plan components and to develop lessons learned for continuous improvement of the local Energy Assurance plan. There are two versions of the Tool Kit. One contains sample worksheets for some tabs, serving as an example to follow. The other one does not include any models. The Tool Kit is formatted for printing in landscape orientation to serve as a guide and assessment tool. The Tool Kit design follows a logical and order process to guide in developing an Energy Assurance Plan. After the initial review, it may be beneficial to approach the work in parallel activities to maximize time and data collection resources.

Commonwealth Energy Overview

This initial webinar and supporting slides provide a good overview of the Energy Infrastructure and the use of Energy in the Commonwealth. The slide deck contains a significant number of links that drill down into local jurisdictions' energy infrastructures. This Overview would make an excellent kick-off for any Energy Assurance planning effort.

Commonwealth Energy Resilience Overview

This Overview is the second recorded webinar and supporting slide deck in the Energy Assurance Tool Kit process. Included in the Resilience Overview is a substantial review of the hazards and threats for consideration and planning. Within the Overview is a significant amount of information on the overall resilience effort while focusing on specific electrical energy infrastructure opportunities. The Overview concludes with solid recommendations on how to integrate Private Sector capabilities into the planning effort. Organizations should consider using this Overview in developing the local Energy Assurance planning cycle.

Implementing the Energy Assurance Tool Kit Overview

The third recorded webinar, along with the support slide deck, is a detailed look at the essential elements that make up the Tool Kit. It concludes with actual representations of some of the populated Tool Kit worksheets and outlines an approach for the full implementation of the Tool Kit Workbook. A highlight of this presentation is the additional material for locating usable energy infrastructure data. This webinar also explores the role of Emergency Management in an energy emergency. Finally, this presentation makes recommendations on using an existing organizational structure to embrace the Energy Assurance mission – the Local Emergency Planning Committee.

This document works in coordination with the Implementing the Energy Assurance Tool Kit webinar.
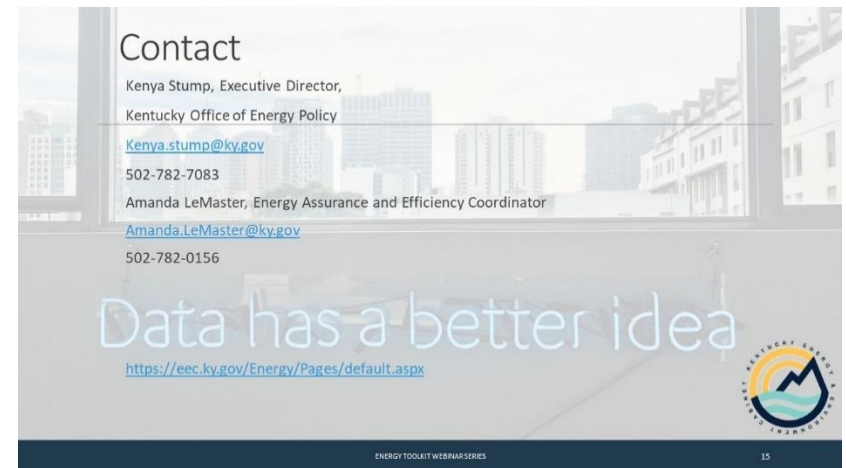
The Office of Energy Policy (OEP) Goals

OEP has four main goals:

- Be the customer-driven recognized State Energy Policy Authority.

- Enhance the economic opportunities and benefits to Kentucky citizens and industry through the expansion of current markets and the development of market opportunities for Kentucky.

- Effectively implement federal and state energy programs. Leverage Federal and State Energy Program funding and other funding sources by identifying and working with partners who can deliver cost-effective and credible energy programs that reduce energy costs, enhance resilience, and increase emergency preparedness.

- **Enhance the energy resilience and security of the Commonwealth by identifying opportunities to increase our ability to respond effectively to an energy disruption and to recover quickly and to maintain the uninterrupted supply of energy resources to the Commonwealth at affordable prices.**

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Data has a better idea

https://eec.ky.gov/Energy/Pages/default.aspx

ENERGY TOOLKIT WEBINAR SERIES   15

References
Kentucky Energy Profile   https://eec.ky.gov/Energy/KY%20Energy%20Profile/Kentucky%20Energy%20Profile%202019.pdf

Energy Assurance Tool Kit Project Workbook

Kentucky Energy Overview

Kentucky has a unique and diversified energy infrastructure.

While remaining a predominately coal energy-producing state, Kentucky also has a robust number of natural gas producing sites.

Kentucky is fortunate to have two oil refineries and nearly two dozen oil product terminals.

Three major energy providers, PJM in the east, MISO in the northwest, and TVA in the south, meet Kentucky's reliability and service needs.

Kentucky currently has fifty-six operating power plants. Hydroelectric plants have seen growth in the last decade.
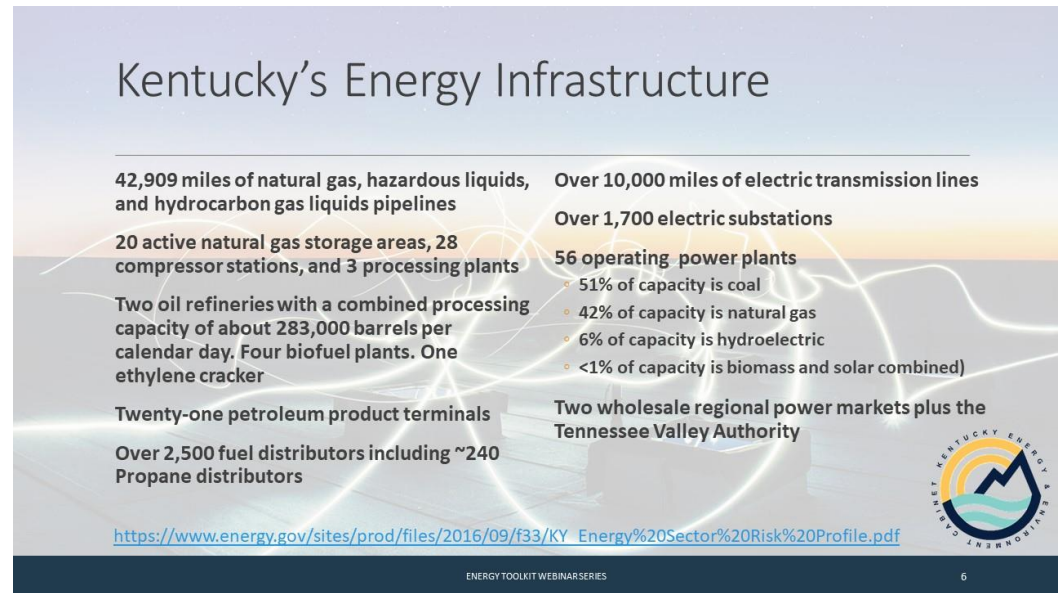
References
Kentucky Energy Profile   https://eec.ky.gov/Energy/KY%20Energy%20Profile/Kentucky%20Energy%20Profile%202019.pdf
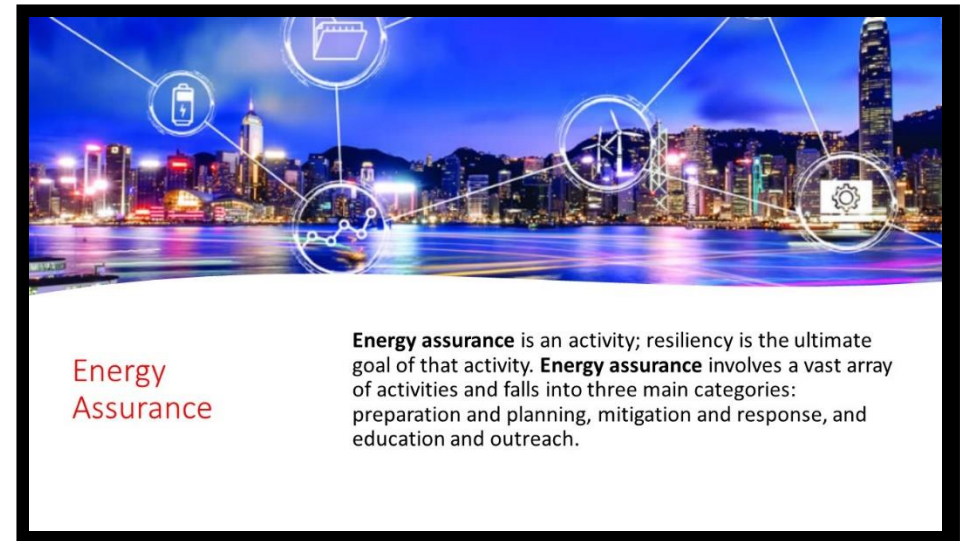
Energy Assurance

Local Communities and organizations that pursue energy assurance will quickly learn that EA is a continuous process. activity. To become energy assure, you must be working in multiple areas of the goal on a regular basis. Energy assurance requires planning and preparedness, mitigation actions, and energy emergency response efforts, as well as informing the community and stakeholders.

Energy Assurance

Energy assurance is an activity; resiliency is the ultimate goal of that activity. **Energy assurance** involves a vast array of activities and falls into three main categories: preparation and planning, mitigation and response, and education and outreach.

The Tool Kit Project Objectives

The Energy Assurance Tool Kit project accomplishes some very realistic and straightforward goals. They are:

- Develop a process and a set of procedures that any community or organization could follow to assist in the goal of becoming energy assure.

- Develop an on-going, easily implemented process that can integrate into current structures and practices.

- Present a sustainable series of steps that continuously reinforce reaching an improved energy assurance standard.

- Identify critical assets, existing resources, resource gaps, and include fuel requirements.

- Develop a data collection and repository structure that supports gathering, analyzing, and reporting the essential elements needed to reach and maintain an improved energy assurance posture.

Resilient Power – Our Goal with the Tool Kit.

Energy Assurance - a broad term meaning having the confidence or certainty in the ability to respond to an energy emergency or disruption. This confidence or certainty comes from three main categories of activities: preparation and planning, mitigation and response, and recovery. Central to all of this is education, outreach, and communication.

Energy Security - can mean the uninterrupted availability of energy sources at affordable prices. Both human-made and natural disasters threaten the continuous availability of our energy resources, which is why one element of energy security focuses on physical and cybersecurity.

Energy Reliability - can be thought of as the ability of an energy production system to provide consistent and expected levels of energy under stated conditions for a specified period.

Energy Resilience - One definition of resilience comes from the Federal Energy Regulatory Commission (FERC). FERC poses that resilience means the ability to withstand and reduce the magnitude and duration of a disruptive event and includes the capability to anticipate, absorb, adapt to, and rapidly recover from such an event.

Essential Elements

- **It's a Process** – Do not look at Energy Assurance as just one thing. It is a series of steps to be pursued, documented, trained, and maintained.

- **Background Material** - In addition to the Tool Kit Excel Workbook – you have access to the State Energy Overview, the Threat and Vulnerability Overview, and the Tool Kit Implementation Overview. The Overviews include recorded presentations that address many items that can be helpful.

Implementing the Tool Kit
- It's a Process
- Background Material
- Understanding the Threats, Hazards and Vulnerabilities
  - But don't get distracted
- Integrate the Process into work you are already doing
- Focus on what's important

- **Understanding the Threats, Hazards, and Vulnerabilities, but do not get distracted** – it is easy to get lost in all the possible things that can cause a power outage, resist doing that. The main things to concentrate on are listed below.

- **Integrate the Tool Kit Energy Assurance process into work you are already doing** – it will be easier to fit the pursuit of energy assurance into a process you are already working on. We recommend making it part of your **Local Emergency Planning Committee** effort. However, it could also be part of your local All-Hazards Planning Cycle if that works better for your location.

- **Focus on what is important** – These are the essential keys:

  - Identify your essential Key Infrastructure/Organization.

  - Identify the status of Back-Up Power (do they have a generator or not).

  - Identify the need for fuel and establish a plan to get it.

  - Prioritize your requirements (both generators and fuel).

  - Brief the plan, Train the plan, and Exercise the plan.
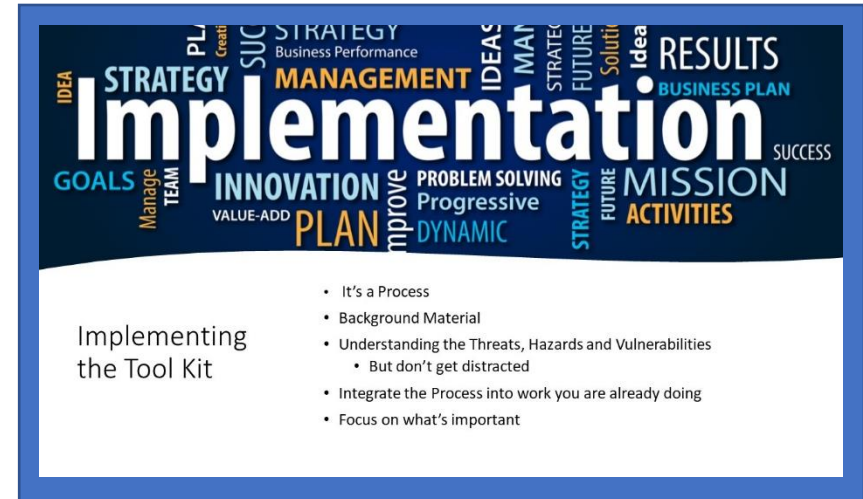
What's Important

- **Protect Your Power Sources** – Take active steps to mitigate all known threats and vulnerabilities. Some are simple (vegetation management), and some will take additional planning (micro-grid and nano-grid solutions).

- **Protect Your Fuel** – Know where you get your fuel and what you need to do to ensure an uninterrupted supply (backup solutions).

- **Know that you will lose power at some point – Know It** – Energy is built on mechanical and computer technology and has components that will fail. Commit to having a plan for an energy emergency.

- **Plan your Survivability Point** – Know how long you can be self-sufficient and exactly when you need to engage backup power and fuel solutions. Train for that point and exercise your plan.

- **It is not just Your Critical Infrastructure** – Keep in mind that for most locations, your energy will flow through infrastructures outside of your geographic or political boundaries. Identify the entire supply chain and look for weaknesses and possible failure points.

- **Integrate the Private Sector – At The Beginning** – The Private Sector holds many of the critical resources you need to be successful, and their success will define your success as planning for and managing an energy emergency. Start with them.

- **Alternate Sources of Energy** – In today's market, there are more energy options than ever before. Make understanding and integrating them into your plan a priority.

- **Back-Up Power** – Until you have backup power on all critical infrastructure, you will need a plan on how to acquire what you need in an emergency and the priority for meeting requirements. Do not wait to figure it out when the power is off.

- **Fuel Plans** -Backup power, unless it is tied to a renewable solution, will require fuel. Fuel is bulky and requires several logistics steps to become available. Know the steps and know what you need to refuel and when. Do not forget emergency vehicles and transportation routes. Do not forget the most straightforward plan sometimes is to restart the private sector capability with backup power.

Steps to the Energy Assurance Tool Kit

- **There are 10 (+/-)** – As constructed in the Energy Assurance Workbook, there are ten main steps. Some of the steps we have broken into sub-steps to make them easier to accomplish and track. In addition to the ten formal steps, we have included several additional tools to achieve the Energy Assurance mission.

- **They do not have to be done in order (but it might help)** – We recommend beginning by reviewing the main actions outlined in the tool kit. You may then find that you can start working on some items before completing the previous step. All the actions are mutually supportive, and only a few need to be sequentially addressed.

- **You can do parallel processes (Divide and Conquer)** – If you have been successful at assembling a team to work with you on the Energy Assurance effort, it makes sense to assign efforts to different parties and combine the work after review/approval.

- **Complete the Plans (Backup Power/Fuel/Communications)** – It may be attractive to only address part of the planning effort. But, in this instance, since this area provides direct support to your other operations, it is best to complete the planning process fully, integrate the plans, train on them, and then exercise them.

- **Put your data in a safe place (people come and go)** – Tool Kit Repository – We strongly recommend using the Excel EA Workbook as the central repository for your collected data. It is portable, shareable, and easy to update. You can reference it in other planning documents as needed. Make copies of the updated workbook and share it with all the members of your planning team.

- **Twice a Year Reviews** – Because it is such an important document, we recommend presenting it twice a year to your planning group. Once when you begin the update cycle and once again before conducting your annual energy assurance exercise.

- **Annual Exercise – Why, Because It Is Important!** – Your ability to fully reach your Energy Assurance mission requires you to train on your plan. This exercise can also meet HSEPP/Grant requirements when you tie updating the plan as part of the improvement plan.
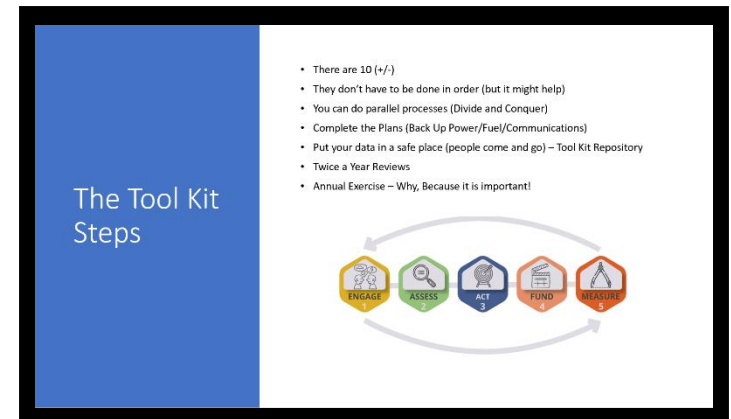
Foundational Document

The Energy Assurance team compiled a significant number of references in developing the EA Tool Kit. One of the best resources is the Local Government Energy Assurance Guidelines (V2.0).

The U.S. Department of Energy (DOE) Office of Electricity Delivery and Energy Reliability (OE) funded the production of this publication. The Infrastructure Security and Energy Restoration Division (ISER) of OE is the primary DOE office responsible for energy emergency planning and response. For more information, visit the OE website at http://www.oe.energy.gov/.

DOE/OE/ISER produced the Guidelines under the leadership of Alice Lippert, Program Manager for DOE's State and Local Government Energy Assurance Program, and Michael Norbeck, also of DOE's Energy Assurance Program.

The Public Technology Institute (PTI) developed this document. You can learn more about PTI on their website at http://www.pti.org/.

The Energy Assurance Tool Kit workbook contains all the essential information required to advance the Energy Assurance mission in a very straightforward logical set of steps. You will also find additional components ready to support your annual planning and regular update work.
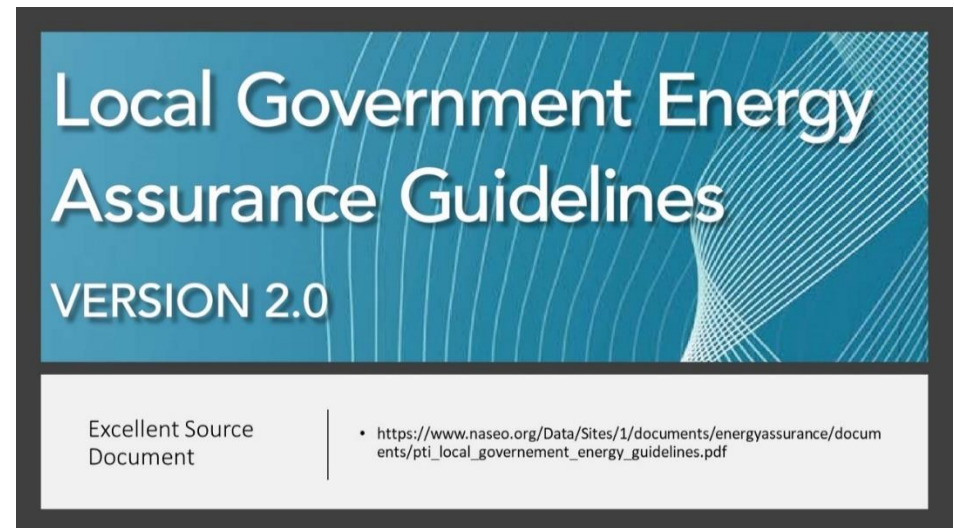
References

NASEO/PTI Guidelines	https://www.naseo.org/Data/Sites/1/documents/energyassurance/documents/pti_local_governement_energy_guidelines.pdf

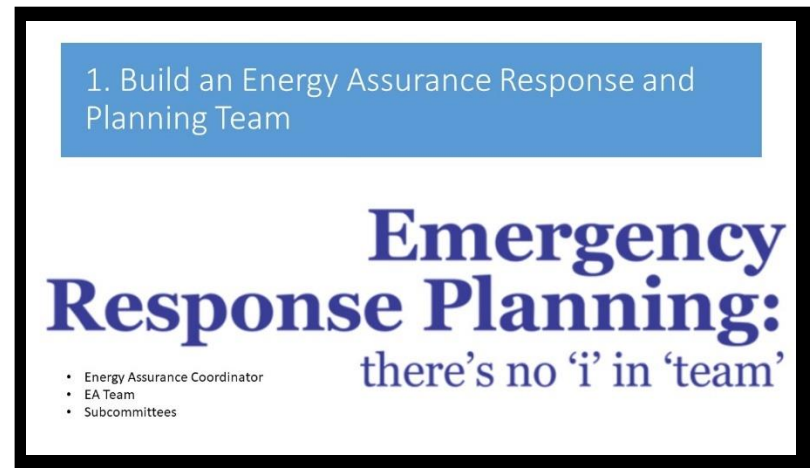## Step 1 Building an Energy Assurance Response and Planning Team

Select an Energy Assurance Coordinator – This should be a person who can build strong relationships with local energy suppliers and other critical infrastructure operators. It can be a team or partner approach. Still, the responsible parties need to be identified, given the responsibility for completing the plan and the authority to integrate various work elements and information streams.

Establish an Energy Assurance Team – The tool kit has a full list of potential members who can fill out this critical team. Remember to include both public and private sector partners. You want the team to be big enough to be representative and still small enough to get the work done efficiently.

Consider Subcommittees – Effective sub-committees can accomplish an amazing amount of work, working in parallel with other committees and move the planning process forward very quickly.

Potential Subcommittees:

- **Energy Infrastructure**: To gather energy supply and demand data, including the locations of crucial pipelines, power plants, distribution networks, energy profile information, etc. and create a city energy profile.
- **Communications:** To organize internal and external crisis and non-crisis communications.
- **Executive Committee:** To chart the direction of the working group, this subcommittee is usually a core group of senior managers and the coordinator.
- **Key Assets:** To identify Key Assets as part of the Energy Assurance Plan.
- **Partnerships:** To build private and public sector partnerships for a successful energy assurance planning effort.
- **Legal Issues:** To determine local legal authorities and their relationship to State and Federal authorities.

Step 2. Know the Emergency Authority Framework

The tool kit offers an extended version of the various Framework Authorities that can impact the response and planning for an energy emergency.

Both federal and state agencies have resources that can be acquired or brought to bear. However, at the local level, three elements need to be identified.

- **Who is in charge?** – During an energy emergency, you do not want to struggle to determine who can take the required actions and accomplished the required coordination to keep everyone informed and sequenced. Often, this will be the local Emergency Management Director, but not always or for all issues. The private sector will be responsible for most restoration efforts. Make this a critical part of your planning effort to get this determination made in advance.

- **Who is responsible?** – Ultimately, this will end up being the senior elected official or business leader, depending on what constitutes the emergency. However, all responses occur over phases and have unique requirements, as outlined in the EA Workbook. Use the planning team to discuss and refine these efforts and update the plan accordingly.

- **Who can help?** – This one element can make a tremendous impact during the response, restoration, and recovery phases. Various organizations at different levels will have resources that can be brought to bear, everything from expertise to equipment and logistical support. Develop a unique matrix for your organization or community and engage them in your planning and exercise efforts.
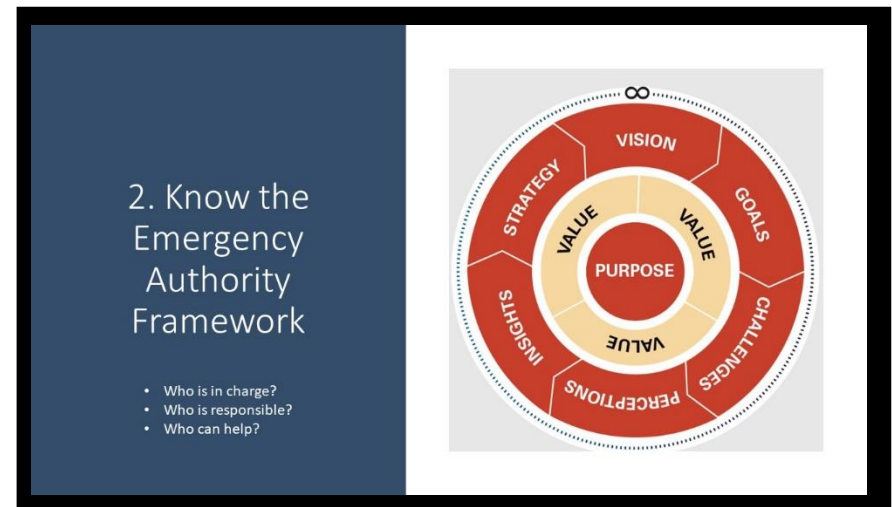
Step 3. Understand the Response Roles and Responsibilities

The Energy Assurance Tool Kit has a full list of roles to consider as you establish your Energy Assurance planning effort in Tab 3.

Keep in mind that you need a team approach to accomplish the EA mission fully.

Some of those areas where a larger team would be good might involve:

- **Monitoring** – the status of energy supply and the supporting infrastructures.

- **Developing** – the response and reporting plans, including the restoration phase through full recovery.

- **Communicating** – everyone needs to be informed to make the best decisions possible. Always think of 360-degree communications and be sure to reach out to the customers and the community with relevant information.

- **Maintaining** – like all plans, the Energy Assurance Plan requires maintenance, update, and presentation. Change happens in all communities, and your key assets will change over time and need updating. Build plan maintenance into your annual cycle of activities.

Some of the essential levels to include:

- Energy Assurance Coordinator

- Local Agencies

- Regional Agencies

- State Agencies

- Federal Agencies under the National Response Framework

- Energy Supplies and Infrastructure Operators

## Step 4. Know the Local Government Energy Profile

This element may take some research to pull together, but you can start with these questions:

- What is the source of the energy supply?

- How does the jurisdiction use its energy?

- Are there any seasonal fluctuations in supply or demand?

Be sure to spend some time using the EIA websites, the Office of Energy Policy websites, and dashboard and reach out to the OEP staff if you need additional assistance.

Local providers will have a wealth of knowledge about your community and can assist in this effort.

The Tool Kit Page sets up the opportunity to report on on-going Status Statements. These can guide efforts to gather additional data or to support the communications outreach mission.
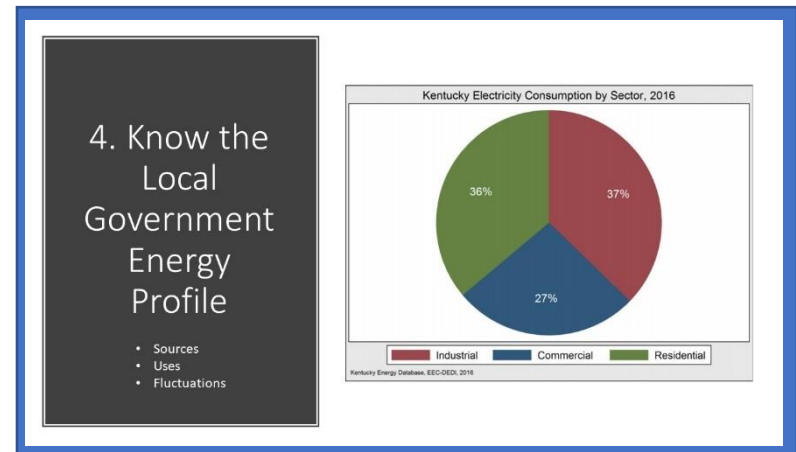
Tool Kit References

Tab 4 Local Energy Profile

Information References:

http://www.eia.doe.gov/State/

http://www.eia.doe.gov/country/country_energy_data.cfm?fips=US

Step 5: Identify Energy Supplies

Remember the three primary sources you need to consider.

- Electricity

- Petroleum

- Natural Gas

Private Sector, Federal, State, and local entities can own Energy assets and critical infrastructure components.

Some types of energy consumers, such as large industries and financial institutions, maintain their own generation systems, often for backup power purposes.

Electricity Ownership breaks down into three categories:

Electric Energy Cooperatives - Cooperatives are independent electric utilities owned by the members they serve.

Investor-Owned Utilities - IOUs are managed as a private enterprise rather than as a function of government where individual shareholders may be involved in the company. IOUs are typically regulated at the State level, though regulators go by different names in different States.

Municipally Owned Utilities - MOUs are publicly owned and operated utilities that maintain utility infrastructure as a public service. They can exist as departments within local governments, or as enterprise funds. MOUs are ultimately accountable to the appointing authority for their operations, even though they may operate with greater autonomy.

Tool Kit References

Tab 5.1 Addresses Energy Supplies

Tab 5.2 Addresses Energy Segments

Tab 5.3 Address Energy Users
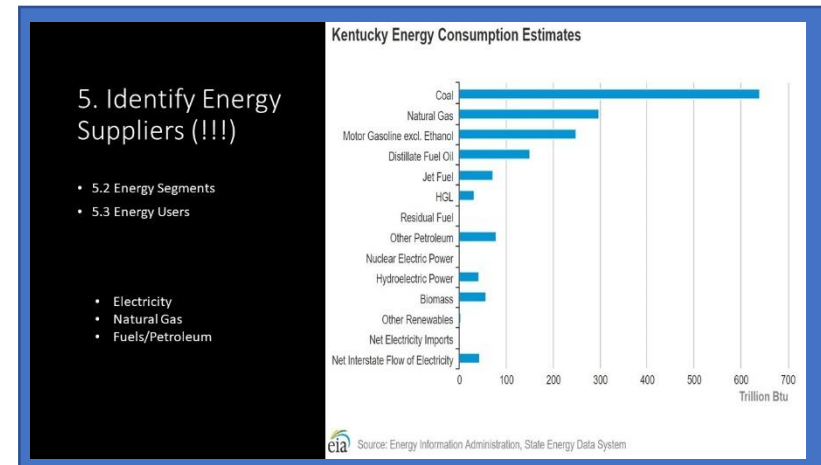
Step 6. Know the Primary Contact and Related Partners

This action item may be the most straightforward tab to complete. Most local All-Hazards plans will contain many of the points of contact.

Look at your infrastructure and work to gain a contact for each element. Having these contacts identified ahead of an energy emergency will be helpful.

Tab six has a variety of recommendations on contacts to consider.

Consider the following:

- Hazard mitigation planner/coordinator

- Public works agency (especially for water and wastewater issues—not just energy)

- Energy manager(s)

- Public Information Officer (PIO)

- Chief Financial Officer

- Heads of any centralized procurement agencies

- City/county legal counsel

- Utility manager (if the jurisdiction has its own municipal utility)

Tool Kit References

Tab 6 – Address Primary Contacts and Partners

Step 7: Identify Key Assets within the Jurisdiction

This element is a critical step. Capture the essential data, discuss, and prioritize to develop an effective Energy Assurance plan.

Consider these elements (and look for others)

- Emergency Services
- Water System
- Transportation
- Medical
- Schools
- Day Care
- Senior Communities
- Social Services
- Food Service
- Industry

Prioritize by considering the following:

Length of time before the occurrence of severe impacts: Critical facilities that might experience effects from a supply disruption almost immediately may warrant a rapid response.

Nature of potential impacts: Critical facilities that involve potential public safety impacts may warrant a more rapid response than those with only potential inconvenience impacts.

Number and groups of people potentially affected: Critical facilities where many people would be affected may warrant a more rapid response than those where only a few would be affected. Also, critical facilities that serve seniors or children primarily might require more rapid response than those that serve mostly non-disabled adults.

Tool Kit References

Tab 7 – Addresses Key Assets
Tab 7.1 – Addresses the Assets Listing
Tab 7.2 Addresses Response Plan Priorities

Step 8: Develop an Energy Assurance Crisis Communications Protocol

Time spent on this planning item will benefit everyone responding to an energy emergency.

Consider the following:

Designate Contacts: Maintain an up to date 24-hour telephone and address directory of key staff and other stakeholders, such as ESF-12 State agencies, Federal government agencies, and critical energy industry representatives.

Ensure Accuracy: Verify all information before release. Regularly scheduled meetings with the press help relieve any pressure to answer questions prematurely without adequate verification.

Prepare Press Kits: Handouts for press conferences and written statements for broadcast appearances are excellent tools for disseminating information, such as fuel supply and use issues, data, responder actions, and comparisons with previous emergencies.

Use National and State Information: Use data from EIA and OEP, plus other sources, to describe the external forces (e.g., international markets, shipping issues, transportation, refinery outages, and weather) that might affect the energy situation. Utilize industry experts to the extent possible in the interpretation of events.

Get the Facts: Use extreme caution when concluding with media present. Energy emergencies usually involve complex factors, and media are under pressure to simplify information and provide headlines.

Access Key Policy Makers: Use access to key policymakers and experts from various agencies as needed. Ask these individuals, when possible, to answer substantive questions from the media.

Inform the Public: Assist the media in informing the public in every way possible. The objective is to provide authoritative, accurate, and timely information to avert the spread of rumors and inappropriate private and public response.

Use Contacts in Private Organizations and Industry Associations: Enlist private organizations to distribute information.

Tool Kit References

Tab 8 – Addresses the Energy Assurance Crisis Communications Protocol

Step 9: Develop Additional Local, State, Regional and Federal Partnerships for Energy Assurance

9. Develop Additional Local, State, Regional and Federal Partnerships for Energy Assurance

It is essential to work to expand your network of partners continuously.

There is no need to "reinvent the wheel." Integrate the people and the partnerships already built within other parts of the local government.

Consider the following:

Other Local Governments

Regional Government Organizations

State Government

- Emergency Management Agency (EMA)
- State Energy Office (SEO)
- State Homeland Security Office (SHSO)
- Public Utility Commission (PUC)
- Office of the Governor

Federal Government

- U.S. Department of Energy (DOE)
- U.S. Department of Homeland Security (DHS)

Non-Governmental Organization (NGO) and Other Partnerships

Tool Kit References

Tab 9 – Addresses Developing Partnerships

Step 10: Update the Plan on a Consistent Basis

This step may be the hardest - but it is crucial.

Follow the planning cycle, and be sure to incorporate lessons learned from your exercise.

Integrate the plan update into the course of your existing workflow. Make it part of your on-going efforts, not something you leave until you can get to it.

10. Update the Plan on a Consistent Basis

- How often
- Integration with other plans
- Supplier Updates
- Changes in the Community
- New PS operations

As a group, evaluate your plan.

- Determine how often you will update your plan. Nothing less than annually will meet the need.
- Budget funds to update the plan if you can, but do not let that stop you from reviewing your plan with the planning and response team.
- Look for new information. The energy infrastructure area is continually evolving. Your community will change, and your plan that needs to reflect the changes.
- Update the energy supply and asset data.

Monitor on-going market and supply chain issues. Look for the following:

- Major energy developments
- Electricity, petroleum, and natural gas industries
- Other relevant news
- Energy prices

Tool Kit References

Tab 10 – Addresses Updating the Plan

11. The Energy Assurance Continuity Checklist

Using Checklists is an excellent way to gauge progress, plan for next steps, and gather and organize lessons learned from the Energy Assurance Tabletop exercise.

This checklist outlines the actions in three (3) primary areas, including:

- **Local Government Critical Asset Energy Use Assessment** – This section focuses on the identification of critical elements:

  - Inventorying key assets

  - Identifying ownership and management

  - Identifying point-of-contact for energy emergencies and coordination of continuity plans

- **Assuring Energy Continuity (Electric Power and Fuel Supply)** – This section focuses on action planning items. They include:

  - Maintaining an adequate inventory of generators in identified locations and alternative procedures to relocate them

  - Arranging for and continuously monitor fuel storage

  - Setting up contracts with fuel suppliers and procedures for emergency purchase authorizations

  - Putting in place the capability to deliver fuel citywide by tanker trucks

  - Developing procedures for prioritizing fuel allocations in emergencies and investigating cost-effective alternatives

  - Developing plans to ensure that communications are available covering all energy emergency operations

- **Personnel, Training, and Exercises –** Determining personnel, education and training requirements and updating plans

Tool Kit References

Tab 11 – EA Continuity Checklist

12. Leaders Preparation for an Energy Emergency

Energy emergencies are different from other emergencies or disasters. They require special attention to the critical areas it will take to address the situation quickly and effectively.

- **Understand regional and local energy infrastructure** – in as much detail as possible

- **Determine vulnerabilities** – in advance

- **Identify local energy providers** – See Tab 5.1

- **Establish relationships with energy providers** – They should be on your planning team

- **Review existing energy supply contracts** -Add the contact information to Tab 5.2 as appropriate

- **Identify all backup power sources** – See Tab 7 Key Assets

- **Ensure adequate fuel supplies for emergency use** – Reference the Emergency Fuel Plan

- **Keep your energy assurance plans up to date** – See Tab 10 – Update the Plan and integrate it into your planning cycle

- **Partner with other public emergency management organizations** – See Tab 9 -Develop Partnerships and brief status regularly

- **Understand what assistance may be available in an emergency** – Use Tab 2 – EA Framework to continuously expand your network

Tool Kit References

Tab 12 Ldrs Prep Energy Emg

Information References:

https://www.energy.gov/ceser/emergency-preparedness/community-guidelines-energy-emergencies/additional-resources

13. Continuity and Contingency Plan Concepts

There is a wealth of excellent information on Continuity and Contingency planning on the internet. All organizations would be wise to invest the time in developing realistic plans to address the issues that can only be solved by thinking about the impact of an energy emergency. Risk is real, and threats are everywhere. Everyone must prepare, and preparedness starts with planning. Some elements to consider:

- **Consider your risks** – what are the most likely risks that require plans and preparation. Risk profiles change and must be updated.

- **Identify your critical business functions** – what critical services must continue to operate to ensure the community or organization and restore and recover?

- **Identify critical suppliers** – Critical Infrastructures require prioritization and logistics support that will survive.

- **Develop a crisis communications plan** – Once an emergency has started, you have lost valuable time. Plan now.

- **Consider temporary relocation** – Always have a backup position to work from, if possible. Some infrastructures cannot be relocated.

- **Backup critical data and essential records** – There are a multitude of options on backing up data. Pick one or two and rehearse.

- **Develop an information technology (IT) recovery plan** – This does not have to be expensive or complicated, although it can be. Match the level of planning and capabilities to the real-world requirement. You may need it sooner than you think. Test the plan.

- **Review insurance coverage** – This is a critical step. Understand what is covered and what is not. Adjust your priorities appropriately.

Tool Kit References

Tab 13 Continuity Contingency Plan

Information References:

https://www.energy.gov/ceser/emergency-preparedness/community-guidelines-energy-emergencies/business-owners-prepare

Local Energy Assurance Table Top Exercise

This straightforward Energy Assurance TTX is in the Energy Assurance Tool Kit Workbook to provide an opportunity to test and review the planning elements contained in the Tool Kit. It has an HSEEP template that can be customized to meet grant compliance.

The exercise has two phases, one for preparedness and one for response, restoration, and recovery. It addresses all ten (10) steps in the Tool Kit. A good idea for implementing the exercise is to plan to use it at the end of the planning cycle to validate the information, processes, roles, and responsibilities in the Tool Kit.

Local Energy Assurance Table Top Exercise

- Scalable
- HSEEP Compliant
- 2 Phases
- Focused on Energy Restoration Power Management
- Good for Local EOC, LEPC, and Small Group Discussion
- Use it to test your plans

Sample Questions   Phase1

Are all the key critical infrastructure owner/operators represented on your team?

Briefly outline for the team the leadership roles that you expect to be filled immediately.

Who are your key energy suppliers? If you had to prioritize, which is most important for the Energy Assurance mission?

Using your EA Crisis Communication Protocol, who will be the first person to address the public on your level of preparedness?

Phase 2

Given the level of destruction you face and the fact that power may be off for several days, what are the most important organizations you should reach out to for immediate assistance?

Does the impact to the grid raise any questions about the need for micro-grid or nano-grid solutions for key infrastructure elements or organizations?

The electric sector partners are already using mutual aid to bring in additional support. What plans are in place to use mutual aid to support the Emergency Operations Center or 911 Center if this becomes a prolonged event?

Tool Kit References

Toolkit Exercise

Toolkit HSEEP

Implementing Comments

TOOLKIT DATA COLLECTION

The Toolkit is a guide for developing the Energy Assurance Plan for your community. The XL Spreadsheets provide a framework of headings that prompt you to identify the critical infrastructure and contacts you will need to mitigate and respond to long-term power disruptions. We recommend finding and working with subject matter experts and your local office of emergency management and the Local Emergency Planning Committee (LEPC) to develop the plan. Planning will necessitate coordination between the public and private sector, and energy providers to fully develop the Energy Assurance plan.

The guide is flexible and may need adjustment to identify your local key components for preparedness and response to power disruptions. To populate the plan's toolkit, you may want to use the following public open sources and local assets to acquire the information:

- Perform internet searches to obtain pertinent information about your community's population, businesses, public safety agencies, government-owned facilitates, churches, and sources of Commercial, Residential, and Industrial energy. Identify volunteer and social support agencies. Validate the information you find on the internet.

- Search your State's Websites for the Office of Energy Policy and Assurance and Public Service Commission to view their reports and data found on their dashboards that identify energy sources, transmission, distribution lines, cost, and consumption.

- Check the County's All Hazards Emergency Plan and discuss the project with Emergency Management Leaders to obtain critical infrastructure and contact listings.

- Contact your local electricity, water, sewage, natural and liquefied gas companies servicing your area for their emergency contact information and operations capacity.

- Ask the owners of Critical infrastructure to Identify their backup generation of energy to identify the amount of fuel, capacity, load, and run time.

- Identify prime fuel vendors and determine their ability to provide emergency fuel deliveries.

Energy Assurance Tool Kit Project Workbook

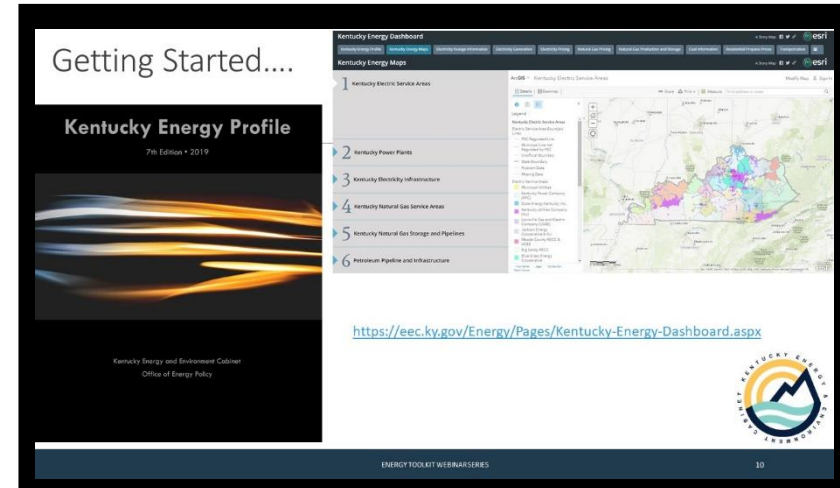# Reference Material For Planning

The **Office of Energy Policy** maintains an excellent reference site full of publications like the Kentucky Energy Profile

and

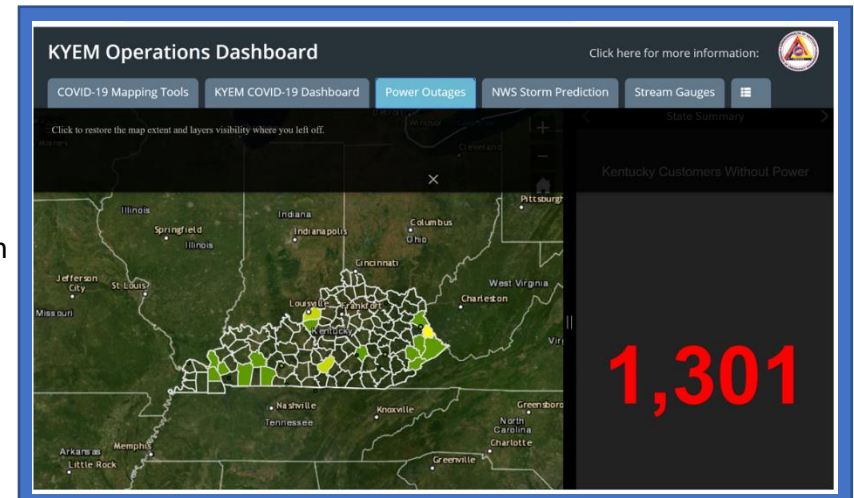Many levels of geospatial data sets that you can query and get reports.

Reference: https://eec.ky.gov/Energy/Pages/About-Us.aspx

Reference: https://eec.ky.gov/Energy/Pages/Kentucky-Energy-Dashboard.aspx

Kentucky Emergency Management Dashboard

KYEM dashboard uses a data scraping tool to gather reported outages from the major energy providers in the Commonwealth. It provides a near real-time status on outages as reported by the utilities.

Reference: https://kyem.maps.arcgis.com/apps/MapSeries/index.html?appid=2a72ae5684cb4f0eb9cf134d12791a15

Key Data Sources

- Homeland Infrastructure Foundation-Level Data

  - https://hifld-geoplatform.opendata.arcgis.com/

  - Twenty-four categories

- Energy Information Administration, Department of Energy

  - https://www.eia.gov/

  - State: https://www.eia.gov/state/?sid=KY

- Environmental Protection Agency

  - Safe Drinking Water Information System (SDWIS)

    - https://ofmpub.epa.gov/apex/sfdw/f?p=108:200::::::

  - Wastewater Facilities: EPA Facilities

    - https://www.epa.gov/frs/epa-state-combined-csv-download-files

- Census Bureau

  - https://www.census.gov/data/datasets.html

- Census Bureau

  - **https://data.census.gov/cedsci/**

Homeland-Infrastructure Foundation Level Data or HIFLD

- Published by the Department for Homeland Security
- Geospatially depicted data in open source formats
- Available in a variety of formats, CSV, KMLY, and Shapefiles
- Accessible over the web
- Searchable by county and downloadable in spreadsheet and shape files
- Data should be compared against best available when possible to verify
- Available in 24 general categories

  - Electricity Data Sets

    - Generators
    - Power Plants and Generating Units
    - Substations
    - High-voltage Transmission Lines
    - Planning Areas
    - Retail Service Areas
    - Fuel Data Sets

  - Petroleum

    - Pumping Stations
    - Terminals
  - Natural Gas

    - Storage
    - Pipelines
    - Compressor Stations

    - Petroleum/Natural Gas Interconnects

HIFLD Energy Sector

- Electricity Data Sets
  - Generators
  - Power Plants and Generating Units
  - Substations
  - High-voltage Transmission Lines
  - Planning Areas
  - Retail Service Areas
- Fuel Data Sets
  - Petroleum
    - Pumping Stations
    - Terminals
  - Natural Gas
    - Storage
    - Pipelines
    - Compressor Stations
- Petroleum/Natural Gas Interconnects

Reference Link: https://hifld-geoplatform.opendata.arcgis.com/

Energy Information Agency Data

This beta project integrates information from EIA's State Energy Profiles and other existing products. See State Energy Profiles to view data, analysis,

- **State Energy Beta Portal Site**

  - **https://www.eia.gov/beta/states/states/ky/overview**

  - Sources and Uses

  - Topics

  - Geography

- **State Analysis**

  - https://www.eia.gov/beta/states/states/ky/analysis

- **Data Sets**

  - https://www.eia.gov/beta/states/states/ky/data

  - Kentucky Demand Data and Map

    - Population Density by Census Tract and County

    - Location of Energy System Components

- **Survey Forms**

  - https://www.eia.gov/Survey/

  - EIA-923: electric power data

  - EIA-923 Schedule A: fuel data

Energy Information Agency Data

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- Data Sets
  - https://www.eia.gov/beta/states/states/ky/data
  - Kentucky Demand Data and Map
    - Population Density by Census Tract and County
    - Location of Energy System Components
- Survey Forms
  - https://www.eia.gov/Survey/
  - EIA-923: electric power data
  - EIA-923 Schedule A: fuel data

Kentucky

End-use energy consumption 2018, estimates

End-use consumption by source, excluding losses
1,183.4 trillion British thermal units
(percent of total for all sources)

Coal	Natural gas	Petroleum	Renewable energy	Electricity
20.0 (1.7%)	238.8 (20.2%)	624.9 (52.8%)	38.3 (3.2%)	261.4 (22.1%)

This **eia** site has several particularly useful data sets and pulls related elements together to produce a downloadable report.
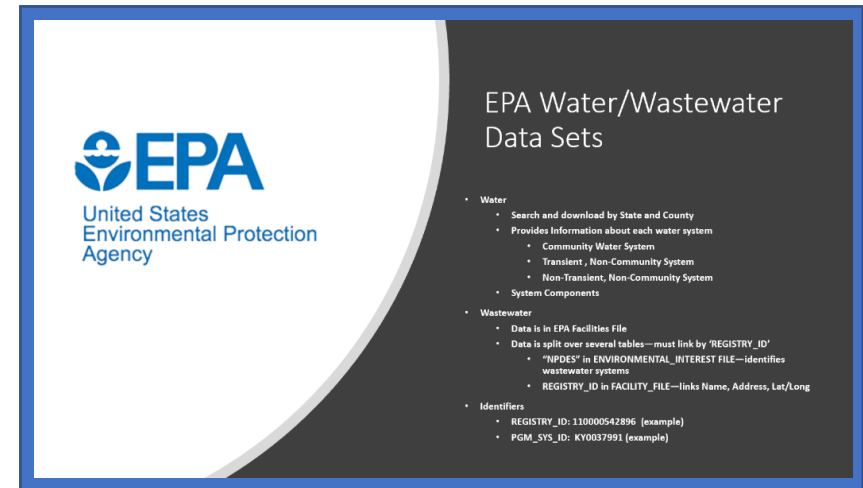
Energy Assurance Tool Kit Project Workbook

Environmental Protection Agency Reference Links

- Water

    - Search and download by State and County

    - Provides Information about each water system

        - Community Water System

        - Transient, Non-Community System

        - Non-Transient, Non-Community System

    - System Components

- Wastewater

    - Data is in EPA Facilities File

    - Data splits over several tables—must link by 'REGISTRY_ID'

        - "NPDES" in ENVIRONMENTAL_INTEREST FILE—identifies wastewater systems

        - REGISTRY_ID in FACILITY_FILE—links Name, Address, Lat/Long

- Identifiers

    - REGISTRY_ID: 110000542896 (example)

    - PGM_SYS_ID: KY0037991 (example)

Reference: https://ofmpub.epa.gov/apex/sfdw/f?p=108:200::::::

Reference: https://www.epa.gov/frs/epa-state-combined-csv-download-files

EPA Water/Wastewater Data Sets

Tool Kit V1 Tabs

Tab	Information
Tool Kit Overview	Ordered Steps for Energy Assurance Planning and Hyperlinks
1 EA Resp and Plan Tm	Building an Energy Assurance Response and Planning Team Major Steps
2 EA Framework	Emergency Authority Framework with Active web links
3 Roles and Responsibilities Plus	Roles and Responsibilities with Response Timelines Information
4 Local Energy Profile	Local Energy Profile Template
5.1 Energy Suppliers	Energy Suppliers Template
5.2 Energy Segments	Energy Segments Template
5.3 Energy Users	Energy Users Template
6 Primary Contacts & Partners	Primary Contacts & Partners with recommendations Template
6A Primary Contacts Notes	Assessment Tool for address Primary Contacts Template Format
7 Key Assets	Key Assets – Important facilities, operations or locations that require power back up
7.1 Assets Listing	The primary listing of Key Assets and the status for backup power and fuel and testing
7.2 Response Plan Priorities	Analysis template with considerations for establishing or reviewing energy emergencies priorities
7.3 Priority Measures	Template for assessing priority measures including status and notes
8 Energy Assurance Crisis Communications Protocol	Assessment template to guide and record energy emergency communication action items.
9 Develop Partnerships	Assessment and planning template for reviewing and considering a full range of strategic partnerships for an energy emergency.
10 Update the Plan	Planning and assessment template for ensuring the Energy Assurance Plan is well maintained.
11 Energy Assurance Checklist	Planning and assessment template for developing or review the Energy Assurance Plan.
12 Ldrs Prep Energy Emg	Leaders Preparation for an Energy Emergency planning and assessment template for preparing leaders.
13 Continuity Contingency Plan	Planning and assessment template for reviewing continuity and contingency operations with hyperlinks and notes capability
14 Incident Action Checklist	An Incident Action Checklist with recommended steps and action for improving resilience
Tool Kit Exercise	A Table Top Exercise (TTX) for reviewing, testing, and developing response concepts and developing lessons learned for the Improvement Plan and Update Plan requirements (Step 10)
Tool Kit HSEEP	Homeland Security Exercise and Evaluation Program partially completed template for meeting grant documentation requirements - additional requirements may apply
Additional Resources	Additional links for supporting information