Energy Resilience Planning in the Commonwealth

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KENTUCKY OFFICE OF ENERGY POLICY (OEP)

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ENERGY ASSURANCE & RESILIENCY COORDINATOR
The Kentucky Office of Energy Policy (“OEP”) was established by the Kentucky Legislature during the 2018 legislative session through a reorganization with the directives identified in KRS 152.712.

Funded partially through the U.S. Department of Energy’s State Energy Program (SEP), the OEP is part of a nationwide network of State Energy Offices and is tasked with:

• enhancing energy security
• advancing state-led energy initiatives
• increasing investments and economic growth
• and maximizing the benefits of decreasing energy waste

Programs and initiatives administered by the OEP are tailored for Kentucky’s unique energy resources, delivery capacity, and energy goals.
Office of Energy Policy

Mission

To utilize all of Kentucky’s energy resources for the betterment of the Commonwealth while protecting and improving our environment.

Goals

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 resource to the Commonwealth at affordable prices.
Energy Sector Emergency Planning

**Energy Assurance**
- confidence or certainty
- Preparation, planning, mitigation, response, and recovery
- education, outreach, and communication

**Energy Security**
- uninterrupted availability
- affordable prices

**Energy Reliability**
- consistent and expected levels of energy

**Energy Resilience**
- ability to **withstand** and **reduce** the magnitude and/or duration
- the capability to anticipate, absorb, adapt to, and **rapidly recover** from such an energy emergency
Energy Infrastructure in the Commonwealth

42,909 miles of natural gas, hazardous liquids, and hydrocarbon gas liquids pipelines

20 active natural gas storage areas, 28 compressor stations, and three processing plants

Two oil refineries with a combined processing capacity of about 283,000 barrels per calendar day. Four biofuel plants. One ethylene cracker

21 petroleum product terminals

Over 2,500 fuel distributors including ~240 Propane distributors

Over 10,000 miles of electric transmission lines

Over 1,700 electric substations

56 operating power plants
- 51% of capacity is coal
- 42% of capacity is natural gas
- 6% of capacity is hydroelectric
- <1% of capacity is biomass and solar combined

Two wholesale regional power markets plus the Tennessee Valley Authority
Community Life Lines

Energy Assurance Local Communities and organizations that pursue energy assurance will quickly learn that EA is a continuous process. 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 Sector Emergency Planning

## Traditional Mitigation Actions
- Back-up Power Supplies
- Utility Undergrounding
- Utility pole replacement
- Vegetation Management
- Flood proofing critical infrastructure

## Emerging Mitigation Actions
- Distributed Energy Resources
- Micro-grid/Community Enclaves or Resilience Hubs
- Energy efficiency codes for resilience (Building for resilience)
  - Affordable housing renovations
- Smart Grid Improvements
  - Advanced Metering Infrastructure
  - Increased SCADA penetration
  - Automatic Switching of circuits and circuit reconfiguration
  - Dual feeds into critical facilities, redundant systems
- Regional re-fueling centers
- Fuel diversification
Energy Assurance Tool Kit
Energy Assurance Toolkit

The Energy Assurance Toolkit provides the baseline capability for planning and will require additional effort to fully integrate the capabilities into the existing programs for planning and emergency preparedness.

The process should be integrated into one or more of the local planning initiatives and receive appropriate priority. That will take a program of advocacy with both the local leaders and the emergency management community.

Local governments and organizations will benefit from additional exposure to the Tool Kit's capabilities and direct integration for ensuring that the Energy Assurance mission remains on the radar.
Energy Assurance Toolkit
Assurance Team

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

**Step #2**-Know the Emergency Authority Framework

**Step #3**-Understand the Response Roles and Responsibilities
Energy Assurance Toolkit
Energy Profile, Supplies and Assets

Step #4 Know the Local Government Energy Profile

Step #5 Identify Energy Supplies

Step #6 Know Primary Contact and Related Partners

Step #7 Identify Key Assets within the Jurisdiction
Energy Assurance Toolkit
Protocols and Plan update

Step #8- Develop an Energy Assurance Crisis Communications Protocol

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

Step #10- Update the Plan
Grant Partnership Opportunities

• SEP eligible Energy Assurance activities
  • Energy assurance mitigation plan development
  • Energy Resilience Survey questionnaire
  • Micro-grid studies
  • Fuel plans
  • Back up storage plans
  • Feasibility studies related to energy

WHAT ENERGY ACTIVIES WOULD YOU LIKE TO ACHIEVE??
Grant Partnership Opportunities

- USDA
- FEMA
- HUD|CDBG
- ESPC
- PACE
- SEEP
- VW Settlement
- Private Sector
- CARES Act
- Utility Investments
- Foundations
- Vision

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Resources

• Toolkit https://eec.ky.gov/Energy/Programs/Pages/Energy-Assurance-Tool-Kit.aspx
• Department of Energy (DOE) https://www.energy.gov/
• Electric Infrastructure Security Council (EIS) https://www.eiscouncil.org/
• National Association of State Energy Offices (NASEO) https://www.naseo.org/
• State Energy Program (SEP) https://www.energy.gov/eere/wipo/state-energy-program
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