Local-Level Energy Assurance Framework: 10 Steps to Build a Plan

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INTRODUCTION

This document provides a ten-step process[1] to facilitate local government development of effective energy assurance plans in cooperation with energy providers, other public and private sector organizations, and State and Federal partners. It is part of the "toolkit" provided by the U.S. Department of Energy's Office of Electricity Delivery and Energy Reliability to assist Local Energy Assurance Planning (LEAP) grant recipients to develop or improve existing energy assurance plans and capabilities.

The Need for a Comprehensive Planning Approach

Much of the emphasis in local-level energy assurance planning has, until this point, focused on facilitating efforts by local governments to ensure that the needs of their own facilities are met during periods of prolonged power loss[2]. This approach—focused primarily around ensuring that critical municipal buildings have access to sufficient backup electricity generating capacity for up to 72 hours—has provided a relatively simple and straightforward way for the local government to undertake energy assurance planning, and it helps ensure that critical public services (for example, law enforcement and firefighting) are available during energy-related emergencies.

Increasingly, however, local governments are being called upon to take a broader approach to energy assurance planning that focuses on emergencies or incidents that disrupt the availability of electric power as well as the supply of petroleum fuels[3] or natural gas. Disruptions to the supply of natural gas or petroleum fuels can have consequences as significant to public well-being as widespread electrical outages. Comprehensive energy assurance planning emphasizes maintaining access to all of these resources by preparing for the all-hazards (i.e., natural and manmade) threats that could cause disruptions and working with energy providers, affected stakeholders and the public to help assure services are restored as quickly as possible.

Many services critical to public health, safety, and wellbeing are often not provided by local government itself. Wastewater treatment and water supply plants; clinics and hospitals; and all modes of telecommunications, transportation, financial services, food supply, and other critical services and accompanying infrastructure assets are often managed by regional public authorities or the private sector. In

[1] These steps are based on guidance contained in the Public Technology Institute's *Local Government Energy Assurance Guidelines* (2009; available via: www.energyassurance.us); the National Association of State Energy Officials' *State Energy Assurance Guidelines, Version 3.1* (2009; available at: http://www.naseo.org/eaguidelines); Emergency Support Function #12 (Energy Annex) of the National Response Framework; and other relevant resources.

[2] In this document, "local government" will refer to the public authority with leadership responsibility for an entity such as a village, township, tribal area, city, or county, where relevant. "Local jurisdiction" will refer to the entity itself (i.e., village, township, city, et al.). This planning framework is intended to be applied at the lowest level at which its objectives and components would be relevant, given local conditions.

[3] Unless otherwise noted, "petroleum fuels" will refer to gasoline, diesel, heating oil, or related fuels not typically supplied by utility companies, which are used in backup on-site electricity generation, transportation, space heating, or other related applications.

addition, there may be other public jurisdictions and private sector stakeholders affected by an energy disruption with competing needs and their own emergency response or energy assurance plans. Effective coordination among these stakeholder organizations, as well as with relevant State and Federal agencies, is necessary to assure rapid restoration of energy infrastructure and resumption or maintenance of critical public services.

This document provides a way forward for local governments to address two questions that are fundamental components of effective energy assurance planning:

1. *After an energy disruption, what steps can be taken at the local level to mitigate negative consequences, maintain critical services, and facilitate rapid recovery?*
2. *What practical and cost-effective longer-term strategies and/or investments (e.g., diversification of energy supplies, development of distributed/renewable energy sources, net metering/smart grid deployment) can be implemented at the local level to increase the resiliency of local energy infrastructure?*

Regarding question 2, in assessing planning options with energy providers and other stakeholder organizations, local government officials should take steps to learn about the benefits, potential security risks, and other costs of these new technologies. The dynamics of energy infrastructure risk and recovery are changing significantly with the introduction of new technologies, and it is in the interest of local governments to keep informed of ongoing developments.

It is important to note that nearly all local and State governments maintain emergency response and/or Continuity of Operations Plans (COOPs), which spell out many critical public sector responsibilities and the steps needed to ensure continuation of government services during emergencies. The energy assurance plan is not intended to supersede these plans; rather it should function as an addendum to them, providing guidance for coordination of energy assurance-specific actions with broader emergency management planning and response at the local level. Similarly, many private sector entities with critical local responsibilities maintain their own emergency response plans or, in the case of electric or gas utilities, plans for service restoration after a disruption. These utilities have substantial experience, as well as legal authority and obligations regarding energy emergency response and local government will benefit by working as closely as possible with them to facilitate a coordinated response effort.

EXECUTIVE SUMMARY

The goal of this document is to provide local governments with a framework around which to develop energy assurance plans. Through a limited number of clearly-defined steps, it aims help local governments ask the questions and form the partnerships necessary to understand local jurisdictions' energy needs, identify vulnerabilities, and respond effectively in the event of an energy disruption or emergency. The 10 steps in this planning process may function best if completed sequentially, though they can also be implemented on an ongoing basis throughout the planning process depending on local conditions. (For an outline of planning steps, see page 4.)

Through a consideration of key energy resources (electricity, petroleum fuels,[4] natural gas), this document provides a planning framework for maintaining/restoring critical public services and related infrastructure in the event of an energy disruption or emergency. Collaborating with public and private sector partners to assure/restore these services and infrastructure will help local governments meet their obligation to ensure public health and safety during disruption response.

[4] *Ibid*.

10 STEP ENERGY ASSURANCE PLANNING FRAMEWORK – OUTLINE

1. *Build an Energy Assurance Response and Planning Team:*
    a. Designate an Energy Assurance Coordinator
    b. Establish a Local Energy Assurance Working Group or Task Force
    c. Build Personnel Redundancy Into the Planning Framework
2. *Know Your Emergency Legal Authorities:*
   Understand the Legal Frameworks under Which Your Planning/Response Efforts Will Operate
3. *Understand Your Roles and Responsibilities:*
   Know Which Key Organizations are Responsible for Responding to an Energy Disruption
4. *Know Your Energy Profile:*
   Understand the Relationship of Your Jurisdiction's Electricity, Petroleum, and Natural Gas Markets to State and Regional Markets
5. *Identify Key Energy Suppliers:*
   Understand the Suppliers, Contracts, and Infrastructure Serving Your Jurisdiction's Electricity, Petroleum, and Natural Gas Needs
6. *Know Your Key Contacts:*
   Develop/Maintain a List Including Your Jurisdiction's Key Energy Sector, Service Provider, Emergency Management, and Public Official Contacts
7. *Identify Key Assets:*
    a. Identify the Facilities/Infrastructure Providing Critical Local Services
    b. Develop an Understanding of Existing Public and Private Sector Response Plans to Determine Which Key Assets are Most Vulnerable to an Energy Disruption or Emergency
8. *Develop a Crisis Communications Protocol:*
   Be Ready to Talk to Your Partners, the Public, and the Media
9. *Develop State/Regional/Federal Partnerships for Energy Assurance:*
   Coordinate Planning and Response Efforts with Other Public Authorities to Utilize Additional Resources and Expertise Effectively
10. *Update Your Plan on a Consistent Basis:*
    Reexamine Central Plan Components Regularly in Light of New Data and Lessons Learned

ONGOING: Organize/Participate in Disruption Planning Exercises and Stay Current on Energy Market Issues and Developments

10 STEP ENERGY ASSURANCE PLANNING FRAMEWORK – NARRATIVE

Step 1. Build an Energy Assurance Planning Team:

a. Designate an Energy Assurance Coordinator

An important part of beginning the energy assurance planning process involves selecting an Energy Assurance Coordinator who is capable of driving the planning process. The local government may already retain such a person as its lead emergency manager or liaison to the State emergency management agency or Federal Department of Homeland Security.

Ideally, the Coordinator should be a public sector official with a direct line of communication to high-level local government decision-makers (i.e., the Office of the Mayor) and the managers of critical publicly-operated facilities. The Coordinator should also have established contacts at relevant local electric, water, and natural gas utility companies, as well as the operators of key petroleum and/or natural gas supply infrastructure. Most importantly, however, the Coordinator ideally should be an official who can function as an effective champion for this plan—one who can advocate effectively for the project, lead the planning process successfully, and command the resources necessary to complete the plan.[5]

b. Establish a Local Energy Assurance Working Group or Task Force

As a first task, it is recommended that the Coordinator establish of a Local Energy Assurance Working Group or Task Force, which can serve as the primary coordinating body for plan development. The Working Group will be most effective if it is comprised of public and private sector representatives whose combined expertise reflects an in-depth, practical familiarity with energy assurance issues and challenges at the local and regional level.

Public sector members of the Working Group can include representatives from each of the public agencies tasked with managing key infrastructure or related operations. This can mean some or all of the following local public departments/agencies (where possible and/or relevant): emergency management, general services, fleet management, facilities management, fire, law enforcement, public works, health services, energy management/procurement (for public facilities), and electricity/natural gas/wastewater treatment utilities (where applicable). Additionally, as the local government may not maintain the personnel necessary to provide all of the functions above (e.g., in many cases, hospitals are run by county-level agencies), the public sector component of the Working Group can also include regional or State-level representatives for the public functions not managed by the local government at the local level.

Private sector Working Group members can represent non-public entities who manage additional key infrastructure or related operations. These can include: electric utilities (generation and transmission/ distribution); natural gas utilities (where applicable); natural gas pipeline and storage facility operators; petroleum suppliers/pipeline and terminal operators; water supply/wastewater treatment utilities (where

[5] For further information on the division of response roles in the event of an energy disruption, see Step 3.

applicable); and operators of the telecommunications infrastructure utilized for response to an energy disruption (where applicable).[6]

In addition to their subject matter expertise, representatives from the public and private sector should be selected based on their ability to speak for their agency/company and to obtain access to relevant operational information.

c. Build Personnel Redundancy Into the Planning Framework

If staff resources allow, it will be useful for the Working Group to include a second line of redundant personnel, who can carry out Working Group functions in the event that members of the first line are unable to discharge their responsibilities. If possible, each primary Working Group member should have one alternate or redundant counterpart from the same organization or agency. These redundant personnel do not need to attend Working Group meetings on a regular basis, but they should be briefed consistently by their primary counterparts regarding relevant activities, and their feedback should be sought during the energy assurance planning and assessment process. They can play a central role in ensuring that the Working Group remains operational in the event of unforeseen personnel disruption, and can also help to build institutional memory and capacity within their respective organizations by gaining key interdisciplinary knowledge and perspective through frequent contact with their primary counterparts.

Step 2. Know Your Emergency Legal Authorities:
Understand the Legal Frameworks under which Planning/Response Efforts Will Operate

Key to an effective energy assurance planning process is understanding the appropriate legal context in which planning and response actions will take place. Although the rights and acknowledged responsibilities of many of the organizations involved in energy assurance may be substantially clear in a legal sense, it is recommended that a local government determine what its legal authorities are (e.g., local-level executive orders, administrative/emergency rules, etc.) and how these apply to decision-making and actions—particularly during response to an energy disruption or emergency. The local government must also work to avoid contradiction with applicable State, regional, and Federal, and private sector decision-making and response authorities. (Many of these legal authorities will be clarified as the local government works with public and private sector stakeholder organizations and develops and maintains ongoing relationships with relevant State, regional, and Federal public authorities and agencies.[7])

[6] It is important to note that the composition of the Working Group is subject to local conditions, priorities, and limitations. Some public and private sector stakeholders whose participation would be desirable may not be willing or able to take part in Working Group activities. Working Groups in some cities may include members whose participation would not be relevant or even possible in others. The Coordinator should work to establish the most representative Working Group possible, given local conditions. In cases where key stakeholders are reluctant to become a part of the Working Group, the Coordinator should work to build partnerships or communication channels with them to the greatest extent possible, so that their knowledge and perspective may be incorporated into the energy assurance planning process.

[7] For additional information, see Step 9.

Step 3. Understand Your Roles and Responsibilities:

Know Which Key Organizations are Responsible for Responding to an Energy Disruption

Knowing which organizations are responsible for responding to an energy disruption or emergency is a key component of effective energy assurance planning and response. Public and private sector organizations have their respective roles. Public sector response is led or coordinated by the local Office of Emergency Management or whichever other agency (e.g., police department, fire department) is designated with this responsibility. The local emergency response also typically involves the Office of the Mayor (or other comparable political leadership), as well as other agencies (e.g., law enforcement), depending on the extent of the disruption and its impacts on public health and safety and provision of essential services. State-level agencies can become involved as well, particularly during implementation of State energy resource-specific contingency plans (e.g., gasoline shortage response plans, emergency electrical procedures), if necessary, at the local level. Ideally, the Energy Assurance Coordinator can play a primary role in collaborating with the lead public agency (ies) responding to the disruption, though this will depend on local considerations.

The private sector organizations most involved in the response effort are typically those that own and operate the local jurisdiction's energy supply systems (e.g., electric or natural gas utility companies, petroleum pipeline or terminal operators).

As discussed below,[8] both public and private sector organizations typically maintain emergency response plans that can be applied in the event of an energy disruption. The Working Group can play an important role in facilitating communication between public and private sector stakeholders and providing the local government with information necessary to help ensure coordination and reduce redundancy during the response effort to the greatest extent possible.

Step 4. Know Your Energy Profile:

Understand the Relationship of Your Jurisdiction's Electricity, Petroleum, and Natural Gas Markets to State and Regional Markets

Variables affecting markets for major energy resources (electricity, petroleum, and natural gas) are almost never confined to the local level. Most issues related to price and availability are subject to supply and distribution matters that play out on a regional and even national scale. As such, local governments should understand how local energy markets relate, at minimum, to State and regional markets, particularly when it comes to supply/availability, distribution, and price issues. The Working Group—by involving representatives from utility companies, petroleum suppliers, and other private energy sector entities in the energy assurance planning process—can play a key role in helping the local government develop this understanding.

Step 5. Identify Key Energy Suppliers:

Understand the Suppliers, Contracts, and Infrastructure Serving Your Jurisdiction's Electricity, Petroleum, and Natural Gas Needs

An important early phase of the Working Group's efforts can involve developing thorough knowledge of the local jurisdiction's energy needs, key energy infrastructure, corresponding resource suppliers, and local supply contracts, and communicating this knowledge to the local government as needed. Significant familiarity with the local jurisdiction's energy requirements, as well as the infrastructure in place to meet

[8] See Step 7b.

them, can help the Working Group develop a strong plan by assessing related interdependencies and vulnerabilities. The Working Group may benefit from becoming familiar with as many of the following as possible (with the understanding that detailed information on key energy infrastructure may not always be provided readily by private sector stakeholders):

- Characteristics of community energy usage or local energy profile (e.g., percentage of homes heated with gas, electricity, and/or oil; time and duration of typical peak electrical demand periods);
- The local jurisdiction's major utility players (electricity and natural gas) and related service territories;
- Where possible, primary sources of electricity (e.g., plant names, sizes, locations, fuel sources) and percentage of local electricity demand met by each source;[9]
- The location of the transmission and distribution infrastructure most important for provision of utility services (e.g., major electric lines/substations, major gas pipelines/storage facilities), as well as the roles played by that infrastructure (e.g., If substation X loses functionality, how much and what parts of the local grid will be affected?);
- Primary suppliers of the petroleum fuels needed during response to an energy disruption or emergency;
- The location and roles played by related petroleum supply infrastructure (e.g., names, sizes, and locations of petroleum storage facilities, refineries, and/or major pipelines);
- Basic information on the major public and private sector contracts in place for provision of electricity, natural gas, and petroleum fuels at the local level, particularly as they pertain to critical service providers.

This "big picture" assessment is intended to give the Working Group/local government a sense of the scope of key energy infrastructure, and the related interdependency and vulnerability issues involved in maintaining a functioning energy supply. By understanding the local jurisdiction's energy needs, the Working Group/local government may be able to identify opportunities to reduce risk and increase resiliency over the long term, for example by diversifying fuel supplies or sources of electricity, where possible.

Step 6. Know Your Key Contacts:

Develop/Maintain a List Including Your Jurisdiction's Key Energy Sector, Service Provider, Emergency Management, and Public Official Contacts

An important part of developing an effective response to an energy disruption involves knowing which experts to contact as soon as possible after the disruption has begun. It may be useful to develop a list of key contacts from the leadership, decision-making, or operations sectors of energy suppliers and critical service providers, both public and private sector, who can be reached reliably during an energy disruption to provide current information on resource/infrastructure status. It may also be useful to include leadership from other local or regional jurisdictions that depend on the same energy resources and infrastructure.[10] This list should

[9] This is particularly relevant for smaller jurisdictions and/or those that rely heavily on electricity from a limited number of sources; it is less relevant for jurisdictions with electricity supplied by a more diverse range of sources.

[10] For more information on developing regional energy assurance partnerships, see Step 9.

contain 24-hour contact information for each person included and it should be updated regularly to ensure that the information remains current. Each Working Group member should maintain both an electronic and a hard copy of the list.

Many energy shortage situations can be resolved via direct communication with a key industry or public sector decision-maker. In practice, most shortages or supply disruptions are resolved without declaration of an emergency, while making use of efficient, early-stage communication. Knowing which entities are responsible for managing which aspects of a disruption will greatly facilitate response actions among partners and reduce redundancy and the potential for conflict or misinformation during the response process.

In addition to the personnel identified above, key contacts can come from the groups of public and private sector stakeholders identified as useful participants in the Working Group (see Step 1), as well as:

- Representatives from major energy consuming sectors (e.g., associations representing residential, commercial, industrial, and governmental users);
- State/regional energy regulatory agencies (e.g., Public Service/Public Utility Commissions);
- State/regional/Federal emergency management or Homeland Security agencies;
- The Governor's Office or comparable State-level leadership.

Step 7. Identify Key Assets:

a. Identify the Facilities/Infrastructure Providing Critical Local Services

Key assets include the facilities and infrastructure that provide services essential to maintaining local public health, wellbeing, and economic vitality or those which, if lost, could significantly harm health, wellbeing, or the local/regional economy. These assets may include police stations, fire stations, 911 call centers, hospitals, telecommunications routing centers, and a wide range of other facilities/infrastructure, as determined by the Working Group/local government. There is no set of preexisting rules for designating key assets—this determination must be made on a case-by-case basis in keeping with local conditions and priorities.

Identification of key assets can help the local government collaborate more effectively with energy sector stakeholders to better prepare the local jurisdiction for an energy disruption or emergency. It can also help the local government coordinate response efforts and prioritize recovery and restoration actions in the event of a disruption.

As an additional step, the local government may want to work with key asset owners and operators (to the extent possible) to understand the energy resources (e.g., gasoline for emergency response vehicles or diesel fuel for backup electricity generators) they will need to maintain or regain functionality in the event of an energy disruption or emergency. An understanding of which critical users require resources will play an important part in facilitating local government efforts to coordinate distribution of scarce resources, as needed.

b. Develop an Understanding of Existing Public and Private Sector Response Plans to Determine Which Key Assets are Most Vulnerable to an Energy Disruption or Emergency

Managers of many public and private sector key assets will maintain COOP or emergency response and recovery plans. It will be useful for the Working Group to share emergency response/recovery plans from its

members and as many other relevant stakeholders as possible with the local government. In cases where this is not feasible, the local government should work to develop relationships with the relevant asset managers and engage them in the larger energy assurance planning process. Understanding the range of emergency response plans and resources (e.g., backup electricity generators, dual electrical circuitry) maintained by key asset managers will provide insight into which key assets are most vulnerable to an energy disruption and which are least vulnerable. To the extent possible, it may be useful for the local government to collaborate with managers of the most vulnerable assets to facilitate development of more effective plans and application of additional resources in response to a disruption.

Similarly, it is recommended that the local government coordinate its planning efforts with the service restoration plans maintained by relevant petroleum, electricity, and natural gas providers to the greatest extent possible (while recognizing that it will never be the government's job to prescribe the restoration priorities or steps to be taken by the utilities). Utility companies typically maintain rigorous emergency response plans, including procedures for prioritizing restoration of internal company operations, transmission/distribution infrastructure, and service at the facility/customer level as well. Understanding the utilities' restoration priorities may help the local government direct available resources more effectively in coordination with existing State-level energy resource-specific contingency plans.

Step 8. Develop a Crisis Communications Protocol: Be Ready to Talk to Your Partners, the Public, and the Media

A proactive public information/crisis communications protocol is a key part of effective energy disruption response, both to facilitate efficient resolution of the disruption and to minimize any potential additional negative effects stemming from public or partner reaction to misinformation regarding the disruption. It is recommended that the public official tasked with leading local-level response to an energy disruption or emergency work closely with energy sector stakeholders (including relevant utility companies and emergency response officials in other affected jurisdictions) to develop a coordinated public information message that can be issued through the designated Joint Information Center or other mechanism established to coordinate response and recovery communications with the public.

An effective communications protocol will:

- Communicate visible leadership from the local government to reduce panic and encourage voluntary public compliance with energy restoration/emergency response measures;
- Disseminate accurate and timely information on the scope, nature, severity, and potential duration of the disruption;
- Disseminate information on local-level public assistance programs during a disruption and direct the public toward key resources;
- Disseminate relevant information regarding State and/or regional energy resource-specific contingency plans to facilitate their implementation at the local level;
- Establish reliable lines of communication (if they do not already exist) between the local government and: electric utilities, natural gas utilities, and the petroleum industry; other local governments/ regional partners addressing the same or related disruptions; State or regional partners who share

energy interdependencies with the local jurisdiction; Federal agencies that can provide information or resources useful in responding to the disruption.[11]

Step 9. Develop State/Regional/Federal Partnerships for Energy Assurance:

Coordinate Planning and Response Efforts with Other Public Authorities to Utilize Additional Resources and Expertise Effectively

Most energy disruptions are not confined to a single town or city, and the scope of a major disruption can often outstrip the response resources maintained by even the best-prepared local jurisdiction. For these reasons, an important role for the Working Group involves facilitating development of partnerships between local government and relevant State, regional, and Federal public authorities and agencies. Development of these partnerships should begin as early as possible during the planning process, and be maintained actively as the plan is maintained.

These partnerships will allow the local government to coordinate local-level response to an energy disruption or emergency more effectively with existing State-level energy resource-specific contingency plans, and to utilize the expertise of State-level energy management and emergency response agencies. At the Federal level, these partnerships will facilitate the integration of local-level response into multiple planning and response frameworks, including the National Response Framework, the National Incident Management System, and the National Infrastructure Protection Plan. This integration will allow more efficient and effective application of Federal expertise, aid, and resources, if necessary, at the local level.

Such partnerships will also provide a foundation for successful mutual aid agreements between the local government and State and regional partners. Mutual aid agreements can help put response resources in place well in advance of an energy disruption, and establish protocols for utilization of resources and support that would otherwise be unavailable at the local level. The National Emergency Management Association has drafted model language for intra-State mutual aid agreements,[12] which can serve as a useful template for similar agreements at the local level.

Step 10. Update Your Plan on a Consistent Basis:

Reexamine Central Plan Components Regularly in Light of New Data and Lessons Learned

Energy assurance planning is not a static process. Effective plans are reviewed and revised regularly in response to new data and lessons learned. Once the initial planning process has been completed, its effectiveness will be improved by reexamining and updating key aspects on a consistent basis, particularly in relation to energy supply and key asset-related information, which may become questionable within two to three years and significantly out-of-date within five to seven years. It will also be beneficial to reexamine the existing plan after significant energy disruptions, to assess the ways in which it facilitated effective response and the areas in which it fell short. It is recommended that as many Working Group members (or other stakeholders who have been involved in the planning process) as possible be involved in the reexamination, as well as State, regional, and Federal partners as they are available. This reexamination will build resiliency into the planning effort, ensure that it is responsive to current information and developments, and foster

[11] For further discussion of the importance of communication with partners outside the local jurisdiction, see Step 9.

[12] Available as an appendix to PTI *Guidelines*.

dissemination of the critical interdisciplinary knowledge that is too often concentrated among limited numbers of specialized personnel.

ONGOING:

Organize/Participate in Disruption Planning Exercises and Stay Current on Energy Market Issues and Developments

One important way for the local government, Working Group, and other local-level energy assurance stakeholders to test the efficacy of this planning framework and strengthen relationships with relevant State, regional, and Federal public authorities is to organize or participate in local and/or regional energy disruption planning exercises. The most effective resolution to many energy disruptions is regional in scope, and disruptions are rarely confined to a single jurisdiction. Many State, regional, and Federal emergency response planning frameworks (such as those discussed in the National Response Framework) are designed to be scalable and work in conjunction with one another, but they must be tested in order to determine their efficacy under locally-relevant conditions.

Participating in energy disruption or emergency planning exercises beyond the local level will allow the Working Group and local government to learn from the experiences of other jurisdictions and will also provide crucial information on the strength and efficacy of mutual aid agreements reached between the local government and its partners. These exercises should begin as early as possible during the planning process, and remain ongoing after its conclusion.

Additionally, the Working Group can play an important role in ensuring that relevant staff are regularly trained in exercise development and participation so that, in the event of an actual disruption, staff will be able to respond effectively, in a leadership or coordination role as necessary, across jurisdictions. This training will also help build institutional memory within relevant organizations.

Finally, local governments will benefit from staying abreast of larger regional and national energy market issues, which often have significant local effects. Understanding elements of the supply chains that bring energy resources to local jurisdictions, as well as current and ongoing developments in larger energy markets and major events impacting resource price and availability (e.g., the effects of a Gulf Coast hurricane on local petroleum supply), will provide local governments with the context necessary to effectively plan for and respond to resource shortages or price fluctuations.