



Energy Workshop Key Points

1. Upgrading buildings and building codes, as buildings are major consumers of energy.
 - a. On average, LEED-certified buildings perform much better in terms of energy efficiency.
 - b. In addition to industrial and commercial properties, establishing energy codes for rental properties as neither owners nor renters typically have incentives for upgrading these structures.
 - c. Some new tools allow for the real-time tracking of a building's energy performance.
 - d. Establishment of carbon emissions trading systems among buildings within cities.
2. Revamping energy utilities, especially in terms of their sources of fuel and perhaps also in regards to their management structures.
 - a. There are an array of renewable energy resources communities may be able to harness, including wind, water, solar, geothermal, and biomass. While cities may focus on sources of renewable energy that are most plentiful in their areas, many have found success in a diversified approach that involves tapping into an array of resources.
 - b. Decentralization of energy utilities may make them more responsive to local preferences and open to renewable energy production strategies.
 - c. Development of smart grids.
3. Strong political will is needed for there to be an enduring push for reform.
 - a. The implications of not investing appropriate resources now to mitigate threats to sustainability must be understood.
 - b. Having the authority to implement sweeping changes can allow for the quick and effective implementation of sustainability practices (however, this is rare in most places).
4. Establishing support networks and partnerships within and among cities.
 - a. Citizens, cities, regions, and countries can work together, share ideas, and make sustainability commitments.
5. Raising awareness of the criticality of sustainability issues among citizens to garner support and encourage participation.
 - a. Information about energy use should be made public.
 - b. Creating ways for citizens to participate and stay involved (e.g., home energy audit programs).
 - c. Labeling and branding have been effective components of citizen outreach programs (e.g., Eco-Districts and Eco-City labels).
 - d. School outreach programs establish the importance of sustainability issues in the minds of future citizens.
 - e. Changing mindsets has been and, in some cases, will continue to be a major challenge.
6. Having innovative financing tools for funding new and sometimes expensive sustainability projects.
 - a. Helping cities identify and access the many financing tools that are available.
 - b. Carbon taxes place minimal costs on residents and provide funds for sustainability projects.



- c. Public-private partnerships may be looked to as one potential solution to help finance projects.
 - d. Offering rebates and tax incentives to citizens and businesses that upgrade their buildings, vehicles, and other equipment.
7. Understanding the value of conservative and efficient land use (smart growth).
 - a. Compact cities expend less energy in buildings and on transportation as compared to their less densely populated peers.
8. Using situations in which cities need to upgrade and reinvent themselves as opportunities to imbue them with sustainable practices.
 - a. There should be an emphasis on improving the lives of the community citizens – increasing the liveability of the place – with the sustainability measures that are implemented.
9. Expanding the use of new and smart technologies.
 - a. Smart meters for water have been effective, and they could be considered for electricity and gas usage.
 - b. New software programs provide invaluable information on energy usage.
 - c. Other examples: tools for measuring and analyzing traffic flows; hydrogen-fueled vehicles; district heating systems; and district lighting systems.
10. Address all of the services that a city provides, rather than just focusing on one or a few.
 - a. Smart cities realize an examination of the entire spectrum of assets and services is required.
 - b. Going beyond the minimums set by standards (e.g., more than just making buildings energy neutral, make them energy positive).

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