IX. URBAN ENERGY PLANNING

A. Introduction

In previous chapters many different measures have been presented to achieve energy and cost savings across domestic, public, commercial and industrial sectors. As stated on the US Department of Energy web site "Cities and counties looking for ways to cut energy use and save energy dollars can choose from a dizzying variety of alternatives. However, separate initiatives while important are not as effective as a comprehensive and integrated program.

By developing comprehensive energy plans, cities can maximise energy and cost savings and real, long term improvements can be made to the quality of life and sustainability of cities. This is especially crucial for cities which are growing rapidly. A concerted and comprehensive city energy plan may be the only way for these cities to avoid skyrocketing energy costs and even shortages.

Across the planet, there are a growing number of cities that have developed comprehensive and innovative energy plans to address current problems or avoid future problems. The global Cities for Climate Protection (CCP) campaign, which was developed by the International Council for Local Environmental Initiatives (ICLEI) in 1993 and currently has 401 participating municipalities worldwide, commits participating municipalities to the preparation of Local Action Plans. This Chapter will look at the CCP Program and development of Local Action Plans and energy planning generally.

B. The Energy Planning Process

1. Cities for Climate Protection Program

In order to become members of the CCP program, Councils must pass a resolution to commit to achieving five milestones. The milestones allow local governments to understand how municipal decisions influence energy use and how these decisions can be used to mitigate global climate change while enhancing community quality of life. Although Council operations are focused on first to develop procedures and familiarise staff, the main objective is the reduction of greenhouse gas emissions by the general community (residential, business and industry) as these comprise the greater proportion (approx. 99%) of total emissions.

The five milestones are outlined below.

Milestone 1:

Conduct an energy and emissions inventory and forecast.

The inventory profiles energy use and greenhouse gas (GHG) emissions for a base year (1990 or 1995), and estimates growth in emissions for a target year, typically 2010 or 2015, for:

1. municipal operations, including buildings, facilities, and waste streams;
2. the wider community, including residential and commercial buildings, transportation, and industry (if data is readily available).

Milestone 2:

Establish an emissions target.

Adopting a target and timetable for its achievement is essential to foster not only political will but also to create a framework that guides planning and implementation of measures. Many CCP participants are striving to adopt the "Toronto Target" to reduce GHG emissions by 20% from 1990 levels by the year 2005 or 2010. In developing country cities, however, stabilizing per capita emissions may be a more realistic or even ambitious target, in order to allow them the ability to develop economically.

Milestone 3:
Develop and obtain approval for the Local Action Plan.
A strategy to reduce GHG emissions is created by the Local Action Plan, which synthesizes the previous analysis, provides a rationale for the target and timetable, and outlines the policies and measures the local government will pursue to achieve the target. Ideally the Local Action Plan incorporates public awareness and education campaigns, as well as direct GHG reduction measures.

Milestone 4:
Implement policies and measures.
This stage involves implementation of individual measures to reduce GHG emissions. This may begin once the Local Action Plan is developed and approved or might begin concurrent with Action Plan development, since the CCP participant may choose to start measures before adoption of the formal plan.

Milestone 5:
Monitor and verify results.
Monitoring and verification of progress on the implementation of actions to reduce GHG emissions is an ongoing step that begins once measures are implemented and is formalized with the approval of the Local Action Plan. ICLEI's software tool assists in the quantification of emissions reductions and allows for uniform reporting of emissions reductions to ICLEI on a biennial basis.

Local governments which are participating in the CCP program include Bhavnagar, India; Belo Horizonte, Brazil; Cebu, Philippines; Entebbe, Uganda; Gweru, Zimbabwe; Hanoi, Vietnam; and Zomba, Malawi. Case Study 75 looks at Australian CCP Initiatives.

The City of Melbourne is the first local government authority in Australia to achieve all five milestones of the Cities for Climate Protection (CCP) program and to report back against its 2010 targets. The City has prepared a Sustainable Energy and Greenhouse Strategy, a Greenhouse Action Plan for 1999/2000 and more recently for 2001/2003. Elements of the comprehensive 2001/2003 plan are featured in Case Study 76.

2. Developing Local Energy Programs or Local Action Plans
The Sustainable Cities Project, a U.S. Department of Energy initiative, has produced a workbook, *Sustainable Energy: A Local Government Planning Guide for a Sustainable Future*, which summarizes the experiences of several cities such as Portland and San Francisco, in developing plans. The guide indicates that in general, an energy efficiency policy is first legislated by the local governing body and this is followed by the development of an energy program to support the policy by developing and implementing an action plan. Often the policy and plan will focus initially on how the local government agency uses energy. However, many local energy programs expand to incorporate energy use throughout the whole community (http://www.eren.doe.gov/cities_counties/basic.html).

The following is an extract from the workbook and provides suggestions for preparing an action plan:

Step 1: Determine how much you spend on energy.
Tracking your energy costs is a smart first step. How extensively you track data will depend on how far reaching your city's or county's program will be.

In some local governments, energy costs are totalled for each department. In others, energy costs are listed as a series of unrelated expenses for each department. If the latter type of accounting is used, managers and department heads may not even know how much they spend on energy. In that event, the

first step is to start monitoring consumption and costs. (You may need to develop and implement a system for tracking energy consumption and costs).

For still other local governments, energy costs are a budgetary line item. Government officials who have tried this approach have found that looking at energy costs as a line item often increases awareness of energy efficiency.

You can sometimes save a surprising amount of money just by checking your utility bills. For example, Phoenix monitors all municipal utility bills. The city checks individual bills for correct charges and ensures that the correct utility rate is applied. In a 2-year period, the city saved more than US $100,000 in utility bills because of this monitoring.

Step 2: Designate or create a lead office.
Leadership must come from one office, whether it's the planning department, city or county manager's office, public works, environmental services, or a special energy office. This doesn't mean, however, that the lead office is the only department involved. All city or county departments need to be involved in planning and supporting the process. Forming a staff committee is a good idea, too, as it helps ensure broad participation.

Step 3: Link energy programs with community goals.
A critical component of this step is to identify major community issues and goals related to energy efficiency. The idea is to piggyback energy issues with existing community goals. Your community may already have a general plan that outlines goals concerning land use, transportation, housing, energy, and the environment. You can often link these goals through an energy efficiency program. For example, lower energy bills can make housing more affordable. In addition, energy efficiency programs create local jobs and benefit the local economy through the purchase of contractor services and materials.

You may not need to look far to discover your major community issues and goals. Often, research will already have been performed on these issues by the city council, a chamber of commerce, citizen groups, or community publications that highlight the issues. A good way to assess community issues is to invite leaders in business, education, and neighbourhood groups to give their input. Work with your local media—they can arouse public support.

Step 4: Build grassroots community support.
To carry out your goals and objectives, you will need community involvement. Building support establishes allies and a clear picture of the financial resources you need for a project, compared with what you have available. You can build support through task forces, meetings with citizens, informal networking, and meetings with business leaders, utilities, and interest groups. If you can demonstrate why the community should care about energy, your efforts will be more successful.

Leadership, credibility, and visibility can be attained by connecting with a known corporate or community citizen. A champion acts as an advocate. Your champion can be an individual or an entire office.

Step 5: Don't reinvent the wheel.
Find out what's working in other communities.

Step 6: Prioritize actions and develop a draft plan.
With community members and leaders, create a list of options. Next, determine each option's costs, benefits, environmental effects, economic and technological potential, funding resources, and political acceptability. Choose the tasks that will produce the greatest benefit; then prioritize them according to how well they apply to your community.

Step 7: Implement the plan.
It's important to start with realistic goals, but it's also essential to avoid short-term thinking. Concentrate on projects that will produce the greatest impact. You can look for grants or contracts from utilities, energy or health and social service departments, private foundations, or local corporations. See Financial Resources for a description of other financing options.

Step 8: Evaluate success and update the plan.
Your policy should be a living document, with short-term plans being reevaluated and updated every 2 or 3 years, and long-term plans every 5 years. An evaluation compares your objectives with your outcomes. And that means tracking and documenting savings. When you evaluate, look for a specific, measurable result, such as reduced vehicle miles traveled or reduced air or water emissions. Tracking ensures that you'll have a mechanism to continually report benefits and fine-tune your program.

Step 9: Publicise the benefits.
Fostering a clear appreciation of the new policy's benefits is critical. That entails marketing, public relations, and media events. These build trust and credibility, too.

See Case Study 77 on Portland in Oregon, USA which describes the reasons for the success of the Portland program.

Examples of other Action Plans are given in Case Studies 78, 79 and 80. Extracts are taken from the actual plans as given on the Council websites.

3. Green City

Another broader initiative is the Green City program led by the United Nations Development Programme, which looks not only at energy but the broader issues of sustainability. A "Model Green City" is defined as "a city where environmentally lasting solutions have been found for human activity, economic development and environmental management. The aim is to achieve development that is both pro-people and pro-nature, to protect the interests of future generations."

The concept incorporates integration of the following aspects of urban activity:

- water and wastewater management
- clean air by transportation/traffic control
- waste management/recycling
- green manufacturing
- green energy
- green farming
- green construction
- green shopping

D. References and Resources

MELG (2000) *Managing Energy In Local Government Workbook*, Australian Greenhouse Office, Commonwealth of Australia, Canberra.
Available from http://www.greenhouse.gov.au/lgmodules/workbook/index.html

Cities for Climate Protection http://www.iclei.org/co2/

Financial Options http://www.city.toronto.on.ca/council/oct208.pdf

Hannover Case Study. http://solstice.crest.org/efficiency/irt/77.htm
http://www.iclei.org/aplans/hannsap.htm

Local Action Plan for Sudbury, Ontario, Canada
http://www.city.greatersudbury.on.ca/earthcare/about.html

Portland Energy Efficiency Plan, 2001 http://www.sustainableportland.org/eeplan.pdf

Rocky Mountain Institute. Extract from *The Community Energy Workbook*
http://www.rmi.org/sitepages/pid308.php

Sustainable Cities http://www.sustainable-cities.org/