

# Planning for Energy and Climate Uncertainty

## Executive Summary



***Post Carbon Cities: Planning for Energy and Climate Uncertainty*** provides guidance and support to local government officials and staff for meeting three critical goals:

- breaking community dependence on oil,
- stopping community contributions to global warming, and
- preparing the community to thrive in a time of energy and climate uncertainty.

The most direct strategy for achieving these goals is to reduce consumption and produce locally: reduce the community's overall consumption, and develop the capacity of local farmers and manufacturers to provide for the community's basic needs. The more your community can get its energy and basic goods from local sources, the less vulnerable it will be to rising and unstable oil prices, and the less it will contribute to climate change.

### **Energy and climate uncertainty**

Most credible observers now recognize that our global climate faces radical change in the coming decades if we do not take immediate and far-reaching action. Peak oil (the coming high point and subsequent decline of world oil production) is not as widely understood, but presents a similarly complex set of challenges.

Time is short to prepare for peak oil and global warming. At current rates of fossil fuel consumption we will most likely pass peak oil by 2010\*, and we seriously risk widespread, catastrophic climate change if we do not begin dramatically reducing global carbon emissions.†

The key problem posed by both peak oil and global warming is ultimately one of uncertainty: these phenomena are creating changes in economies and ecosystems at the global, regional and even local levels that we cannot easily predict. For local governments -responsible for managing local public services, planning for future land use and transportation, and protecting the community's economic and social health- this uncertainty creates a wide variety of risks and vulnerabilities. How will local economies be affected if the price of oil exceeds \$100 a barrel? How will regional climate shifts affect the local water supply? Local government decision makers need to understand and respond to these challenges.

### **Incentives to act locally**

As many southeastern U.S. municipalities discovered after Hurricane Katrina knocked out regional fuel pipelines in 2005, state/provincial and federal government agencies do not have the ability to meet every jurisdiction's resource needs in times of crisis. Local governments, however, have the flexibility, capacity and motivation to address risk management and emergency response needs in ways that higher-level government agencies cannot.

Local governments have strong financial incentives to address peak oil and climate change. Reducing local oil dependence and carbon emissions means pursuing energy-efficient buildings, locally-controlled energy sources, compact transit-oriented land uses, alternative transportation modes and other aims that are energy prudent, and thus ultimately fiscally conservative. When the challenges created by peak oil and climate change are not future risks but present problems, those communities that have prepared will have distinct advantages over those that haven't.

Local governments are well-positioned to address peak oil and climate change because they have influence over three key areas of urban spatial and economic development:

- » **Building construction and energy efficiency.** Through zoning codes, building codes and the permitting process, municipalities can encourage building designs that save energy and resources.
- » **Local land use and transportation patterns.** Municipal land use and transportation planning decisions directly influence whether people and businesses will have mobility choices that allow them to save energy and money.
- » **Local economic activity.** Municipal economic development initiatives are opportunities to encourage development in low-energy, zero-carbon directions, by both incentive and example.

### What local governments can do

The challenge for local governments is not to predict the future, but to plan for the future using appropriate tools and accurate information. Local governments should take a three-pronged approach to addressing energy and climate uncertainty:

- » **Identify local vulnerabilities** based on a careful analysis of the potential impacts of peak oil and global warming on the community.
- » **Mitigate local vulnerabilities**, and contribute to national and global efforts to limit the damage from peak oil and climate change.
- » **Plan for long-term changes** that cannot be avoided, minimizing the disruptions they will cause and taking advantage of the opportunities they will offer.

Over the last fifteen years, hundreds of local governments in the U.S. and Canada have begun systematically reducing their greenhouse gas emissions in response to global warming. Since 2004, when oil prices climbed beyond 15-year highs, a number of local and regional government agencies in both countries have also begun responding to the threats posed by peak oil.

Drawing from the experiences and examples of these early actors -as well as from consultations with dozens of elected officials, managers, planners, architects, scientists and scholars- here are four initial steps that your own city can take in response to energy and climate uncertainty:

**1. Sign the Mayors Climate Protection Agreement (U.S.) and/or endorse the World Mayors and Municipal Leaders Declaration on Climate Change.** For U.S. mayors, signing the Agreement commits your city to "meet or beat" Kyoto Protocol targets for greenhouse gas reduction, in the absence of federal leadership. Both U.S. and Canadian cities can also contribute to international carbon mitigation efforts by signing the Declaration.

See [www.coolmayors.com](http://www.coolmayors.com) and [www.iclei.org/montrealsummit](http://www.iclei.org/montrealsummit).

**2. Join ICLEI's Cities for Climate Protection Campaign** to get your city started on reducing energy use and greenhouse gas emissions, and to connect to the resources and expertise of the leading global movement of local governments working on climate change.

See [www.iclei.org](http://www.iclei.org).

**3. Sign the Oil Depletion Protocol**, which sets a target for reducing oil consumption across your community. Signing the Protocol sends a signal to citizens, business leaders and municipal staff that your city is serious about reducing its energy vulnerability. It also makes you part of an international effort to dampen the effects of peak oil.

See [www.oildepletionprotocol.org](http://www.oildepletionprotocol.org).

**4. Establish a Peak Oil Task Force** to quickly identify the challenges and vulnerabilities your community faces as a result of peak oil. A task force is also a valuable way to introduce businesses, citizens and other community stakeholders to the challenges of energy uncertainty, and engage them in developing a broad-based community response

See Section 6.2, "Guide to establishing a peak oil task force."



Also drawing from these examples and consultations, here are five principles to integrate into your local government's ongoing decision-making and long-range planning processes:

**1. Deal with transportation and land use (or you may as well stop now).**

Fundamentally rethink your municipality's land use and transportation practices, from building and zoning codes to long-range planning. Make land use and transportation infrastructure decisions with 100-year timeframes. Organize with neighboring jurisdictions to address the land use and transportation challenges of energy and climate uncertainty at a regional level.

**2. Tackle private energy consumption.**

Use the tools you already have to encourage serious energy conservation and efficiency in the private sector. Engage the business community aggressively, challenging your local business leaders to reinvent the local economy for the post-carbon world.

**3. Attack the problems piece-by-piece and from many angles.**

Meet your energy and climate uncertainty response goals with multiple, proven solutions, pursuing many different kinds of solutions at different scales. Enlist the entire community, setting clear community goals and spurring action from all sides to meet them.

**4. Plan for fundamental changes...and make fundamental changes happen.**

Educate and involve your fellow elected officials, staff and community stakeholders about the challenges of energy and climate uncertainty, and challenge them to come up with serious solutions. Lead your city's transition by integrating peak oil and climate change considerations in your own decisions.

**5. Build a sense of community.** In short, do anything you can to get people talking with each other, forming relationships, and investing themselves in the larger community.

**Next steps**

The Post Carbon Cities network is a resource for everyone who works with or for local governments. Our website at [www.postcarboncities.net](http://www.postcarboncities.net) provides news feeds and special features, resources for policymakers and planners, and a forum where elected officials, municipal staff and others can share and discuss their common problems, challenges, best practices and lessons learned.

We welcome your participation in this dialog; we can all learn much more, much faster, by sharing our successes and our failures, building an ever-richer knowledge base. Please visit us online and join the growing movement of municipal leaders who are preparing their communities for the challenges of energy and climate uncertainty.

**ENDNOTES**

\* According to an increasing number of petroleum analysts, we seem to be facing an undulating plateau of world oil production from 2007 onward, with permanent decline likely underway by 2010. See page 12 of the Guidebook.

† In 2006 James Hansen, director of NASA's Goddard Institute for Space Studies, publicly called for immediate, broad-based action to reduce carbon emissions, saying "we have a very brief window of opportunity to deal with climate change...no longer than a decade, at the most."