

Effective Direction for Ithaca's Energy Future: A Proposal

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For Ithaca as for the rest of the world, the chief public policy concern of the next fifty years will be energy.

In the last century and a half, we have gone from a society that got its agricultural and manufacturing power primarily from animal traction and wood heat to one in which virtually everything is powered by fossil fuel. But pretty soon we will have to use a lot less fossil fuel, for two reasons. First, it contributes to climate change, which may have very dangerous consequences. And second, beginning some time in the next twenty years, a combination of demographic, economic, and geological factors is likely to cause a substantial and ever-increasing shortfall in energy availability. Reducing greenhouse gas production and attaining energy sustainability will require that we find ways for Ithaca to reduce its use of fossil fuel energy as much as possible and to produce as much of its own renewable energy as possible.

In our local economy, the building sector — either directly for heat or indirectly for electricity — is the major consumer of fossil fuels. We have the knowledge and the skill in our local area to achieve substantial reductions in energy use through the implementation of well-known, proven “green” building techniques. Much can be achieved, with beneficial side effects for the local economy, through the development and enforcement of green building policies in new construction in the City. Even more can be accomplished through policies that will encourage owners of private residences in the City to improve their properties in ways that save both energy and money. As things stand now, however, no one in City government is responsible for developing and carrying out such policies.

On the energy production side, we can and should reclaim the clean, renewable water power that brought Ithaca into commercial existence. The construction of the Fall Creek water tunnel in 1830 — a major engineering feat of the time — provided the hydraulic energy needed to power early industry in this area. Fall Creek continued to supply substantial amounts of electricity for industrial use well into the twentieth century. An extensive study conducted by the City in the early 1980s determined that Fall Creek could produce almost 7 million kWh annually with no significant effect on either the environment or the recreational uses of the creek. That energy is still there, waiting to provide the City with a source of income while reducing our largely coal-fired carbon footprint for electrical generation by several times the amount targeted in the City's Local Action Plan for greenhouse gas reduction. But no one in City government is chartered to pursue such opportunities.

It is also possible to combine area resources and to think through City infrastructure decisions with the larger energy picture in mind. For example, an analysis funded by the City in 1989 found that a hydropower plant at Van Natta's Dam (the lowest of the three dams providing the City's water supply) could generate 1.4 million kWh of electricity annually simply by using the power of the water flowing through Six Mile Creek. This untapped source of energy would be enough to easily satisfy all the electrical needs of the City's water treatment plant while also reducing our CO₂ emissions by more than a thousand tons annually. But the possibility is not even being discussed in determining how best to supply Ithaca's drinking water.

In achieving GHG reduction and energy sustainability, what Ithaca lacks are not the necessary human and physical resources but rather consistent direction and execution in the integrated development and management of those resources. To meet these needs, the Energy Policy Committee for the City of Ithaca Local Action Plan recommends that the City create an Energy Department, staffed by an Energy Director, to develop and oversee the implementation of policies designed to make Ithaca as clean and self-sufficient in energy use as possible while preserving the economic well-being of its residents and businesses.

The proposed Energy Department would be modeled on the Office of Sustainable Development in Portland, Oregon. It would work in collaboration with a citizen-led City Energy Board and would be chartered to provide energy outreach, energy research, energy policy, technical assistance, and financial assistance to the City and its residents, thus integrating GHG reduction and energy sustainability into the City planning and development process.

Specifically, the Energy Department would be empowered, in collaboration with the Citizen Energy Board, to develop for adoption by Common Council and then to execute or enforce:

- ◆ GHG and energy sustainability policies for City facilities and operations
- ◆ GHG and energy sustainability codes for all new construction in the City
- ◆ GHG and energy sustainability requirements and codes for existing private housing in the City (e.g., insulation and retrofits)
- ◆ Educational and outreach initiatives designed to foster reductions in energy use by City employees, adult residents, and schoolchildren

The proposed Energy Department would also be chartered to:

- ◆ Work with the City Department of Public Works to create, propose, and implement plans to develop local energy resources, including water, natural gas, wind, and solar
- ◆ Seek grants from state and federal agencies and NGOs
- ◆ Provide financial assistance to residents, including loans and grants, as part of City-funded programs to encourage energy conservation, in particular building insulation, and the private development of renewable energy sources, in particular the installation of residential and commercial photovoltaic arrays and solar heating devices

The Energy Director would be an ex officio member of all City planning boards and departments responsible for policies that would have a significant effect on energy use or in which energy use plays a significant role. The Energy Department would work with the City Planning Department to ensure that energy use and GHG emissions are considered in planning any new development in Ithaca.

Funding for the Energy Department could be accomplished through savings from efficiencies in energy use in City facilities, fees on green building permits, and income streams established through the development of the City's hydropower resources. Funds could also be sought from Tompkins County (a potential user of the policies, codes, and permitting processes developed by the Department), from NYSERDA, and from other state and federal agencies promoting energy independence and greenhouse gas reduction.

Examples of initiatives that might be developed by the Energy Department include the following:

- ◆ Energy efficiency programs for homeowners
- ◆ Carbon offsets for new construction
- ◆ Streamlined permitting process for high-performance buildings that integrate waste recovery, recycling, conservation, water management, and on-site energy generation
- ◆ A drive to decrease GHG emissions for all new buildings in the City to zero by the year 2030

Beyond developing and recommending specific initiatives and policies, the most important function of the Energy Department would be to ensure implementation. We've got no shortage of good ideas, but they are unlikely to be realized in practice without a City department responsible for their execution.