

**Position Statement of the NY Metro Chapter of the American Planning Association on:
The Need for Energy Planning in the NYC Metropolitan Region**

The New York Metro Chapter of the American Planning Association is deeply concerned about the state of planning for the energy resources needed in the New York City Metropolitan Region. Our concern is based on two factors: the forecasts for significant growth in population and development, and the fact that existing power generation capacity barely meets current peak demand for electricity. Additionally, the amount of automobile and truck traffic in the region continues to increase despite relatively high fuel prices and increased transit ridership, which has risen to levels unseen in fifty years.

Extrapolations of technological trends predict an increased dependence on electrical power generation to serve ever more essential computational and communication needs. At the same time fossil fuel supplies, which support both the power generation and transportation systems, are becoming increasingly unreliable due to global political instability and apparently dwindling reserves. The cost of fossil fuels will continue to increase as the supply dwindles and the cost of finding and recovering ever smaller amounts of petroleum increases.

Currently there is no region wide, integrated, and strategic plan for meeting future energy needs. Relegating the region's energy future to market forces alone will likely not be sufficient to bring about the sweeping changes that will be required to safeguard the region's energy systems in the long-term. There are significant market anomalies in the energy sector, chief among them a lack of real competition in the production and distribution of electrical energy due to the nature of the infrastructure and the enormous public investment in transportation infrastructure since the 1950s. Additionally, huge capital investments will be required to fully develop alternative energy sources. The significance of public policy initiatives in the energy sector to bring about change in this situation cannot be understated.

Therefore, the Metro Chapter strongly advocates for the creation of a comprehensive, coordinated regional energy plan to guide the development and necessary transformation of the region's energy systems. The Metro Chapter also suggests that this plan address the following points, at a minimum:

- The regional energy plan must define energy needs, approaches and solutions in short-, medium-, and long-range timeframes, since potential crisis points are possible in all three. The plan also must highlight the short- and medium term steps that can be taken as a down payment on long-term solutions.
- The plan must target, first and foremost, the accelerated research and development efforts needed to make hydrogen fuel technology (fuel cells dependent on distributed production of hydrogen from renewable energy sources) a cost-effective and common solution.
- The plan must identify limited pilot applications of distributed generation concepts – the generation of power through renewable and/or hydrogen-based sources in a distributed rather than centralized manner – that can be made in the short- and medium-term as a down payment on the long-term and to assist with the growth in generation capacity that will be necessary to meet current forecasts in the growth of demand. Basically, power generators can use current distributed generation capabilities to help with their short- and medium-range capacity expansion needs. In the medium-term, a goal of fulfilling at least

25% of the needed additional capacity through distributed generation should be set in the plan and the proportion increased with time as technologies improve.

- The plan must provide for the transformation of the electrical power generation system in the long-term, both in terms of its overall structure and its fuel source from centralized electrical power generation to networked, distributed power generation which produces power at or near the point of consumption.
- The plan must assert that electrical generation system's fossil fuel power source *must* be replaced within the horizon of the plan by renewable energy sources and hydrogen produced from renewable sources. Although any number of renewable sources of energy might be applied in a distributed generation network, the foundation of the distributed network *must* be hydrogen fuel cells for reasons of reliability and efficiency. As residential and commercial fuel cells become more common, renewable energy sources can be expanded to create the hydrogen fuel in a clean, distributed manner (i.e., at the fueling stations and/or in local communities) at or near its point of consumption.
- The plan must address the transformation of the fuel source of the transportation system in the region in the long-term, since the current reliance on fossil fuels will not be sustainable. Again, the application of hydrogen as a fuel source would lead to the most reliable and efficient energy system if the hydrogen is produced from distributed renewable sources.
- The plan must craft a method of “nesting” the mobility system completely within the distributed power generation system, either through use of fuel cells such as vehicular power plants fueled by hydrogen obtained from distributed renewable sources (i.e.: the solar electrolysis plant at the corner service station), or by developing acceptable battery technology to store the power directly from the distributed grid. It may also be possible to add vehicular fuel cells into the grid for additional capacity when the vehicle is not in use.
- The plan must provide guidance on how public, non-profit and private economic sectors can join together in the development of the future energy system. Private markets are already beginning to contemplate the needed changes. Energy companies have begun to develop alternative energy sources. The public sector can reinforce and speed-up the transformation through various types of incentives and the adoption of straightforward standards and regulations that promote standardization, although not at the expense of innovation. Finally, grants should be provided within the non-profit sector to help the private sector test new technologies.

The need for a coordinated, regional approach to our energy future is critical and immediate. Predictions of peak oil production within the next fifty years and forecasts of sharp growth in demand for electricity and fossil fuels over the next twenty-five years do not allow much time for the energy transformation that will be needed. Capital investment and construction of new energy infrastructure as well as modifications to the existing public transit network will require equivalent lead-times. Inaction may well result in reduced economic efficiencies within the New York Metropolitan region that may well affect the ability of the city to compete on the national and international levels. The Metro Chapter asserts that, the time for action is right now.