

WHAT CAN  
**BOULDER**  
LEARN FROM

**GREEN**

**ENERGY PIONEERS?**

*EXECUTIVE SUMMARY*

COLLEGE OF ARCHITECTURE AND PLANNING

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This executive summary was produced by members of the Spring 2011 graduate planning studio class in the Masters of Urban and Regional Planning Program at the University of Colorado Denver.

For case studies of Cape Cod, Marin County, Portland and a copy of this executive summary, please go to:

*<http://cudenverenergystudio.weebly.com/>*.

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## GREEN ENERGY FUTURE: GETTING TO LOCAL CONTROL

Rising fuel costs, competition for non-renewable resources, and the environmental impacts of carbon-based energy have prompted planners to think about the energy futures of their communities. The City of Boulder is engaged in a process of analyzing how to provide citizens with energy that is reliable, clean, and affordable. Boulder has embarked on a path toward a greener energy future through localization of electric power. This process is conceptualized by the 3Ds – Democratization, Decentralization and Decarbonization.

To inform Boulder’s discussion on localization, graduate students from CU Denver’s Urban and Regional Planning Program researched examples of other communities that have successfully engaged in energy transition. Case studies of Cape Cod and Martha’s Vineyard, Massachusetts, Portland, Oregon, and Marin County, California, provide valuable lessons on the process of localizing power to meet a variety of goals including energy efficiency, greenhouse gas reduction, and renewable energy development, all while maintaining rates competitive with traditional energy providers.

Localizing power to arrive at a green energy future is not an easy task for any community. Challenges include the instability of the energy market, difficulty in siting renewable energy projects, failure of coordination at the local and regional levels, and resistance from large, powerful incumbent utilities.

### CAPE COD, MASSACHUSETTS

The Cape Cod case study examines the successes and shortcomings of the Cape Light Compact, a community choice aggregator that has served Cape Cod and Martha’s Vineyard for the past fourteen years. The Compact has achieved significant successes with its energy efficiency programs but has had a difficult time developing renewable energy.



The CLC was formed in 1997 shortly after the Massachusetts Electric Restructuring Act was passed. The primary goals for the Compact at the time were to deliver competitive energy rates to consumers in the Cape and Vineyard, who in the late 1990s paid some of the highest prices in the state, and to retain control over energy efficiency program dollars in order to ensure the money was invested locally. Between 1997 and 2001 the CLC worked with the Massachusetts Department of Public Utilities to gain approval for aggregation and energy efficiency plans. The energy efficiency program was launched in 2011, and at first the Compact simply assumed control of preexisting efficiency contracts that had been under the jurisdiction of power companies. Over time, however, the Compact instituted pilot programs and pursued an aggressive and innovative energy efficiency agenda.

The CLC has been very effective in realizing meaningful efficiency goals and reaching a broad demographic base, including vacation home owners, landlords, tenants, schoolchildren, and industrial and commercial property owners. Energy efficiency is frequently cited in literature on climate change as the fastest, simplest, and most cost-effective way to decrease energy use and therefore greenhouse gas emissions. Although energy efficiency does not have the popular appeal of wind turbines and solar panels, the Cape Light Compact’s energy efficiency program is an excellent example of one avenue to energy transition.

The Compact has had less luck implementing a substantial renewable energy program. There are many reasons why this is the case. Although some of the founders of the CLC in 1997 wanted a greater emphasis on renewable energy in the Compact’s mission statement, the original framing centered around control of energy efficiency funds, securing low rates, and advocating for local consumers. The focus on low rates has had a particularly deleterious effect on the Compact’s ability to purchase and develop renewable energy at scale. Siting renewable energy installation locally has been challenging as well; suggested sites for photovoltaic arrays and wind turbines are met with stiff local resistance, in what some see as a classic NIMBY response.

## PORTLAND, OREGON

The Portland case study analyzes two efforts to localize electricity supply in Portland, Oregon: one involving a failed municipalization attempt and the other involving the growing success of residential installation of solar photovoltaic panels.



Portland General Electric (PGE), the largest investor-owned utility in Oregon, owned by Enron from 1997 to 2006, has been the primary supplier of electricity to Portland residents for many years. When the California energy crisis struck in 2001, Portland residents were hit hard with increased electricity rates. Media coverage of Enron's role in the California energy crisis only fueled citizen outrage. But what really upset Portland residents was the indifference of PGE's leadership to addressing local concerns. In short, energy instability and the feeling of powerlessness against multinational corporations became catalytic issues for Portlanders.

In 2002, leaders in Portland began to push for municipalization. The city began participating in extended negotiations with Enron to purchase PGE. However, the city government became split on the issue, while citizen and state groups failed to agree that municipalization was in the best interest of all ratepayers. Ultimately, a lack of coordination among regional, city, and citizen groups resulted in the failure to municipalize electric power in Portland.

As Portland's municipalization attempt ended, a more cohesive transition toward localized energy began to emerge. In a citizen-initiated, state-funded program called Solarize Portland, the city has seen a significant increase in residential solar photovoltaic (PV) installations. Citizen involvement is the key element driving Solarize Portland which is run by neighborhood associations rather than the city. Strong, organized neighborhood associations have existed in Portland since the 1960s. The idea behind Solarize Portland was to leverage existing social networks to educate neighborhoods about solar power. Solarize Portland was structured to encourage neighbors to learn together, organize their interests, choose the most appropriate vendor, and install solar power as a group. Neighbors also learn about the state tax credits offered for PV installations.

While neighborhood associations led the implementation of Solarize Portland, effective city planning through Portland's Bureau of Planning and Sustainability (BPS) helps the program succeed. BPS works behind the scenes to provide technical support and marketing funds to neighborhood associations. It uses existing partnerships to respond quickly to citizen interest and streamline vendor quoting processes. With the assistance of BPS, Solarize Portland was able to successfully aggregate and create an attractive market for solar PV installers. In short, the success of Solarize Portland was and is driven by the collaborative partnership between the city and neighborhood associations.

Despite these challenges, the communities in each of these case studies – Cape Cod, Portland, and Marin County – were able to overcome such obstacles through:

- **Community engagement and capacity-building**

In order for energy transition efforts to succeed, local governments must reach out to citizen groups, advocacy organizations, and other governments. Changing the status quo is rarely easy or simple, and strong networks can mean the difference between failure and success.

- **Development of credibility and trust from the public**

In addition to reaching out to groups, local governments pursuing a brighter energy future need to gain the trust of local consumers. If people see the group promoting a change in energy supply and delivery as accessible and credible, they are much less likely to be swayed by the incumbent utility. Maintaining such trust over time allows for continued pursuit of energy goals.

- **Openness and transparency in decision-making**

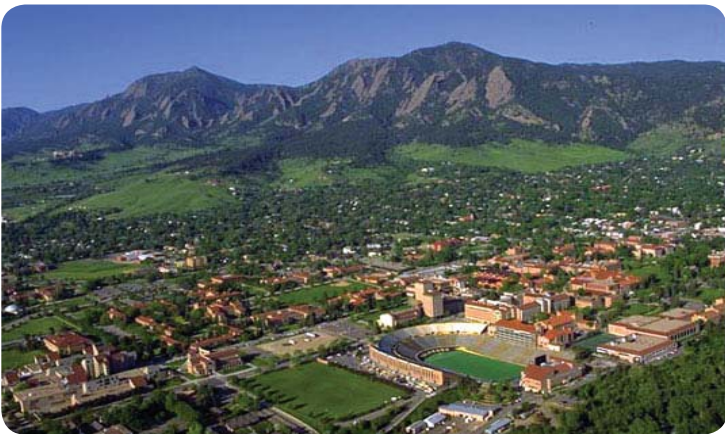
Energy generation and pricing is fraught with conflicting interests and values. Successfully navigating this policy landmine requires clear and upfront discussions of conflicts and hard choices.



- **Pursuing flexibility to adapt to changes in the energy market**

The only certainty for the future of energy markets and energy generation is change. Any municipality seeking energy transition should organize in such a way that adaptation is achievable.

The process in which Cape Cod, Portland, and Marin overcame the challenges to the localization of energy provide a good framework for understanding the steps the City of Boulder must take. Progressive-minded, these communities are no different from Boulder. They embraced the same values of democratization, decentralization, and decarbonization in their efforts to bring energy under local control. While there is still a great deal of work ahead, Cape Cod, Portland, and Marin have achieved measurable success in bringing their communities closer to a green energy future.



[Source: Inhabitat.com]

## MARIN COUNTY, CALIFORNIA

The Marin County case study analyzes the process through which Marin County formed a community choice aggregation (CCA) program to procure electricity with higher renewable energy content than that currently offered by incumbent investor-owned utility, Pacific Gas & Electric (PG&E), at rates competitive with PG&E. Through the CCA program, Marin County's goal is to eventually supply all customers with electricity derived from 100 percent renewable sources. Despite some challenges, Marin County has been successful in achieving its initial objectives for the CCA program.



In 2008, Marin County and seven municipalities within the county formed a joint powers agency to administer a CCA program called Marin Clean Energy (MCE). After an extensive collaborative planning process that involved over 200 public meetings and a strong alliance of grassroots support from local citizen groups, MCE was officially launched in May of 2010, making headlines as California's first CCA program. Reliable technical analyses and feasibility studies enabled MCE to meet its financial and renewable energy targets. MCE currently offers customers two options: the "light green" program, which guarantees that 25 percent of the electricity comes from renewable sources, at rates equal to or below PG&E's, and the "deep green" program, which guarantees that 100 percent of the electricity comes from renewable sources, at rates only 7 percent above PG&E's rates.

While Marin County built overwhelming community support for CCA, the process did have major opponents. The biggest challenge to MCE was opposition from PG&E. Despite wording from AB 117, California's CCA law, requiring utilities to cooperate in the formation of CCA, PG&E embarked on a campaign to effectively derail the implementation of MCE. PG&E employed tactics such as threatening to suspend delivery of electricity over its transmission lines to MCE customers and asking prospective MCE customers to opt out of the CCA program before the requisite statutory period. PG&E also funded a state ballot initiative that if passed would have made it more difficult for communities in California to adopt CCA.

However, despite the difficult battle waged by PG&E against MCE, the regional capacity-building and partnerships among citizen groups, county officials, and local organizations during the CCA development process were robust enough to largely overcome the opposition and dispel misconceptions about MCE. Transparency in the decision-making process and openness in communication allowed MCE to obtain buy-in from important stakeholders and helped create a strong sense of public trust and confidence.