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POWER TO THE PEOPLE
How Local Governments Can Build Green Electricity Markets

By Peter Asmus[1]

[ABSTRACT] By combining the electricity loads of their citizens into one large buying group, municipal governments can purchase reasonably priced power generated from renewable resources, thus capturing a share of restructuring's economic efficiencies, while delivering the environmentally sustainable energy that Americans want.[END ABSTRACT]

A Message From the Staff of the Renewable Energy Policy Project

Many environmental and small-consumer advocates remain wary of the restructuring process underway in the American electric system. The most constructive advocates, however, now also seek mechanisms through which these structural changes can deliver both fair rates for small consumers and a healthy environment. In the following paper, Peter Asmus discusses one such mechanism: municipal green aggregation, in which local governments group citizens into a "buyers club" for power generated from renewable resources.

For municipal green aggregation to succeed, we believe that four things must first occur:

• First, as the retail electricity market allows customers to select their power provider, local governments should buy all or part of their own power from renewable energy suppliers. Sales of renewable power for municipal buildings, light rail systems, street lights and the like will sustain nascent green energy companies, expanding the supply of renewable energy and lowering its price. We recommend an immediate 10 percent renewable energy purchase requirement for local governments themselves where supply permits. Localities that operate their own municipal utilities - roughly two thousand across the nation - in particular should pursue this concept.

• Second, local governments must prepare citizens for the coming retail electricity market. The public must understand the environmental impact of

producing and using electricity, they must accept the rationale for a municipal role, and they must trust their government to become an efficient and effective green energy purchasing agent. In short, local governments need to educate the public to ensure that municipal aggregation enjoys democratic support.

- Third, and related to the previous point, local governments must explore the benefits that regional renewable energy development can bring to their economies. They must demonstrate to citizens that by creating a market for environmentally friendly green power, the community can gain from retaining energy revenues in the community and putting local resources to work.

- Fourth and finally, municipalities exploring ways to meet local air pollution goals and reduce emissions of greenhouse gases should make municipal green aggregation part of their clean air and climate protection plans.

In short, municipal green aggregation is a good idea. By pursuing the foregoing ideas with confidence and creativity, local governments can make it happen.

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Executive Summary

Since the late nineteenth century, a debate has simmered over whether the private or the public sector can better manage the electricity business. Today's regulatory and institutional restructuring of the electric system opens new opportunities for public involvement in the electricity sector. Most promising, by combining its citizens into one large buying group, a municipal government can purchase reasonably priced power generated from clean renewable resources, thus capturing a share of restructuring's economic efficiencies while delivering the environmentally sustainable energy that Americans want. In this paper, we call this policy mechanism green municipal aggregation.
Among the reasons local governments might explore alternatives to incumbent electricity providers are the following.

Municipalities can:
- reduce rates for residential customers and small businesses who otherwise might not enjoy the envisioned lower prices of a competitive electricity market;
- offer new services, such as energy efficiency measures, to lower customer bills;

- meet citizen demand for clean air and water by offering clean energy options;
- comply with state and federal environmental standards, for example those imposed by the Clean Air Act, or potential future limits on emissions of greenhouse gases, by requiring certain levels of clean energy purchases;
- impose fees to replace revenue lost by reduced utility property tax collections.

This paper will assess the benefits and potential obstacles to green aggregation by local governments, while noting the potential of municipal aggregation in general to protect and benefit small power consumers. Among the potential advantages of aggregation, green aggregation has received the least attention from local governments. However, it may represent the greatest opportunity for energy innovations to help the economy and the environment.

How costly is green aggregation?

Renewable resources often cost more than conventional alternatives. Municipal green aggregators will have to develop programs that deliver both economic benefits and a cleaner environment. To do so, they might link investments in cost-effective energy efficiency measures, which can total energy usage (and therefore energy bills), to investments in renewable energy systems. Municipalities might also divide the savings from electric commodity purchases between direct customer rebates and the purchase of renewable resources. Above all, policy-makers must show citizens that the local economy will benefit when their electricity purchases support local companies generating power from local renewable resources, rather than distant power marketers.

Is the expertise available?

The electricity sector is complex and unstable. Local authorities may lack the financial and technical expertise to master the complicated details of renewable energy purchasing. Local authorities must demonstrate that their experience in providing diverse services for their constituents - trash pick-up, water, recycling and the like - makes them "natural aggregators," competent to navigate the challenging new electricity market.

Are public green aggregation programs more appropriate than private efforts?

Skeptics of municipal green aggregation argue that private firms can more efficiently meet demand for green power - if it exists - than governmental programs. Policy-makers seeking to promote renewable energy will need to convey that environmental protection is a public good, perhaps unlikely to be delivered by a competitive marketplace. They must further convince their constituents that green aggregation by local governments will enjoy lower transaction costs than private efforts, while delivering higher standards of consumer protection. At the very least, local governments must aggregate their own municipal loads to patronize sellers of clean energy.

Does the local government enjoy credibility and citizen support for expanding its role?

Many Americans react warily to the suggestion that government should acquire a new function. To initiate green aggregation
activities, local authorities will need to demonstrate clearly the public benefits of a clean power system, and assure their constituents that they are capable of carrying out the task efficiently.

Can green aggregation permit customer choice?

Many Americans prize individual choice as a civic right. While some consumers may be delighted to let local governments assume the complicated task of selecting a power provider and negotiating a contract, others may object sharply to what they perceive as a denial of the right to choose. Policy-makers will have to design their aggregation programs either to allow citizens to "opt out" or to convince citizens that the sustainability of the electricity system requires and justifies forced community aggregation.
Each of these issues concern political will and credibility. Policy-makers will have to demonstrate that green aggregation will benefit citizens and that the local authorities can deliver an efficient program. Fortunately, several models exist for green municipal aggregation. For inspiration, interested policy-makers can look to Barnstable County, Massachusetts; the City of Portland, Oregon; the Sacramento (California) Municipal Utility District; the Public Service Company of Colorado; and the Izaak Walton League. One thing is certain however - each community will have to adapt the models to its own needs and values.

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POWER TO THE PEOPLE
How Local Governments Can .c.Build Green Electricity Markets
By Peter Asmus

Where a community - a city or county or district - is not satisfied with the service rendered or the rates charged by the private utility, it has the undeniable basic right, as
one of the functions of government, one of its functions of home rule, to set up, after a fair referendum of its voters has been had, its own governmentally owned and operated service.
Franklin D. Roosevelt, 1932

INTRODUCTION

Restructuring Changes the Game

After almost a century of reliance on regulated monopolies to deliver retail electric service, the American electric system is evolving into a more market-oriented form. Amidst this confusing transformation, local governments remain "sleeping giants."[2] Although most consumers receive electric service from firms long ago granted franchise agreements by local authorities, these public institutions have responded only sluggishly to the challenges and opportunities of electric restructuring.

The local impact of restructuring will vary. In some areas, it may be a threat. Beyond fears that poor residents will not reap the economic benefits, some localities fret that restructuring will reduce tax receipts. For example, California's San Luis Obispo County found that restructuring could shrink annual tax revenue up to 17 percent, due to tumbling power prices and devaluation of the Pacific Gas & Electric Company's Diablo Canyon nuclear and Morro Bay fossil-fuel plants. Other local governments see in restructuring the opportunity to reduce commodity electricity costs, believing, perhaps, that their citizens desire cheap power above all. Palm Springs, for example, aggressively attempted to bypass its current provider, Southern California Edison (SCE), by proposing to install its own household meters and import cheaper power using SCE's power lines, arguing that ownership of meters alone would suffice to make Palm Springs a "municipal utility."

On the whole, however, municipalities approach restructuring with an imagination constrained by years of regulatory status quo. Few have explored the possibility of purchasing electricity on their citizens' behalf and thereby becoming "mega-consumers." Even fewer have considered becoming "green aggregators" - clean power buying agents - for their constituents.

In general, aggregation could enable local government institutions, such as city governments and regional water districts, to accomplish a number of tasks simultaneously:

- lower rates, through group negotiating, for residential customers and small businesses who otherwise might not enjoy the envisioned lower prices of a competitive electricity market;
- offer new services to lower customer bills, such as energy efficiency measures (including home energy audits, financing for technologies, etc.);
- meet citizen demand for clean air and water by offering clean energy options;
- comply with state and federal environmental standards (such as those imposed by the Clean Air Act or potential limits on emissions of greenhouse gases) by requiring certain levels of clean energy purchases;
- impose fees to replace revenue lost by reduced utility property tax collections.

This paper assesses the benefits of, and potential obstacles to, green aggregation by local governments, while noting the potential of municipal aggregation in general

to protect and benefit small power consumers. Among the potential advantages of aggregation, green aggregation has received the least attention from local governments, but represents the greatest opportunity for energy innovations to help the economy and the environment.

Who Are the Stakeholders?

Several distinct groups, each with unique interests, need to familiarize themselves with green aggregation by local governments:

Local governments need to understand the opportunities and altered responsibilities they face in a restructured energy market, and how renewable resources[3] can meet local needs. One local need that renewables address is meeting environmental policy goals, such as reducing greenhouse gases that contribute to global climate change. Another local need met by renewable resources is regional economic development, in this case by retaining energy revenues in the community,.[4] A third local need that renewables target is responding to citizen concern for the environment and support of clean energy, as shown in decades of public opinion surveys.[5]

Restructuring will provide local governments not only the opportunity but also the responsibility to satisfy this long-standing citizen de-sire. Local governments, even those not currently in the electricity business, might adapt programs developed by the Sacramento Municipal Utility (discussed below) to promote new renewable power sources in response to customer demand.[6]

With restructuring, local governments can resurrect and revitalize their long dormant electricity service franchise powers.[7] Other tools for encouraging the development of renewable resources include access to low-cost capital (in the form of low-interest bonds or tax-exempt financing) and the potential to develop local ordinances for siting new generation facilities.[8] In addition, local governments already send constituents monthly bills for other infrastructure services; this system could be a potent advantage of public green aggregation programs over for-profit marketers, greatly redu-cing their transaction costs.

Environmentalists and renewable energy advocates should consider that a green municipal aggregation strategy represents an excellent opportunity to advance clean power in a market-oriented electric system. Green municipal aggregation, with voluntary public participation, also offers an opportunity to link environmental goals more closely to the goal of consumer advocates, who have not always supported those environmental energy policies perceived as potentially costly and not supported by ratepayers.

Renewable energy developers and manufacturers will find that local governments

represent a logical new market as most utilities shy away from investments in new electricity generation facilities of any kind, and particularly in resources that are perceived to cost more.

Consumer advocates have long safeguarded the public interest in reasonable electricity rates, and they continue to pursue that goal in the restructuring process. Yet consumer advocates, too, need to expand their horizons and consider how municipal aggregation can simultaneously deliver economic and environmental benefits from competition. Consumer advocates can become key partners in implementing clean power programs that reflect local values and utilize locally available renewable resources. Finally, consumer advocates wishing to expand their focus from cost alone to economically healthy communities in general will find that renewable energy development, unlike most traditional energy infrastructure, can create local jobs and retain energy revenues in the community.

The following section of this paper explores the probable rewards of, possible disadvantages of, and potential obstacles to municipal green aggregation through history and policy analysis. The following section contains case studies of four local governments that have developed innovative programs, plus a short study of Sacramento's municipal utility, the Sacramento Municipal Utility District (SMUD).

PART I Back to the Future?

Ironically, the electricity industry in early twentieth-century America featured the lusty competition touted today by supporters of restructuring. Local governments played key roles in this era, as they awarded electric service franchises to competing bidders. But conflicts soon arose between city governments and their franchisees. Citizens attributed high rates to price gouging and secret pacts among the franchise holders, and they called for municipal takeover of the electricity system. Meanwhile, the utilities bemoaned the escalating bribes extorted by corrupt officials in return for granting and renewing franchises, and they complained that competition led to the unnecessary duplication of facilities (e.g., parallel sets of distribution lines on the same street) that forestalled economies of scale and kept prices high.

Nevertheless, as the Progressive political movement of the early twentieth century swept the country, increasing numbers of local governments assumed responsibility for electric service. Each year from 1897 to 1907, citizen referenda created between 60 and 120 public systems.[9] Approval for municipal electricity was not universal, however. Some Americans doubted that bureaucrats could rival the innovative spirit of private enterprise and worried that political leaders - even if not actually corrupt - would pander to the voting public by keeping rates inefficiently low. Besides, some grumbled, public ownership smacked of socialism, a serious imputation in the years following the Russian Revolution.[10]

The specter of municipalization and the often messy rivalries between competing

private companies prompted utility industry leaders such as Samuel Insull of Chicago's Commonwealth Edison Company to call for state regulation of the electric sector. Civic reformers seeking to exterminate municipal graft supported Insull, and the first few decades of the century saw the establishment of powerful state regulatory commissions. Henceforth, in return for a guaranteed market and protection from competitors (both of which delighted their investors), private utilities submitted to state regulation of electricity rates.

The number of privately owned utilities peaked at 4,224 in 1917 and declined rapidly thereafter as firms merged and the sector consolidated. Complex webs of holding companies came to dominate the industry. At one time, for example, Insull's holding companies controlled 239 electric firms in 30 states and Canada. The emergence of state regulation halted the wave of municipalization; the number of municipal systems crested at 3,066 in 1923. Ultimately, private firms enjoying substantial economies of scale absorbed many of the small municipal systems nestled in their territories. By 1932, public power produced only 5 percent of the nation's electricity.[11]

Nevertheless, public power, broadly defined, provided a politically powerful alternative to private power for several decades. Most notable, President Franklin Roosevelt made the extension of rural service and the breakup of the electric holding companies goals of his presidency. His administration developed a new entity, the customer-owned electric cooperative, as an antidote to private power firms' hesitancy to serve economically uninviting rural territories. Public power still plays a substantial role in America - in 1994, publicly owned facilities sold 14 percent of the nation's retail power, and rural co-ops another 8 percent.[12]

As this brief history of local power demonstrates, municipal involvement brought strengths and weaknesses to the electricity sector. Most important, municipalization represented a response to a situation - unbridled competition - perceived as genuinely dangerous to the public interest. In this sense, the story offers insight to the present. In 1995, electric firms proposed 16 mergers, representing $120 billion or almost 20 percent of the nation's investor-owned utility asset base. 1997 saw an additional seven proposed mergers involving another $30 billion in assets.[13] Moreover, retail competition - assumed to be inevitable by many analysts - will offer many customers a choice of several large, distant power providers, none of which may have the community's best interests at heart. The entry of local governments into the power sector may once again be an appropriate policy alternative. The difference today is that in a competitive retail market, local governments need not own any generating or transmission equipment. Rather, they can protect consumer interest in fair prices and meet citizen demand for clean power through green aggregation.

The Options for Local Governments Today

Today's local governments seeking involvement in the electricity sector have several options.[14] One is outright municipalization of electric service. More than 1,000 cities and towns in 30 states still hold franchise contracts with an existing monopoly service provider.[15] Eleven states allow local governments substantial franchising powers for electricity service even though contracts are not currently in use.[16] (The remaining nine states have rescinded local franchising powers and granted them to state governments.) Local governments in the first, and perhaps the second, group of states might attempt to award the franchise for electricity service to themselves. However, no such effort has yet succeeded. Intense opposition from incumbent private power suppliers has helped stall municipalization movements in Chicago, Albuquerque, Las Cruces and Toledo.[17] On the other hand, local governments may find - as Barnstable Country, Massachusetts found (see below) - that their dormant franchise rights provide a solid legal basis and strategic lever with which to pursue aggregation.

A second option is formation of a municipal utility that owns little physical equipment, perhaps only the household meters. Such a utility is often called a "muni-lite." Most notoriously, the City of Palm Springs, California argued that a muni-lite utility would be eligible to purchase wholesale power from distant providers, and could use the open transmission rules of the Federal Energy Regulatory Commission (FERC) to force the incumbent utility to deliver the power over its own lines. Subsequently, however, the FERC ruled that Palm Springs did not own enough of the distribution facilities to qualify as a wholesale customer, perhaps blocking the muni-lite option for the foreseeable future.[18]

However, to get the most out of the emerging competitive environment, municipalities need not own any physical equipment. In fact, they need not even aspire to become utilities themselves - rather, they can become aggregators on behalf of their citizens. If local governments operate in states where they maintain significant franchise rights, aggregation becomes an attractive alternative to full-scale municipalization. Significantly, after Palm Springs failed in its attempt to win FERC approval of its muni-lite strategy, it switched gears and entered into a voluntary arrangement with a subsidiary of Portland General Electric to be Palm Springs' incumbent utility - in effect, becoming an aggregated municipal load.

PART II Political and Economic Issues

"Community" Vs. "Loose" Franchises

Like municipalization and the muni-lite approach, municipal green aggregation has controversial aspects. In deliberations over California's landmark restructuring legislation, San Francisco-based consumer advocates Toward Utility Rate Normalization (TURN) proposed that local governments become the electricity

purchaser for all citizens in their jurisdictions, an approach termed a community franchise. Utilities and many industrial customers objected strongly to the concept, claiming that TURN's proposal invited local governments to incorporate hidden taxes for services unrelated to electricity and, in any case, thwarted customer choice. In response, TURN amended its proposal to allow customers to "opt out" of any local government aggregation program; in this version, known as a loose franchise, the local government would be the default - but not exclusive - electricity provider for citizens.

Ultimately, the state assembly rejected the notion of special aggregation privileges for local governments. California localities, like any other aggregators, will have to convince consumers to "opt in" individually. The most important effect of this is to put the marketing costs of the aggregation program on the local government. To illustrate the effect of this seemingly slight procedural shift, consider that some 80 percent of consumers nationwide remained with their default long-distance provider after deregulation of the telecommunication sector; companies wishing to pry them away required immense advertising and direct marketing budgets.

Ideological Opposition

Some opposition to TURN's community franchise model reflected perceptions of self-interest; large firms may not care to pay extra for environmentally sustainable electricity resources. Equally important, however, many critics opposed the community franchise because they fear government expansion. Historically, many Californians have resisted the growth of government, and this cultural bias may hinder local governments in their attempts to serve even as loose-franchise aggregators.

In contrast to California's (admittedly uneven) conservatism, some regions of New England enjoy a tradition of spirited town hall meetings, which help legitimize the actions of some local governments by invoking the image of a direct democracy and close citizen oversight of their representatives. Most of the rest of the country falls ideologically somewhere between Cape Cod and California. Whether local governments can become aggregators of green or any other type of power will depend on how much credibility they have in each state and community.

Public Vs. Private Green Aggregators

Skeptics of municipal green aggregation might reasonably ask whether private green aggregators should be allowed. Julie Blunden, California marketing director for Green Mountain Energy Resources, a Vermont-based national retail power provider, argues that green community aggregation represents a plausible choice for customers. However, she puts her faith in private marketers:

> Community aggregation may be attractive to some, not because it offers the

biggest product variety, but because some folks will want to support community power aggregation. However, I strongly believe that what will cause new renewable generation to be built in abundance will be the demand unleashed by well-capitalized, profit-oriented marketing companies who know how to capture the hearts and imaginations of individuals who want to change the way power is produced.[19]

Other private firms object strongly to the prospect of competing with publicly-funded entities.Yet municipal governments have several advantages that could facilitate a green aggregation role. Most important, local governments often secure solid waste management, sewer, water, recycling and other services from private concerns. Thus, they are "natural aggregators" because they may already have the skills and infrastructure in place to solicit bids from private providers and oversee provision of service to obtain the best possible combination of rates and services for citizens. In addition, they already maintain the necessary mailing lists and billing systems for the other infrastructure services they provide. Still, these advantages may not suffice: as one marketing analyst asserts, "Cities don't stand a chance competing against the marketing machines and low-cost structure of private aggregators."[20]

Another issue concerns the comparative ability of municipal authorities and private firms to manage power contracts fairly. Some localities suffer periodic scandals exposing unsavory relationships between civic authorities and the firms whose contracts they oversee. Yet consumers are equally - and perhaps more - vulnerable when they deal individually with providers; most consumers have few options short of expensive lawsuits when they perceive themselves abused by service providers. By contrast, local government is non-profit, subject to anti-discrimination and open-bidding laws, and guided by ethics policies; the democratic process thus often affords Americans protection as aggregated citizens that they do not receive as individual consumers.

A more important point is this: while clean power often costs more than dirtier alternatives, it provides public benefits (e.g., environmental benefits, local economic development) that may be lost in a competitive market, making it appropriate at least to consider a public role in promoting clean power. No individual power purchaser has an obvious incentive to pay extra to protect the environment for their neighbors; industrial and commercial customers in fact have an incentive to buy the cheapest power available as they try to undercut competitors. Restructuring may allow power marketers to restrict clean resources to a costly "green ghetto," supported by those public-minded citizens willing to subsidize their neighbors' behavior - possibly a modestly sized group. Because people often make choices that are, in social terms, more economically efficient as citizens than they do as consumers, municipal green aggregation may offer a better opportunity to preserve the environment than a system in which individuals are expected to volunteer to be environmental heroes.[21]

Environmental Groups as Legitimizers

Local governments might build support among their constituents for renewable energy investments by enlisting the aid of clean energy advocates, either to legitimize or actually manage the project. Yet such partnerships between advocates and local governments bring similar risks to the credibility of both players. Cooperation concerning municipal aggregation compounds these risks for the environmentalists, as it magnifies and draws attention to the public's financial stake in the environmentalists' good judgment. As one advocate points out:

The clean energy advocate or group that aggregates is entering into a very real relationship with the customer's household budget. This is much more important to the customer than just the disposal of discretionary income. And because early joiners to aggregation - the early adopters - derive a great deal of psychic income from being credible leaders in their own circles, the single largest danger is that they will wake up one day and feel misled.[22]

Perhaps sobered by such considerations, only a handful of environmental groups have considered relationships with private green aggregators. Even fewer have explored the possibilities offered by municipal green aggregation. One effort showing early promise involved the Sierra Club, a national conservation group, which approached the Plumas-Sierra Rural Electric Cooperative, a small electricity provider located in northeastern California, with a proposal to establish a green energy co-op. Unhappily, this effort has stalled due to disagreement over how to screen potential suppliers and difficulty obtaining up-front development financing.

Aggregating Municipal Facilities Vs. Aggregating Municipalities

A less controversial version of green aggregation would be local governments aggregating their own electricity accounts - primarily office buildings but also water pumping stations, street lights and the like - but not those of their constituents. One undesirable effect of this, however, might be to diminish the bargaining power of both the citizens and the government. Residents seeking to aggregate on their own would appear less attractive to aggregators without the larger municipal power demand.

Meanwhile, local governments, whose power needs peak during business hours, would lose the load diversity offered by multiple residential and commercial uses. Electricity generators seek a mix of customers that uses a constant quantity of power throughout the day, week and year. By contrast, a customer base composed exclusively of, say, businesses might exhibit very high demand during daylight hours and almost none at night; the provider would have to purchase enough generating equipment to serve the daytime need and let it sit idle at night. Nevertheless, most local government aggregation efforts have focused exclusively on purchasing power solely for the needs of municipal facilities.

Not Aggregation but Re-Aggregation

In a sense, restructuring portends re-aggregation. Local utilities historically have aggregated all customer classes within a geographic area. Restructuring will allow marketers to untangle these groups and re-aggregate them on some other basis.

Small consumers may suffer in this process. Presumably, power marketers will aggressively pursue the most attractive large customers in an area while leaving small fry to fend for themselves, a practice dubbed "cherry picking" during utility rural electrification efforts in the 1930s. To tempt large users with the best deals, marketers will match the "cheapest to serve" customers with the "cheapest to produce" generation; remaining customers will be relegated to a high-cost pool served by the higher-cost generation. The danger to the environment is equally obvious, as it may be confined to the support of a few public-minded citizens.

PART III Local Government Case Studies

Examples of community-based initiatives employing renewable energy resources abound from coast to coast.[23] Where political will exists, local governments have played a significant role in generating political support for purchases of cleaner power. Following are five case studies of innovative programs incorporating community involvement in power purchase decisions.

Lessons from SMUD

What a Municipal Agency Can Do

The Sacramento Municipal Utility District (SMUD), California's second-largest municipal utility, has promoted renewable resources for much of the past decade. Many of SMUD's programs could be duplicated by other municipal governments, even those not already involved in the electricity business.

SMUD's persistent promotion of clean power stems from a 1989 citizen referendum. The referendum directed SMUD to shut down its troubled Rancho Seco nuclear reactor, ending a debilitating financial and public-relations disaster. Since then, the power agency has worked hard to recreate a sense of ownership among its citizen-customers. SMUD sought community help when developing a plan to replace the output of Rancho Seco by mailing ballots on power choices to all rate payers and holding public workshops on supply options. Citizens endorsed a diverse resource strategy, including a 5-megawatt (Mw), utility-owned wind project, as well as photovoltaics, wood-waste and other renewable technologies. At present, SMUD generates roughly half of its electricity from renewable resources, including hydroelectric and geothermal power.[24]

In response to the accelerating pace of restructuring, SMUD again turned to its citizen-customers, hosting a series of public workshops to plan its support of sustainable energy practices in a competitive era.[25] Unfortunately, SMUD opted to cut its overall funding for "public goods" in 1997 to 3.7 percent of annual revenues, although this figure remained 40 percent higher than the level mandated by the state.

More propitious, in June 1997 the utility initiated a direct-access program that incorporated green power options for its customers and customers of other utilities. California's restructuring legislation allows municipal utilities to compete outside their service territories, providing they allow their own customers to select a new provider as well. On July 1, SMUD rolled out a marketing campaign for its "Greenergy" brand.[26] By building its reputation as a green utility, SMUD hopes to increase energy sales outside of its service territory and thereby make up for revenue lost to departing large customers. SMUD's "Greenergy" program demonstrates that a municipal government agency can respond simultaneously to competition and to customer demand for clean power. Its effort to integrate commitments to clean power technologies for all its customers with new voluntary green marketing programs can serve as a model for other municipal governments.

Public/Private Partnerships

Investor-owned Public Service of Colorado (PSCO) launched Windsource, currently the nation's most successful "green pricing" program in terms of enrollment, on March 21, 1997.[27] Over 4,500 customers will receive power from new wind projects to be installed in eastern Colorado. This program represents a public-private hybrid; the initiative only picked up speed when PSCO enlisted the Holy Cross Electric Association (a rural cooperative), non-profit groups and local governments as partners. For example, the City of Denver will spend an extra $20,000 annually to purchase a portion of its supply from wind power. Other local government participants include the City of Boulder, which purchased enough wind energy to power a new municipal building; the town hall of Netherland; the City of Colorado Springs; and the Regional Transit District. PSCO's marketing effort highlights high-profile sales and is facilitated by positive media coverage, such as a recent report on National Public Radio that wind energy will henceforth power the governor's mansion.

Two Colorado environmental organizations played major roles in developing this public-private partnership for aggregating wind power purchases: the Land and Water Fund of the Rockies (LAW Fund) and the Community Office of Resource Efficiency (CORE), a non-profit energy office funded by utilities and government agencies to promote clean energy. According to Eric Blank of the LAW Fund, local involvement encourages a sense of community ownership over the clean power product.

The LAW Fund and CORE assert that municipal utilities enjoy significantly more credibility than for-profit utilities, in part because the public believes that they share community values:

These [municipal] utilities were able to educate and inform customers about the program in a way that empowered them to take personal responsibility for the consequences of their energy choices. The municipals were able to successfully tap a spirit of goodwill, local participation, and volunteerism. They were able to spark dialogue and galvanize interest. They brought to life people's unmet desires to purchase renewable energy.[28]

Investor-owned utilities would doubtless demur, but even the modest track record of green pricing programs demonstrates the appeal of community-based marketing: the three municipal utilities currently pursuing green pricing have added 3.3-Mw of renewable capacity, compared to 1.1 Mw added by the six investor-owned utilities offering green pricing programs.[29]

City Purchasing Policies

Portland, Oregon has accumulated an impressive record of progressive energy policy since beginning to promote energy efficiency in the mid-1970s. In 1993, the city set out to reduce carbon dioxide emissions 20 percent below 1998 levels by the year 2010, for the purpose of lowering the city's impact on global climate.[30] To meet this ambitious target, the Portland Energy Office sought to use its purchasing power to bring new renewable resources on line. Eventually, the Portland city council mandated that 5 percent of its municipal electricity needs be supplied by clean, renewable wind power.[31]

The City of Portland's efforts demonstrate how municipal governments can purchase renewables even while continuing to obtain electric service from the incumbent utility. A five-year agreement with Portland General Electric (PGE) to buy 10 Mw of power from wind facilities was the outcome of discussions about aggregating the largest municipal accounts-primarily water pumping stations and the largest city government office building.

In a unique twist - one that nevertheless suggests a strategy for green municipal aggregation in other locales - Portland will return a portion of the savings from aggregating various government electricity accounts to ratepayers, and use the remainder to fund new renewable energy projects. After purchasing 11 million kilowatt-hours of wind-generated electricity over five years from a 10-Mw facility, Portland residents will still save $850,000. Even more gratifying to supporters of clean energy, who hope above all for the construction of new renewable energy facilities, Portland's decision prompted PGE to offer a new tariff for renewables; in

response the city government opted to purchase another 8 Mw of wind power to power the city's street lights. PGE will generate this energy from a new 25-Mw project to be constructed in the future.

"Loose Franchise" Community Aggregation

Residents of Barnstable County, Massachusetts pay the sixth-highest electricity rates in the country - roughly 14 cents/kWh on average. Pushed by aggregation advocates, who expect to reduce bills by 25%, the county is currently engaged in what may be the nation's first example of large-scale automatic small consumer aggregation.

As of September 1997, 14 of the 15 towns within Barnstable County voted in favor of an aggregation strategy described previously in this paper as a "loose franchise," whereby residences, small business and the few industrial operations located in the Cape Cod area would be aggregated unless they specifically opted out. The aggregated electrical loads of 162,000 customers in 15 towns may be "on the market" as early as July of 1998. To Commonwealth Electric, the incumbent utility, these customers represent approximately 300 Mw-half the company's load- and between $175 and $200 million in annual revenues.

Barnstable County has proposed several terms and conditions for potential suppliers. For example, to secure the cooperation of Commonwealth Electric, the utility will continue to provide metering and billing services during the first phase of aggregation. "Allowing the [Commonwealth Electric] to keep metering and billing functions was a sweetener for them," says analyst Nancy Brockway, who added that such a strategy could be a bargaining chip for local governments.[32]

Barnstable County will contract with a single power supplier per five-year term; that supplier will provide all the electricity needed by the county's consumers. However, county planners expect to satisfy growth in electricity demand with a combination of energy efficiency and development of new renewable resources, funded by a surcharge to be assessed on electricity distribution. Because a number of citizens voiced support for local wind projects, approximately $40,000 has been earmarked to study the feasibility of a wind farm at an undisclosed site in the Cape Cod region.[33]

Community Energy Cooperative

In the Upper Midwest, the Izaak Walton League, an environmental group composed largely of fishers and hunters based in Minneapolis, Minnesota, is promoting the concept of the Community Energy Cooperative (CEC). In the envisioned co-op, municipal utilities and rural electric co-ops - as well as local governments - would aggregate loads in order to develop new regional wind resources. Entities cooperating in the plan include the Iowa Association of Municipal Utilities, the

Minnesota Municipal Utility Association and the Missouri Basin Municipal Power Agency (the last agency comprising 58 municipal utility members from four states). Participants hope to develop a joint planning and financing model for new wind power facilities that could be duplicated throughout the country. The CEC would offer services to reduce member bills through aggressive energy efficiency upgrades. In addition, the CEC would hope to use tax-exempt financing to cut costs associated with renewable energy sources.

Only a few municipal utilities have developed renewable resources in the past; obstacles include a lack of expertise in emerging technologies, access to cheap hydropower, and contractual obligations to purchase all of their power supply incumbent utilities. But proponents of the CEC say the restructuring of the electric utility industry offers new opportunities for joint development projects.

A co-op enhances the competitive position of public power providers by providing a vehicle for expanding the cooperative model well beyond the geographic confines of current municipal and rural co-op systems. The CEC hopes to target residential, small commercial, non-profit, institutional and local government customers. Because the cost premium associated with new wind energy facilities is the smallest among renewable options,[34] wind energy is the most attractive renewable energy option.

The Community Energy Co-op ambitiously hopes to enroll 10-25 percent of eligible electricity customers in targeted states and 33-66 percent of current customers of rural electric co-ops and municipal utilities.[35]

Conclusion A Question of Politics

In a restructured electric system, local governments may be able to craft programs that advance consumer desires for a cleaner power system, while still delivering the financial savings and the greater variety of services and products sought by fans of restructuring. Alternatively, fiscal stress, ideological opposition and daunting challenges in other policy arenas may limit local governments to a minor role in new energy markets. As Nancy Day, the vice president of New Energy Ventures (one of the few power marketers working with local governments) politely phrases the problem, "Local governments are not early adopters."[36]

The challenges facing a local government wishing to mount a green aggregation initiative are mostly political. Before entering the electricity sector, local governments will need to communicate clearly with their citizens and accumulate political support. In particular, they will need at least to consider the following controversial issues:

How costly is green aggregation?
Clean renewable resources often cost more than dirtier alternatives. Municipal

green aggregators will have to develop programs that deliver both economic benefits and a cleaner environment. To do so, they might link investments in cost-effective energy efficiency measures, which can lower customer bills, to investments in renewable energy systems. Municipalities might also divide the savings from electric commodity purchases between direct customer rebates and the purchase of renewable resources. Above all, policy makers must show citizens that the local economy will benefit when their electricity purchases support local companies generating power from local renewable resources, rather than distant power marketers.

Is the expertise available?

The electricity sector is complex and unstable. Local authorities may lack the financial and technical expertise to master the complicated details associated with renewable energy purchasing. Local authorities must demonstrate that their experience in providing diverse services for their constituents - trash pick-up, water, recycling and the like - makes them natural aggregators, competent to master the challenging new electricity market.

Are public green aggregation programs more appropriate than private efforts?

Skeptics of municipal green aggregation argue that private firms can more efficiently
exploit the green market - if it exists - than governmental programs. Policy makers seeking to promote renewable energy will need to convey that environmental protection is a public good, perhaps unlikely to be delivered by a competitive marketplace. They must further convince their constituents that a green aggregation by local governments will enjoy lower transaction costs than private efforts, while delivering higher standards of consumer protection. At the very least, local governments must aggregate their own municipal loads to patronize sellers of clean energy.

Does the local government enjoy credibility and citizen support for expanding its role?

Many Americans react warily to the suggestion that government should acquire a new function. To initiate green aggregation activities, local authorities will need to demonstrate clearly the public benefits of a clean power system and assure their constituents that they are capable of carry out the task efficiently.

Can green aggregation permit customer choice?

For many Americans, individual choice is a prized civic right. While some consumers may be delighted to let local governments assume the complicated task of selecting a power provider and negotiating a contract, others may object sharply to what they perceive as a denial of their right to choose. Policy makers will have to design their aggregation programs either to allow citizens to "opt out" or to convince the community that the sustainability of the electricity system requires and justifies

forced aggregation by local authorities.

Each of these issues concern political will and credibility. Policy makers will have to demonstrate that green aggregation will benefit citizens and that local authorities can deliver an efficient program.

[1] Mr. Asmus is the Director of Pathfinder Communications in Sacramento, Calif., and can be reached at pthfind@ns.net or at (916) 451-4811. He and Ed Smelloff co-authored Reinventing Electric Utilities: Competition, Citizen Action and Clean Power (Washington, DC: Island Press, 1997).
The author thanks Mary Tucker, Paul Jefferiss, Carl Weinberg, Roby Roberts and Adam Serchuk for comments on drafts of this paper. The views expressed are the author's, and do not necessarily reflect the opinions of REPP, its board of directors or the reviewers.

[2] The "sleeping giant" theme dominated a recent conference, "Local Governments and Electric Industry Restructuring" (Crystal City, Va.: June, 1997), sponsored by Barnstable County, Mass., as part of a national project funded by the Urban Consortium Energy Task Force and Public Technology, Inc. Generally, see also Scott Ridley, "Local Government: The Sleeping Giant in Electric Industry Restructuring," The Electricity Journal 10 (November 1997), pp. 13-21.

[3] Definitions of "renewable resources" vary. In California's restructuring law, Assembly Bill 1890, the term encompasses solar; wind; geothermal; solid fuel biomass; tire combustion; some municipal solid waste; gas from anaerobic digestion of biological wastes; and hydropower facilities under 30 megawatts.

[4] For this topic, see John Dunlop, *Wind Clusters: Expanding the Market Appeal of Wind Energy Systems*, Issue Brief No. 4 (College Park, Md.: Renewable Energy Policy Project, November 1996). Order from REPP at (202) 293-2833.

[5] Barbara Farhar, *Energy and the Environment: The Public View*, Issue Brief No. 3 (College Park, Md.: Renewable Energy Policy Project, 1996). Order from REPP at (202) 293-2833. See also Kari Smith, Customer Driven Markets for Renewably Generated Electricity,
(Sacramento, *Calif.: Center for Energy Efficiency and Renewable Technologies*, August 1996), pp. 8-11. Contact CEERT at
(916) 442-7785.

[6] Ed Smeloff and Peter Asmus, *Reinventing Electric Utilities: Competition, Citizen Action and Clean Power* (Washington, DC: Island Press, 1997).

[7] Generally, government franchises grant a right or privilege to do business. Franchise agreements take diverse forms: exclusive or open; fixed or indeterminate terms; negotiable, revocable or renewable with conditions. Local governments not only have the authority to grant a franchise sales agreement for electric service; they also may issue a power purchase contract on behalf of their citizens. In most states, local governments also have some legislative authority; in Texas, local governments still set electric rates.

[8] For example, see the work of Don Bain on the role counties can play in developing ordinances for siting wind turbines. Bain can be reached at the Oregon Office of Energy, 6935 SW 45th Ave., Portland, Ore. 97219-1506; or at donbain@aol.com.

[9] David Nye, *Electrifying America: Social Meanings of a New Technology*, 1880-1940 (Cambridge. Mass.: MIT Press, 1990),
pp. 175-181.

[10] Ibid., p. 175.

[11] Ibid., p. 180; Paul Fry, "In Defense of the Municipal Utility," Public Power (September-October 1995).

[12] Timothy Brennan et al., A Shock to the System: Restructuring America's Electricity Industry (Washington, DC: Resources for the Future, 1996), p. 20.

[13] David Penn, Local Government and Electric Industry Restructuring, (Washington, DC: American Public Power Association, June 1997) p. 5, part A; p. 12, part B. The APPA can be reached at (202) 467-2900.

[14] See, for instance, John Stutz et al., Can We Get There From Here? The Challenge of Restructuring the Electricity Market So That All Can Benefit (Boston, Mass.: Tellus Institute; and Madison, Wis.: Wisconsin Energy Conservation Corp., April 1996). Tellus can be contacted at (617) 665-5400. See also Martin Schweitzer, Municipal Utilities: Establishment and Transformation, ORNL/CON-416 (Oak Ridge, TN: Oak Ridge National Laboratory, June 1995).

[15] AL, AZ, AR, CA, CO, FL, GA, ID, IL, IA, KS, KY, LA, MI, MN, MO, NV, NE, NM, OH, OK, OR, SC, SD, TX, VA, WA, WY.

[16] CT, HI, IN, MD, MA, MT, NJ, NC, ND, RI. See Barnstable Country Commissioners, Community Franchise Study: An Option for Local Governments Facing the Challenge of Electric Industry Restructuring (May 1997). Request copies from Barnstable County at (508) 362-2511, ext. 315.

[17] Scott Ridley, Profiles of Power (Washington, DC: American Public Power Association, 1996), pp. 53-54.

[18] For more information about Palm Springs' aggregation efforts contact Arthur Lyons at (619) 864-9760.

[19] Personal e-mail correspondence with the author (9 September 1997).

[20] Alan Schurr of PG&E Energy Services, private communication with the author (15 September 1997).

[21] See Ryan Wiser and Steve Pickle, Green Marketing, Renewables, and Free Riders: Increasing Customer demand for a Public Good, LBNL-40632 (Berkeley, Calif.: Lawrence Berkeley National Laboratory, September 1997). The authors suggest market mechanisms that can alleviate the free rider problem.

[22] Karl Rábago, Environmental Defense Fund, internet posting (18 July 1997). Used with permission.

[23] Nancy Cole and P.J. Skerrett, Renewables Are Ready: People Creating Renewable Energy Solutions, Union of Concerned Scientists/Real Goods Independent Living (White River Junction, Vt.: Chelsea Green Publishing Co., 1995).

[24] For SMUD generally, see Smeloff and Asmus, Reinventing Electric Utilities.

[25] Asmus, "Electric Resource Planning: A Case Study," California Policy Choices 8 (Sacramento, Calif.: University of Southern
California School of Public Administration, 1992), p. 227.

[26] For more information see SMUD's website at: http://www.SMUD.org/green.

[27] In green pricing programs, a regulated utility invites customers to pay a premium for clean electricity. See Ed Holt, Green Pricing Resource Guide (Gardiner, Maine: Regulatory Assistance Project, February 1997). Contact RAP at (207) 582-1135. For Windsource, see "PSCO Green Pricing Program Gaining Momentum," Wind Energy Weekly 16 (14 April 1997), pp. 2-3; "Romer Commits Colorado to Greater Use of Wind Energy," Wind Energy Weekly 16 (25 August 1997), pp. 1,3.

[28] Land and Water Fund of the Rockies/Community Office for Resource Efficiency, Promoting Renewable Energy in a Market Environment: A Community-Based Approach for Aggregating Green Demand (Boulder, Colo.: May 1997), p. 5. For

information on this report contact lwfenergy@aol.com.

[29] LAW/CORE, Promoting Renewable Energy..., p. 5.

[30] Philip Carver et al., "The Changing World of Climate Change: Oregon Leads the States," The Electricity Journal 10 (May 1997), pp. 53-63.

[31] Mike Lindberg, Susan Anderson and Dave Tooze, The City's Role in a Changing Electric Utility Environment (Portland, Ore.: City of Portland Energy Office, October 1996), p. 28. For more information on the Portland aggregation experience, call Susan Anderson at (503) 823-7222.

[32] Nancy Brockway, attorney and utility analyst, National Consumer Law Center, "Competitive Selection of Franchises: The Barnstable County Example," Local Government and Electric Industry Restructuring conference (Crystal City, Va.: June 1997)

[33] Interview by the author of Matthew Patrick, Executive Director of the Cape & Islands Self-Reliance Corporation (18 September 1997). Mr. Patrick can be reached for further information at (508) 457-7679.

[34] Izaak Walton League of America, *Wind on the Wires: A Model for Municipal Utility Investment in Wind Energy,* (Minneapolis, Minn.: June 1996). For further information, contact Bill Grant at (612) 922-1608

[35] Community Energy Cooperative Development Team, Community Energy Cooperative (Burlington, Vt.: Vermont Energy Investment Corporation, February 1997) p. 6. Contact Executive Director Beth Sachs at (802) 658-6060, ext. 20 for more information.

[36] Nancy Day of New Energy Ventures, personal communication with the author (9 May 1997).