

# NewGen *NEWS*

ISSUE 6, NOVEMBER 2016



## Feature Article: Community Solar - Program Design and Development



Electric utility customers are increasingly taking a more active role in managing their electricity consumption. In recent years, such energy consumption management has led to an increase in customer-sited solar. The proliferation of customer-sited solar can adversely impact the electric utility in terms of inequitable cost recovery, greater uncertainty forecasting load, and an increasingly complex relationship between the utility, its customer, and (oftentimes) third-party solar providers. To manage these impacts, many electric utilities around the country are exploring an innovative program design called Community Solar.

Broadly defined, Community Solar programs offer customers the ability to purchase solar capacity (panels) or energy (output) from a solar facility that is typically sited within the community. Community Solar can benefit the utility and the customer in many ways.

Benefits to the Utility	Benefits to the Customer
Fulfillment of customer demand for a solar product	Potential for lower cost of solar by leveraging economies of scale
Renewed control over program pricing and fixed cost recovery	Access to solar for customers that cannot or may not want to install solar on their premises <sup>(1)</sup>
Retention of a simplified and bilateral utility customer relationship	Potential marketing benefits to commercial / industrial customers
Enhanced visibility into system production and scheduling as it relates to system operation and unit dispatch	Retention of a simple, bilateral utility-customer relationship

(1) E.g. renters, low income, poor credit, suboptimal location/shading, historic buildings, HOAs, etc.

## COMMUNITY SOLAR PROGRAM DESIGN

In its broadest definition, Community Solar programs allow customers to receive financial and other types of benefits from solar in exchange for participation in the program. However, the details of individual Community Solar programs are not all alike. There can be considerable differences in program structure as it relates to ownership models, participation pricing, financial benefits, and program management. In fact, various program design options are advantageous insofar as they allow utilities to design Community Solar programs in a way that optimizes a utility's unique goals and objectives.

However, such flexibility in program design necessitates a measured consideration of

### In This Issue

Community Solar Programs.....	p.1
Energy Insights.....	p.3
Water, Wastewater & Stormwater Insights.....	p.4
Solid Waste & Recycling Insights.....	p.5
Recent Hires.....	p.5
Conferences and Seminars.....	p.6
Announcements.....	p.6

## Feature Article cont.

tradeoffs in decision making, and a clear assessment of how such a program fits into a utility's long-term strategy. Below, we highlight some of these tradeoffs and potential implications for utilities considering a Community Solar program.



### COST RECOVERY, CUSTOMER ECONOMICS, AND PROGRAM PARTICIPATION

Community Solar offers utilities an opportunity to define pricing for solar power in a way that addresses equitable fixed cost recovery from solar customers when compared to other alternatives, such as standard Net Energy Metering (NEM) programs. However, addressing fixed cost recovery in a Community Solar program is often functionally tied to the economic value proposition for potential participants.

Ultimately, a utility will have to balance the degree to which increased cost recovery may erode customer economics against the utility's risk tolerance for program under subscription. Put another way, a utility should consider the impacts of customer economics when evaluating cost recovery and program pricing in the context of estimating program uptake and sizing the program.



### SOLAR COST, SYSTEM OWNERSHIP, AND STRUCTURAL COMPLEXITY

Federal tax benefits are available to solar system owners in the form of the Investment Tax Credit and depreciation benefits. However, in lacking a federal tax liability, public power utilities cannot retain system ownership while claiming tax benefits without employing more complex transactional structures.

To retain ownership while monetizing tax benefits, utilities can enter into transactional structures involving a financial or corporate partner that is able to monetize the tax benefits. This typically results in a structure whereby the utility gains ownership of the system four to eight years after the system becomes operational. In an effort to maintain a simple transactional structure, utilities may instead choose to purchase the output power through a Power Purchase Agreement. Utilities may also structure a program to allow the customers themselves to purchase partial ownership of the system and claim the tax benefits directly. However, such a structure may trigger regulatory oversight from the United States Securities and Exchange Commission (SEC).<sup>(2)</sup>

A Community Solar program requires a utility to determine a transactional structure that is both aligned with its priorities and balances the tradeoffs associated with system ownership, system and program participation costs, and transactional complexity.



### SYSTEM SITING AND PARTNERSHIPS

Siting a Community Solar system can be challenging. Many programs seek to locate the system within the community, which can increase visibility and awareness of the program to aid in program marketing. However, such centralized locations may be expensive or difficult to come by. To address this, a utility may look for locations that leverage potential partnerships within the community, such as schools, municipal buildings, churches, or private companies that may be interested in the program, and may have available space to site the program. Such "anchor" customers can also help market the program to their constituents, and may even be able to contribute financing to monetize federal tax benefits.

Where traditional approaches to siting prove difficult, utilities can look to these types of partnerships as potential win-win opportunities to site a Community Solar system within the community.

Where traditional approaches to siting prove difficult, utilities can look to these types of partnerships as potential win-win opportunities to site a Community Solar system within the community.



### BILLINGS SYSTEMS, PROGRAM MANAGEMENT, AND THIRD PARTY VENDORS

Integrating Community Solar production data into the utility's billing system and onto a customer's bill can be challenging. In designing a Community Solar program, a utility should consider the time and effort such program billing will require, and whether the utility is best positioned to perform this function with internal resources or contract with a third party for billing services.

(2) [http://energy.gov/sites/prod/files/2014/11/f19/securities\\_law\\_issues\\_relating\\_to\\_community\\_solar\\_projects\\_0.pdf](http://energy.gov/sites/prod/files/2014/11/f19/securities_law_issues_relating_to_community_solar_projects_0.pdf)

**Feature Article cont.**

An additional consideration in program administration is the marketing of the Community Solar program, both from the perspective of conducting initial market research and in marketing participation in the program.

Utilizing internal resources or contracting with a third party likely both entail an incremental cost of administrating the program. The choice of whether to contract with an outside service provider will depend on the unique circumstances of the utility, but the utility should consider analyzing and including such incremental administrative costs as part of the program's pricing for participation.

**CONCLUSION**

When considering a community solar program, utilities should carefully balance the tradeoffs associated with various programmatic design options. Many of these tradeoffs can be quantified, while others may require a structured approach to qualitative evaluation. Regardless of the approach, each utility will likely have its own unique circumstances that require a process to aid in designing, implementing, and marketing an effective Community Solar program. A considered approach to program design cannot only aid in developing an effective Community Solar offering to customers, but also help align such a program with the utility's overarching long-term strategic objectives.

**Authors/Point of Contact:**

NewGen Strategies and Solutions, LLC

San Francisco, CA Office: Fred Wellington (fwellington@newgenstrategies.net)

Lakewood, CO Office: Andy Reger (areger@newgenstrategies.net)



**Marijuana and Your Electric Grid**

With recent voter approvals on November 2016 ballot measures, marijuana is now legal in 29 states with recreational marijuana in 8 states, weed may be the cure to utilities' ailing load growth. Based on a Colorado Public Radio story in 2015, Denver, CO, electricity use grew by 1.2% with about half of that amount driven by marijuana grow operations. In an age of little to non-existent load growth for utilities and clean energy goals for communities, the intense energy consumption of grow operations poses either a problem or opportunity depending upon one's perspective. Municipal utilities looking for growth and increased city taxes or transfers, may court or incentivize the wholesale grow operations to their communities. While other communities with clean energy goals, such as Boulder, CO and Arcata, CA implement clean energy charges or high energy use taxes targeting grow operations to fund and incentivize clean energy and efficiency programs.

Due to the intense energy consumption, grow operators and owners are getting wise and looking

to be more efficient and use time-of-use rates to move off-peak and reduce costs. Some utilities are also considering "Marijuana Rate Classes" while others collaborate with the customers to align operations with a commercial TOU rate. Implemented properly, grow operations result in a win-win for electric utilities by aligning their 12-hr growing cycles with TOU rates (see figure), using less expensive off-peak power, and improving the system load factor/operation to everyone's benefit.



**NewGen Presents at Two-Day MESO Cost of Service and Rate Design Conference**

NewGen recently presented a special two-day cost of service and rate design conference for the Municipal Energy Systems of Oklahoma (MESO). The MESO rates conference occurred October 18 and 19 in Oklahoma City, and was well attended by municipal leaders, department heads, city clerks, utility staff, and management, as well as

## Energy Insights cont.

representatives from the state's public wholesale power providers. The conference provided background on the municipal rate study process, including development of revenue requirement, cost allocation, and rate design. NewGen's facilitators provided insights on a variety of rate issues facing municipal utilities across the country and how solutions may apply to the members of MESO. Net metering alternatives, such as creation of community solar programs and how they may be designed to optimize participation, while achieving the objectives of a utility's rate design strategy was a key point of discussion by the participants.

### ENERGY PROJECT HIGHLIGHT

#### City of Farmington, New Mexico

##### Community Solar Program Evaluation and Design

Members of the NewGen team have been working with the City of Farmington, New Mexico through the entire process of initiating evaluation and design of a community solar program. The three phase project has included presenting an overview of community solar to the utility's regulatory bodies, customer outreach, and market research to assess demand and interest in such a program, completion of numerous structured strategic and facilitated discussions to assess tradeoffs in program design against the utility's goals in designing a program, and initial financial modeling of customer participation, pricing, and the bill credit customer's would receive for solar generation. Results of Phase 2 were presented to regulatory bodies, whom approved moving forward to the last phase.

Phase 3 is ongoing, and includes a fully supported process for procurement of solar development, drafting of an RFP to the developer community, evaluation of bids, finalized program pricing, and the drafting of a customer participation agreement. Once this process has been finalized and depending on the results of the procurement, members of the NewGen Project Team will travel to the community to support customer outreach, and final regulatory approval for program initiation.



## WATER, WASTEWATER, AND STORMWATER INSIGHTS

### SWIFT Program Savings Continue

At the end of September, the Texas Water Development Board sold bonds to fund \$698 million in state water projects. Savings to program participants are estimated at \$71 million – savings which are of direct benefit to ratepayers. For information on projects eligible for SWIFT funding, or to request assistance in applying, please contact NewGen's Dallas or Austin offices.

### WRDA 2016 Takes Step Forward

The House and Senate have both passed their respective versions of the 2016 Water Resources Development Act. While both versions have significant differences, it is anticipated that these will be ironed out in conference before the end of the year, providing much needed funding for critical water projects.

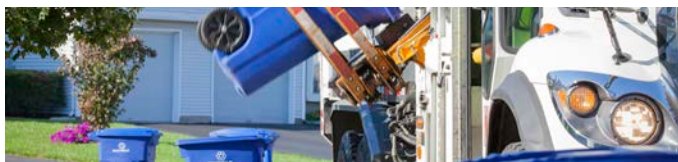
### First Class A Water Utility Case in Texas Settles

Texas Public Utility Commission (PUC) Docket No. 45570, an Application of Monarch Water Utilities for a Water and Sewer Rate Increase, concluded hearings in early September with a settlement in principal between the parties. This case represents the first ever Class A Water and Sewer Rate Application by a utility before the PUC since establishing new rules for water and sewer rate regulation following transition of regulatory authority from the Texas Commission on Environmental Quality.

### WATER, WASTEWATER, AND STORMWATER PROJECT HIGHLIGHT

#### Expert Witness Testimony, PUC Docket No. 45570 Office of Public Utility Counsel

Chris Ekrut, Director of NewGen's Dallas Office, participated as an expert witness in PUC Docket No. 45570, an Application of Monarch Water Utilities for a Water and Sewer Rate Increase. Mr. Ekrut was retained by the Office of Public Utility Counsel to file testimony on behalf of residential consumers served by Monarch. The case represented the first ever Class A water utility rate application filing before the Public Utility Commission, which ultimately settled between the parties in early September.



## SOLID WASTE AND RECYCLING INSIGHTS

### Waste Management CEO Says Recycling Must Change

On August 31st at the Resource Recycling Conference in New Orleans, CEO David Steiner continued to emphasize the need for a change in how municipal contracting for recycling services/processing is priced. As a result, some individuals within the recycling community have questioned what Mr. Steiner's ultimate goal is concerning recycling. Mr. Steiner says his aim is solely to ensure the long-term viability of recycling and to raise the issues associated with low commodity prices and the need to reflect that fact in the pricing of new collection and processing contracts for recyclables. One of his suggestions includes potentially focusing on a more narrow spectrum of materials (cardboard, aluminum, etc.) versus other materials such as film, etc. that represent a very small portion of the recycling stream and are problematic to process cost effectively.

### Recycled Content in Cardboard Boxes is Up

The amount of recycled content in cardboard boxes hit 48.4% in 2015, according to the Corrugated Packaging Alliance (Alliance). The rate has been fairly constant since 2000, but is an increase from 27% in 1990. Also in 2015 the old corrugated containers (OCC) recovery rate hit a new high of 92.9%. The Alliance believes the rise in recycled content is due to advancements in the papermaking process.

### Wal-Mart's Sustainability Efforts to be Driven by Improved Packaging

Wal-Mart hosted a "Sustainable Packaging Summit" at its headquarters in late October 2016 to discuss sustainability initiatives with its suppliers and merchants. Wal-Mart SVP of Sustainability, Laura Phillips, noted that improved packaging is a driving force behind some of the company's aggressive recycling goals. "We've learned from customers that a key element of a product for them is the packaging and that they really can be frustrated by either too much packaging on a product or if they would like to recycle a product and they're not sure what do with it," she said.

## SOLID WASTE AND RECYCLING PROJECT HIGHLIGHT

### Water, Wastewater, and Solid Waste Cost of Service Study and Solid Waste Operations Assessment Green River, Wyoming

In March 2016 NewGen was retained by the City of Green River, Wyoming to conduct a comprehensive water, wastewater, and solid waste cost of service and rate design study. As part of the cost of service study, NewGen conducted a detailed allocation of all equipment and personnel associated with each specific solid waste service provided by the City (garbage collection – 90 and 300 gallon plastic containers; garbage collection – metal dumpster; commercial cardboard collection; etc.). After NewGen completed the allocation of equipment and personnel to the various solid waste services provided by the City, a number of operational issues were identified by NewGen. *(It is not uncommon during the course of conducting a solid waste cost of service study that operational issues are identified, which result in an operational assessment of the services being provided to see if changes to the operations are necessary.)* Discussions between NewGen and City staff concerning these operational issues confirmed that further analysis was needed to look at some of the City's solid waste collection services (commercial cardboard recycling, garbage collection – metal dumpster, on-call bulk trash collection, etc.) and to determine what, if any changes, were needed. As a result, the City retained NewGen in July 2016 to study the City's solid waste utility. The final operational review was issued in late October, and a presentation to the City Council will occur in early November 2016.



## RECENT HIRES

### Fred Wellington, Vice President

San Francisco, CA | [fwellington@newgenstrategies.net](mailto:fwellington@newgenstrategies.net)

NewGen is very pleased to announce that Fred Wellington has joined the firm as a Vice President in our Energy Practice, where he will lead the firm's strategic resource planning practice. Based in California, Fred helps clients navigate the increasingly complex market to identify and address the key strategic resource issues facing their utility. Fred's recent focus includes the evolving

## Recent Hires cont.

opportunities and impacts of distributed energy, community solar, and energy storage.

During the past 17 years, Fred has advised regulators on policy design, investors on solar transactions, and utilities on projects ranging from resource planning, resource procurement, new business models, and regulatory compliance. Fred is an accomplished Project Manager and his projects frequently culminate in presentations to Senior Management, City Councils, or Boards of Directors. Additionally, Fred regularly speaks at conferences across the country and currently serves as adjunct faculty at the University of San Francisco.

Join us in celebrating Fred's arrival and the establishment of NewGen's California presence.



## CONFERENCES AND SEMINARS

### Texas Water Conservation Association, Fall Conference – October 12-14, 2016

Dave Yanke presented on a panel titled "Biosolids: Regulation and Policy." Mr. Yanke presented his findings with regard to a biosolids market assessment completed for the Trinity River Authority this past summer, as well as some general trends with regard to beneficial reuse options for biosolids, and current practices within the State of Texas concerning the reuse of biosolids.



## ANNOUNCEMENTS

### NewGen Is Now an HGACBuy Approved Contractor!

**NewGen is now an approved contractor with the HGACBuy program!** NewGen has been selected through a competitive procurement process by HGACBuy; this contract award allows governmental

entities nationwide to contract our services directly.

### About HGAC and the Cooperative Purchasing Program

The Houston-Galveston Area Council (H-GAC) is the largest of 24 Councils of Government (COG) in Texas, and is a political subdivision of the State of Texas. It has been serving local governments for more than 30 years.

H-GAC's Cooperative Purchasing Program, known as HGACBuy, is a nationwide procurement service that was established pursuant to Texas' "Interlocal Cooperation Act". The "Act" allows local governments and certain non-profits to use contracts appropriately established by another government entity. The H-GAC Board awards all contracts, which can then be made available to local governments nationwide thru HGACBuy. All that's necessary is agreement of the parties, which is legally established thru execution of H-GAC's Interlocal Contract by the End User.

HGACBuy has established Interlocal Contracts with thousands of End Users throughout Texas and across the United States. The Interlocal Contract is the required legal document that establishes a link between the End User and HGACBuy and gives the End User access to HGACBuy contracts. Use of the Program for a particular purchase by any governmental entity is strictly at the discretion of that entity.

### Benefits of HGACBuy

- Access to volume purchasing and discounts.
- Over 200 years of combined purchasing experience.
- H-GAC writes technical specifications that eliminate the need to hire consultants for that purpose.
- H-GAC absorbs the costs associated with publishing legal notices.
- Expedited procurement process so you need not be delayed for months preparing specifications and satisfying all of the other requirements for competitive bids and proposals.

For more information on the HGACBuy program, visit [www.hgacbuy.org](http://www.hgacbuy.org).



Have a question? Contact us at

[info@newgenstrategies.net](mailto:info@newgenstrategies.net) | [www.newgenstrategies.net](http://www.newgenstrategies.net)

Amarillo | Austin | Dallas | Denver | Nashville | San Francisco | Seattle