

*Journal of*

# Utility

m a n a g e m e n t

THE LATEST RESEARCH AND MODELS ON  
OPTIMIZING UTILITY USAGE IN MULTIFAMILY  
VOL. 4, ISSUE 3 • FALL 2014

**MULTI  
FAMILY**

**New multifamily  
score from ENERGY  
STAR raises the bar  
of competition**

Benchmarked buildings  
save 2.4 percent in  
energy annually

75 or higher earns  
ENERGY STAR  
certification

NYC is one of  
35 streamlining  
owners' access to  
whole building data

88

24

56

75

51

35

28

91

## Making good business decisions without boots-on-the-ground knowledge is like laying pipe in the dark.

Whether it's navigating the smart grid, or learning the latest methods for lowering rates, there is power in numbers.

You can't make good business decisions without good data, the kind that comes from industry-wide connection and knowledge. UMA is a network of leading experts, owners, and operators in the multifamily industry. It's a connection that assures that owners and operators can stay nimble within fast-moving utility environments and the multifamily markets they impact.

Stay informed. I personally invite you to register today.

Mark Copeland

[mcopeland@umadvisory.org](mailto:mcopeland@umadvisory.org)

Atlas Residential Operations Manager  
Utility Management Advisory, Board Member

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A national consortium for utility management  
professionals in the apartment industry

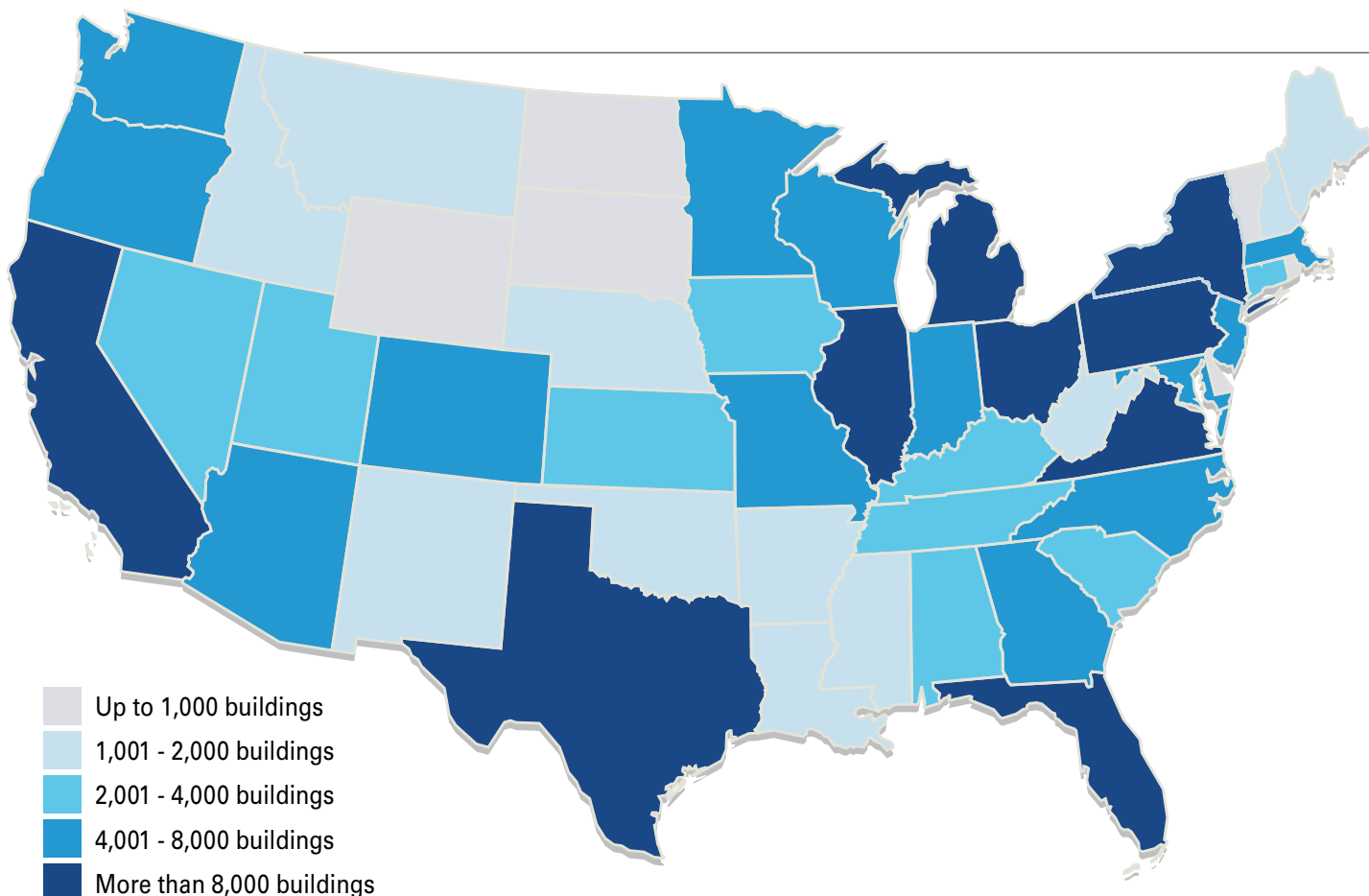
# Regulatory

U P D A T E

## Multifamily energy disclosure requirements

For links to read the actual ordinances, go to [www.nwpsc.com/locallaw](http://www.nwpsc.com/locallaw)

TOWN	LAW / ACTION	BLDG SIZE	DISCLOSE TO	PENALTIES FOR INCOMPLIANCE
<b>Austin</b>	<b>Energy Conservation Audit &amp; Disclosure (ECAD)</b> Unlike many other energy disclosure laws, Austin does not require multifamily owners to report annual building usage data for energy or water. (However, energy audit is required every 10 years and high use properties have mandatory usage reductions.)	All complexes (no minimum size)	Residents and buyers upon request or lease renewal; audit results also must be posted at property	Class C misdemeanor and subject to fine up to \$500. If criminally negligent, a fine of up to \$2,000 may be assessed.
<b>Boston</b>	<b>Building Energy Reporting and Disclosure</b> Owner must report whole building data for energy and water. This includes aggregated resident data which can be obtained from the utility providers. (Also, every 5 years an energy assessment or "energy action" is generally required.)	> 50,000 sq. ft. or 50 units by 5/15/2015 (> 35,000 sq. ft. or 35 units by 5/15/2017)	Government agency (who will disclose on public website) annually	Non-residential tenants: \$35 per violation for not supplying owner with energy data. Residents face no fines. Owners pay \$75-\$200 / day depending on size / use of building up to \$3,000.
<b>Cambridge, Mass.</b>	<b>Building Energy Use Disclosure Ordinance</b> Owner must report whole building data for electricity, natural gas, steam, fuel oil, and water. This includes aggregated resident data which can be obtained from the utility providers.	> 49 units by 5/1/2015	Government agency (who will disclose on public website) annually	City will issue written warning for first violation. Any subsequent violations can be up to \$300 per day.
<b>Chicago</b>	<b>Chicago Energy Use Benchmarking</b> Owner must report whole building data for energy. This includes aggregated resident data which can be obtained from the utility providers. An engineer must examine data every 3 years and certify data to the City.	> 250,000 sq. ft. by 6/1/2015 (> 50,000 sq. ft. by 6/1/16)	Government agency (who will disclose on public website) annually	\$100 to building owner for first violation, \$25 per day after that if not fixed.
<b>DC</b>	<b>Clean and Affordable Energy Act</b> Multifamily owners must report only their usage for energy and water (do not need to collect in-unit residential usage).	> 50,000 sq. ft.	Government agency (who will disclose on public website) annually	DDOE will issue a written warning. If violation is not corrected after 30 days of written notice, DDOE can fine owners up to \$100 per day.
<b>NYC</b>	<b>Local law 84</b> Owner must report whole building data for energy and water. This includes aggregated resident data which can be obtained from the utility providers. Audit required every 10 years on buildings > 50,000 sq. ft.	> 10,000 sq. ft.	Government agency (who will disclose on public website) annually	\$500; continued failure \$500 per quarter with a maximum of \$2,000.
<b>Seattle</b>	<b>Council Bill 116731</b> Owner must report whole building data for energy. This includes aggregated resident data which can be uploaded to a property's ENERGY STAR account by the utility providers.	> 20,000 sq. ft.	Government agency annually; residents and buyers upon request	Quarterly fines \$500-\$1,000 based on building size. Owner and residents first violation: \$150.



ENERGY STAR Portfolio Manager is the industry standard for benchmarking in the U.S. Portfolio Manager is a useful (and free) tool currently used to benchmark energy and water use in 40 percent of U.S. commercial building space. An ENERGY STAR survey showed that buildings that consistently participated in Portfolio Manager used 7 percent less energy over a three-year period ending in 2011.

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## Reliable stewards of our resources and revenue

While a lot of the nation's trends begin in California, I'm hoping the state's drought isn't one of them. After a decade of general scarcity the West is now in its third year of a debilitating drought.

At the beginning of the year Governor Jerry Brown declared a drought emergency and the state's Department of Public Health warned that at least eight communities were in danger of running out of drinking water without state intervention.

California's state water project shut off supply to major urban and agricultural water districts for the first time in history and experts are saying that 2014 could be the Golden State's driest in half a century.

Trends aside, California's drought has already affected the rest of the country adversely. Once a \$44.7 billion agricultural industry, the U.S. and its exports has seen rising produce prices, and supply of its food and other related goods, stunted. Grocery store prices are expected to jump another 2.5 to 3.5 percent this year.

Not only does this affect renters' expendable income, food and personal water use, but water restrictions and rationing are turning landscapes golden brown under the warm Fall sun. Many counties in Los Angeles now prohibit topping off pools, and some have banned new pools altogether.

A number of landlords face unexpected fines on their water use, some upwards of \$25,000. Water conservation in California is no longer an option.

Resident billing combined with benchmarking remain our simplest solutions in initiating the process of conservation. Study after study suggests that being aware of the resources, or in the case of our communities, the utilities dispensed at our apartments, is the first step in changing behavior and collaborating on efficiency with our residents.

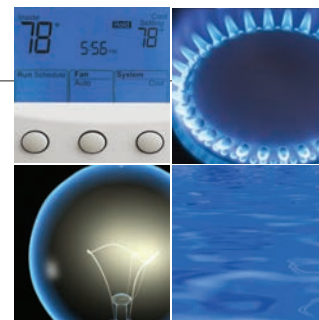
EPA's ENERGY STAR Portfolio Manager, which also includes a water tracker, is a huge, nationally-profound step forward in compelling conservation. It has always been our obligation as good citizens, and it is now becoming key to our ability to run solvent businesses.

Earlier this year at the NWP Energy Summit, we were amongst the first to hear details about the EPA's roll-out of the new 1-to-100 score, part of the agency's ENERGY STAR commercial program. NWP was multifamily's first adopter years ago of the EPA's tool and we look forward to soon seeing the fruits of helping to gather all this energy use data.

We hope you will join us, and other apartment owners and operators, large and small, already onboarding their communities with the EPA and its Portfolio Manager. It's one way to get out in front of managing our consumption, responsibly and with fiscal prudence. And its far gentler on the psyche than rationing and restrictions. ⚙



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## Journal of Utility management

[www.utilitysmartpro.com](http://www.utilitysmartpro.com)

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## Texas

On Sept. 1, 2014, the Texas state Public

Utilities Commission (PUC) assumed the authority for overseeing and enforcing regulations governing water submetering and allocation systems from the Texas Commission on Environmental Quality (TCEQ). As of that date, properties that bill for water usage must now register with the PUC instead of TCEQ. A copy of the PUC rules must be attached to each lease beginning on Sept. 1, 2014. Previously, the TCEQ permitted a summary of the rules to be provided to residents. This is no longer the case under the PUC's authority and a complete copy of the rules should be given to residents at lease signing. See [nwp-news.com/regulatory-watch](http://nwp-news.com/regulatory-watch) for the rules published by the Texas Apartment Assn. Administrative fees for submetering water must be clearly stated in the leasing documents—such fees may not be tied to water allocation systems (RUBS). The new rules of the PUC mirror the regulations put forth by TCEQ (with the exception of providing the complete set of rules to the resident at lease signing instead of an abbreviated summary as noted). The PUC will conduct hearings in the near future to determine if the current regulations should be amended. As an industry leader in utility and conservation management, NWP has been asked to and will participate in the rule making process.

# The right connections

Cities and states continue to bolster benchmarking, while the utilities baton is passed to the PUC in Texas. One thing remains: compliance falls squarely on the shoulders of the landlord.

Some of the latest legislation to affect apartment utilities has come from Massachusetts and Texas.



## Massachusetts

In July the Cambridge Massachusetts City Council enacted the Building Energy Use Disclosure Ordinance.

The ordinance applies to commercial buildings over 25,000 sq. ft. and multifamily residential buildings with 50 units or more.

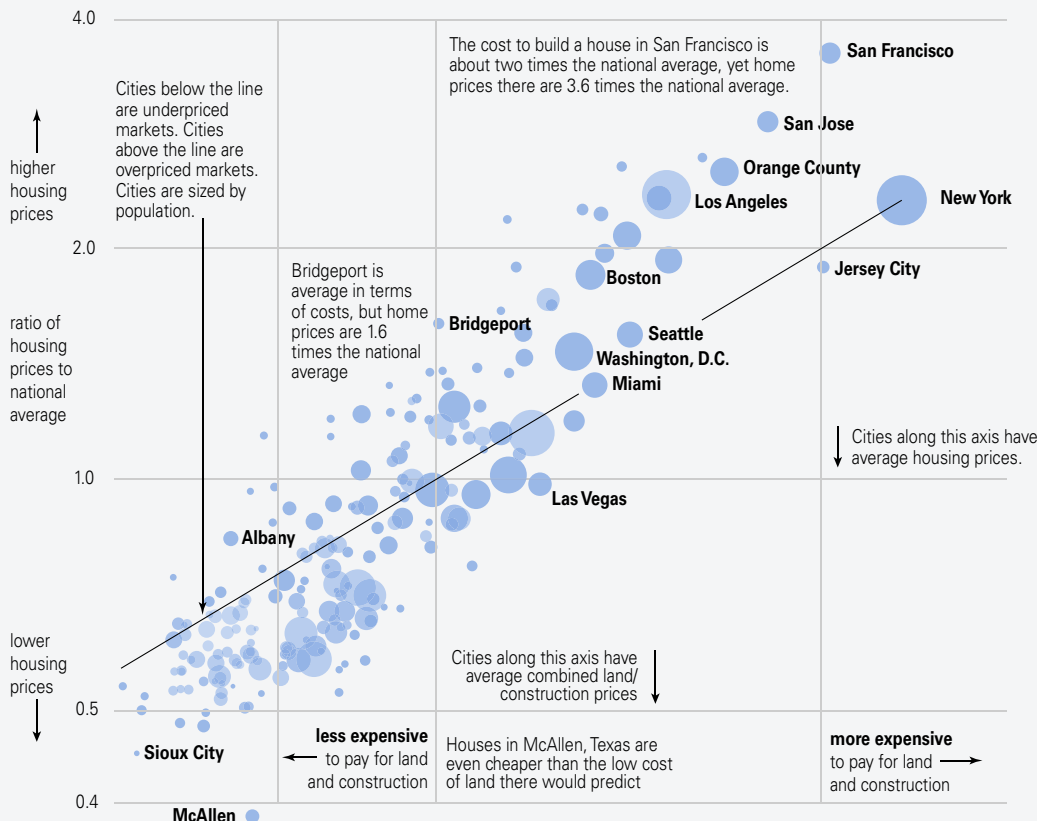
Owners must track water and energy use (electric, natural gas, steam, and fuel oil)

and report it to the Cambridge Community Development Department via the ENERGY STAR Portfolio Manager tool. Reports for 2014 must be logged by May 1, 2015, and annually thereafter.

Cambridge will publish the ordinance's results online and analyze the data to determine trends. The city will gauge its success by the improvement of those buildings' energy performance falling under the ordinance, and formally revisit the ruling by December 31, 2018. Hoping to see a trend toward conservation, the results will determine if and how Cambridge will modify the ruling at that time.



**Michael Foote** is senior regulatory and corporate counsel at NWP where he's been on the legal team since 2008. Prior to NWP Foote was general counsel for ista North America, Inc. He has 14 years experience with utility billing law and is regarded an industry expert. He lives near San Diego, California.



## The shadow cost of regulations

Economists David Albouy and Gabriel Ehrlich used data on land sales and construction costs to predict the cost of apartment homes. Their data suggests that where homes are more expensive than predicted, cities impose extra costs in the form of regulation.

The cost of an apartment can not just include the cost of land plus the value of a building, but the shadow price of the local regulatory environment. In highly regulated cities such as San Francisco and New York, regulations impede the supply of new inventory, raising the price of new housing, as well as the cost of operations.

Source: David Albouy And Gabriel Ehrlich, "Metropolitan Land Value and Housing Productivity," Nber Working Paper 18110.



## California drought means business

I know the last thing you want to read is another article, entry, see a meme, on water conservation and drought.

However, sharing is caring. If you manage property in California, it is important to share what resources are available to you during a scarcity. Although there isn't much water, there is a plethora of resources available to better manage your costs, consumption and keep you from being penalized. What do you really know about what you don't know about water in California?

Since August 1 the water police have been active in California. They are our conservation dementors coming to suck out your wasted water propensities. Yup, the California drought has become so significant that mandatory water restrictions are now in effect. (Remember my last article on Drought "Everything Old is New Again?" Did you think I was crying wolf?) If there is a violation, you will be fined. These fines will be targeting wasteful outdoor water use and cost up to \$500 per day of offense.

These are things we can be fined for:

### 1. Irrigation water on hardscapes

If you have significant water run-off onto roads or walkways, or broken sprinkler heads, you may be fined. This is the most targeted offense in the multifamily sector simply because not only the water police are watching you. Good Samaritans who see you watering inappropriately, have the ability to call the water company and report you. When they call your local water provider's automated system the first option is "If you would like to

report a water offense, press 1." Cities are actually hiring for "water conservation officers" to manage the good people who are calling in to report offenses and levy fines.

### 2. Power washing hardscapes

Unless you need to pressure wash for health and safety reasons (urine, feces, blood, etc.), you will be fined for power washing with potable water. Hardscapes are not just defined as walkways and parking lots, but as buildings, windows, gutters, etc.

### 3. Fountains

If your community has a fountain that does not have a recirculation pump, and you run that fountain, you'll be fined.

### 4. Car washing stations

Unless your hoses have an affixed nozzle on the end, operating this car wash stations can result in a fine of up to \$500 per offense.

These mandatory restrictions are expected to be in place for the next 9 months (until April 2014). Don't think you can delay your project until January (California's rainiest month) and not be fined. Show self-control and wait until the mandatory restrictions are lifted. It is important to note that if we do not get substantial rain to end this drought, it is very possible the restrictions will be extended or made permanent.

In my experience the water agencies will provide you a warning for a first offense, but

According to the California Department of Water Resources, Lake Shasta and Lake Oroville are only 36 percent of capacity. Folsom Lake (L) is just 17 percent capacity.

don't consider your window washing project that is scheduled to take three days to fall under "one offense" if you are warned the first day. Proceed at your own risk.

### More on irrigation

The irrigation slogan in the Bay Area is "Brown is the new Green." The recommendation from the water districts is to significantly reduce the amount of water we give our grass and plants.

Additionally, most water districts and/or local agencies have punishable offenses related to irrigation. It is now common for water districts and cities to restrict the times and days that you can water your landscape and for how long. There are significant fines. Some agencies have instituted a water budgeting tool based on Google map images of your site. If you exceed the agencies water budget for your site you can be fined.

Yes, California is in a drought, so sticking your head in the sand can be very costly. Don't do it. Get involved and don't wait for the next person to manage this process.

### Carrots in addition to sticks

Being informed has its advantages. Not only can you, hopefully, sidestep penalties and fees, but many of the water districts offer rebates around landscaping and water related fixtures at your sites. Some districts are even giving away free (my favorite f-word) low-flow showerheads and aerators. Yes, you may get push-back from your residents who may (incorrectly) assume that low-flow means low pressure. We will have much, much lower water pressure if we have no water at all. So the more you know, the more you will save, not just on water costs and fines, but on the equipment you may need to control the uncontrollable.

### Better know your water district

In spirit of Stephen Colbert's segment "Better know your district," I am applying this methodology to our water districts here in California. I am pleased and honored to present to you, your California Water Districts and agencies:

**Water districts**—This is important because the drought has effected each water district differently: [waterboards.ca.gov/publications\\_forms/publications/factsheets/docs/region\\_brds.pdf](http://waterboards.ca.gov/publications_forms/publications/factsheets/docs/region_brds.pdf)

**Water agencies**—This is a good place to check for water restrictions related to your properties: [acwa.com/content/locate-your-california-water-agency](http://acwa.com/content/locate-your-california-water-agency) ⚙



**Mary Nitschke** is passionate about utilities and should, perhaps, switch to decaf. She is the first president of the Utility Management Advisory Board, holds an Energy Resource Management Certificate from UC Davis, two BAs from UC Berkeley and is director of ancillary services for Prometheus Real Estate Group, Inc. Nitschke has the first law of thermodynamics posted by her office door, and a 1970 Lincoln Mark III with over 400 bhp, in her driveway in Northern California.

A snapshot of the U.S. in 2030

# IF ENERGY PRODUCTIVITY DOUBLES

Led by Senator Mark Warner (D-Va.) and National Grid U.S. President Tom King, the Alliance Commission on National Energy Efficiency Policy was created in 2012 to identify solutions for increasing U.S. energy productivity and aid in jumpstarting the economy. When energy productivity is improved, we are able to produce more goods and services using less energy—and that can save money, increase jobs, and cut down on wasted energy. In economic terms, it means getting more GDP out of every unit of energy consumed. Based on findings from the commission's initial research reports, the commissioners established an ambitious goal of doubling U.S. energy productivity by 2030.

America could save

# \$327 BILLION

IN 2030

## \$97 BILLION in Buildings



## \$139 BILLION in Transportation



## \$94 BILLION in Industry



TO HOUSEHOLDS THIS MEANS



Cuts household energy spending by \$241 billion



### \$1,039 / year per household

## Energy Savings

could pay off all existing American household credit card debt



TO GOVERNMENT THIS MEANS



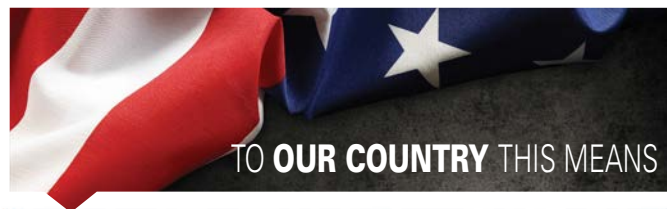
The government is saving taxpayers

### \$13 BILLION

\$13 Billion is equivalent to the budgets of the Coast Guard + National Park Service combined



TO OUR COUNTRY THIS MEANS



## A CLEANER ENVIRONMENT

Decrease U.S. CO<sub>2</sub> emissions to 4 billion metric tons – 33% less than 2005



## GREATER SECURITY

Reduce energy imports by over \$100 billion



## STRONGER ECONOMY

The U.S. could add 1.3 million jobs and boost GDP by up to 2%



# Competing for conservation

Benchmarking the energy used by our nation's apartments has far reaching importance and the EPA's new ENERGY STAR® 1-100 score for multifamily scheduled to launch September 16 may be a pivotal shift in gathering and analyzing this valuable data.

Many believe that energy efficiency will be where renters are won and lost in battle to remain competitive in the future. With rising energy prices across the board, as well as the changing landscape of energy supply, conservation is the most predictable means of navigating this wild new terrain.

ENERGY STAR's name recognition among consumers may lend more credence to their benchmarking program with renters. Even if renters do not consciously seek out this information when they are looking for an apartment, landlords that have buildings with higher scores and ENERGY STAR certifications will actively market these features to prospects as a competitive advantage. This in turn may translate into higher rents, which combined with lower operating costs, will have a significant impact on property market values.

One direct line of sight to the fiscal value of benchmarking is the way lenders view the energy efficiency of apartment buildings. Commercial appraisals that include green technology and utility cost containment are a growing trend as lenders discern the value of efficiency within their portfolio, as well as the relief of operational risk that elevated performance brings. On the other side of the coin, costs associated with green construction have come down, and local initiatives such as New York City's local laws 84 (energy benchmarking), 85 (conservation), 87 (energy audits) and 88 (lighting upgrades and submetering) have ushered in new awareness in major markets.

Since these laws have launched into effect, Mayor De Blasio has expanded his "carbon challenge" program by incentiviz-

ing multifamily owners to cut their energy use. Currently there are 38 million sq. ft. of building space enrolled in the challenge, says Daniel Zarilli, head of the city's new Office of Recovery and Resiliency and acting director of the Office of Long Term Planning and Sustainability.

Following New York City's lead, the District of Columbia was the first to require private buildings to measure their energy performance. Through analysis of its data, D.C. buildings scored an average of 77 out of 100 on the ENERGY STAR scale placing it well above the mean of 50. With 83 percent of the city's buildings participating, data show that the age of structures had no discernible impact on their energy performance. However, there was a huge span of scale: The least efficient buildings used over 235 percent the energy of the most efficient.

On a national level, multifamily operators are just beginning to realize the revenue benefits of energy and utility efficiency. This makes EPA's initiative well positioned to bring this big data back to apartment developers and operators.

Georgetown University has thrown its hat in the ring hoping to accelerate the sustainability of cities and their urban core apartments with its first-time Energy Prize of \$5 million to the city that saves more than \$1 billion in energy costs. Thus far the event has generated 52 quarterfinalist cities that will rally through more qualifying rounds before the winner is announced in 2017.

The city of Takoma Park, Md., one of the semifinalists, is pushing hard to educate its apartment residents to adjust their thermostats and unplug appliances when not in use,

as well as collaborating with electric and natural gas utilities, and other community organizations in quelling energy consumption in its town.

Still, benchmarking remains the catalyst in gauging the success or failure of these contests and initiatives and the EPA Portfolio Manager remains at the forefront of potential in benchmarking progress.

For its part, the EPA has recently added new details for multifamily properties to its Portfolio Manager. Owners and operators can now enter all the needed information for an accurate energy score on their existing multifamily properties and its results will go live September 16.

Those properties with a score of 75 or higher may be ENERGY STAR certified signifying that they're among America's top energy performers. The EPA is expected to recognize the first in ENERGY STAR certified multifamily properties with a national press release in November. The EPA requires the following for an accurate score:

- 12 months of complete energy data for all fuels and meters on the property (including all common areas as well as resident units)
- Gross floor area for all buildings on the property
- Total number of units: specify number of low-rise units (1-4 stories), mid-rise (5-9 stories) and high-rise (10+ stories)
- Total number of bedrooms

To qualify for EPA's ENERGY STAR properties must have 20 units or more. Smaller communities may participate but will use different standards more appropriate to their size.

## Multifamily properties, missing data

What if I don't have all that data? You may still participate if you have complete energy data and gross floor area. Owners and operators can derive an estimated ENERGY STAR score by entering just those values. Portfolio Manager assigns default values for the other details.

Properties without whole building data can still benchmark property performance using just the data available. Still, the results will be limited. Without whole-property energy data the property isn't eligible for ENERGY STAR certification.

Benchmarking is the path to competitive apartments. As we move toward the future, technology tools like Portfolio Manager will level the playing field, equipping more players to make better decisions. ⚙



**Tom Spangler** is one of the elder statesmen in resident utility billing, meaning he has spent entirely too much time trying to explain what he does to people outside the multifamily industry. Spangler is currently serving as energy manager for Greystar. Prior to that, he managed ancillary income and utility expense programs for UDR for over a decade. Spangler is a lifelong Virginia gentleman and has an engineering degree from Virginia Tech and an MBA from the Darden School at UVA. Tom lives in Richmond, Virginia.

# Budgeting for utilities

"Budget season is almost here. I'm so excited!" says Mary Nitschke, director of ancillary services for Prometheus and president of the Utility Management Advisory. Not many share her enthusiasm. Budgeting for utilities is more complex than most budget exercises because of the large number of moving parts.

Three of the largest variables are rate changes, usage changes due to weather, and usage changes due to operating and asset conditions. Utility budgets can be built by adjusting your prior year numbers using the forecasted rate changes (assuming a flat consumption) or by using the forecasted rate changes plus any additional consumption change. The latter is obviously more time consuming.

If you think "it's a budget, not a Bible,"

then check out **fig. 1** for average national rate changes.

If you like to get in the weeds then roll up your sleeves and check your local utility's website or give them a call for more detailed information into rate changes by utility provider. Often rate increases must be approved by a public utility commission and published in advance, although not always with much notice. Even then, you could invest a lot of effort and still end up surprised

by rate increases next spring or summer.

As for determining the impact of operating and asset changes, you'll need to research that on a property-by-property basis to determine things like occupancy rates, policy changes, and capital improvement projects that are expected to impact usage. You should note any anomalies that may have occurred in the prior year.

## Budgeting for rate increases

**Fig. 1** includes the average U.S. price increases for the different types of utilities. Some like to use the first row because it is a likely the worst case scenario, showing the highest annual increase in the last 5 years (2009-2013). In the case of water and sewer for example, while the average annual increase over the last 5 years was 6.3 percent, the highest increase over the same period was 7.4 percent. In addition to the more conservative worst case approach, there are optional 5- and 3-year increases shown which could be used instead.

Note that the natural gas changes are not a typo—it truly has experienced a **decrease** on average over the last 3 and 5 years. However, that is not expected to continue due to a number of macroeconomic factors. Also note, **fig. 1** shows historical performance. As they say on Wall Street, past performance is not necessarily indicative of future results. That said, in the case of water, sewer and trash, this is probably a good gauge for setting future expectations.

Since energy (electricity and natural gas) tend to be more volatile, most property and asset managers ignore historical averages and instead use the U.S. Energy Information Administration (EIA's) forecasts for retail price increases for 2015. Currently, those numbers (**fig. 2, 3, 4**) are:

- Electricity 1.8 percent increase
- Natural gas 2.6 percent increase

## Natural gas price outlook

The EIA expects spot prices to remain below \$4/MMBtu through October, before rising with winter heating demand. Projected Henry Hub natural gas prices average \$4.46/MMBtu in 2014 and \$4.00/MMBtu in 2015. Natural gas futures prices for November 2014 delivery (for the five-day period ending August 7) averaged \$3.96/MMBtu. Current options and futures prices imply that market participants place the lower and upper bounds for the 95 percent confidence interval for November 2014 contracts at \$3.03/MMBtu and \$5.16/MMBtu, respectively.

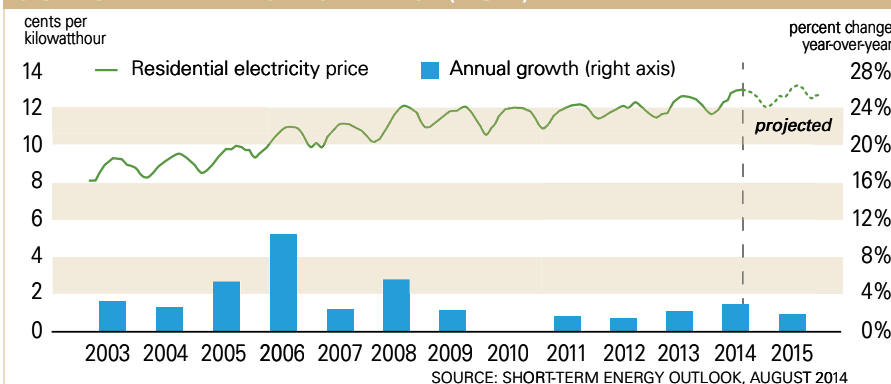
At this time last year, the natural gas futures contracted for November 2013 aver-

CONSUMER PRICE INDEX: ALL URBAN CONSUMERS (FIG. 1)

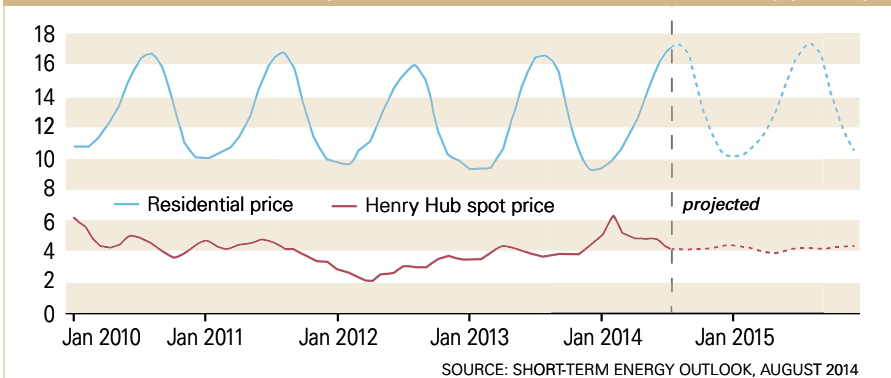
year	water/sewer	trash	electricity	gas
<b>5 year max</b> 2009-2013	7.4	3.2	3.0	4.7
<b>5 year average</b> 2009-2013	6.3	2.7	1.4	(6.3)
<b>3 year average</b> 2011-2013	5.7	2.7	1.3	(2.6)

SOURCE: CONSUMER PRICE INDEX (U.S. BUREAU OF LABOR STATISTICS) WWW.BLS.GOV

U.S. RESIDENTIAL ELECTRICITY PRICE (FIG. 2)



U.S. NATURAL GAS PRICES (DOLLARS PER THOUSAND CUBIC FEET) (FIG. 3)



aged \$3.58/MMBtu and the corresponding lower and upper limits of the 95 percent confidence interval were \$2.68/MMBtu and \$4.79/MMBtu.”

### Electricity price outlook

The EIA expects the U.S. residential electricity price to average 12.5 cents per kilowatt hour during 2014, an increase of 2.8 percent from last year. Electricity prices increase throughout the country except for the Pacific states, where prices in 2014 are expected to average 2.7 percent lower than last year. Residential customers in New England experience the highest average price increase (8.5 percent).

The EIA is expected to release updated numbers about once a month. These numbers were released on August 12, 2014. If you can wait to finalize your budget until the next update, it might make sense to use their current numbers as a placeholder and refresh your budget when the new numbers are published on or around September 9 and October 7. Their reports are available online at [www.eia.gov/forecasts/steo/](http://www.eia.gov/forecasts/steo/).

### Weather considerations

While it is difficult to predict the exact impact that any change in weather will have on usage, temperature and general weather conditions should be considered during your budgeting process. The National Oceanic and Atmospheric Admin. ([noaa.gov](http://noaa.gov)) publishes average temperature information that can be used as a reference when reviewing weather conditions. As an example, **fig. 5** shows last winter's average temperatures compared to normal (30-year average). Generally the peak winter weather months are December, January, and February while the summer months are June, July, and August. On the weather map, blue indicates cold, and red indicates not cold or unseasonably warm. If using last year's actuals for your baseline, you may choose to make adjustments to accommodate for any significant weather anomalies from the prior year. ☀

Terms used: **MMBtu** million British thermal units, a standard unit of measure for energy, roughly equivalent to dekatherms or 1,000 cubic foot.

**Henry Hub** pipeline connection point in Louisiana, used as a proxy for natural gas pricing in the USA although local prices will vary somewhat from this reference point.

**EIA** Energy Information Administration, a division of the US Department of Energy.

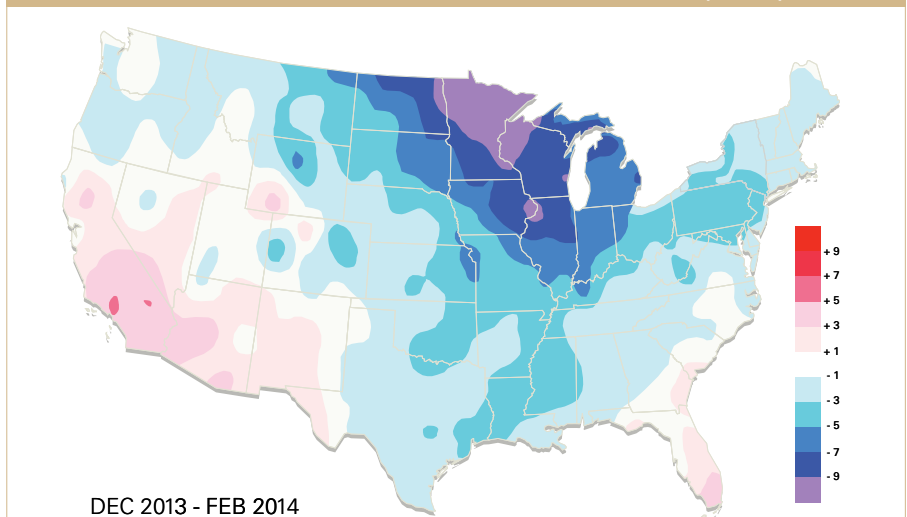
*This document is for informational purposes only. All the information provided is "as is" and is not intended for trading purposes or advice. To learn more about NWP's rate management or energy procurement services, please contact Kent McDonald at [kmcDonald@nwpsc.com](mailto:kmcDonald@nwpsc.com).*

PRICES (FIG. 4)

	2012	2013	2014	2015
<b>WTI Crude Oil<sup>a</sup></b> (dollars per barrel)	94.12	97.91	100.45	96.08
<b>Brent Crude Oil</b> (dollars per barrel)	111.65	108.64	108.11	105.00
<b>Gasoline<sup>b</sup></b> (dollars per gallon)	3.63	3.51	3.50	3.46
<b>Diesel<sup>c</sup></b> (dollars per gallon)	3.97	3.92	3.89	3.87
<b>Heating Oil</b> (dollars per gallon)	3.79	3.78	3.83	3.74
<b>Natural Gas<sup>d</sup></b> (dollars per thousand cubic ft.)	10.69	10.31	11.06	11.35
<b>Electricity<sup>d</sup></b> (cents per kilowatthour)	11.88	12.12	12.46	12.69
<b>Coal<sup>e</sup></b> (dollars per million btu)	2.38	2.35	2.38	2.39

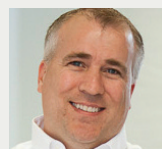
<sup>a</sup> West Texas Intermediate <sup>b</sup> Avg regular pump price <sup>c</sup> On-highway retail <sup>d</sup> U.S. residential avg <sup>e</sup> Electric power generation fuel cost

DEPARTURE OF AVERAGE TEMPERATURE FROM NORMAL °F (FIG. 5)



ever girls rugby team.

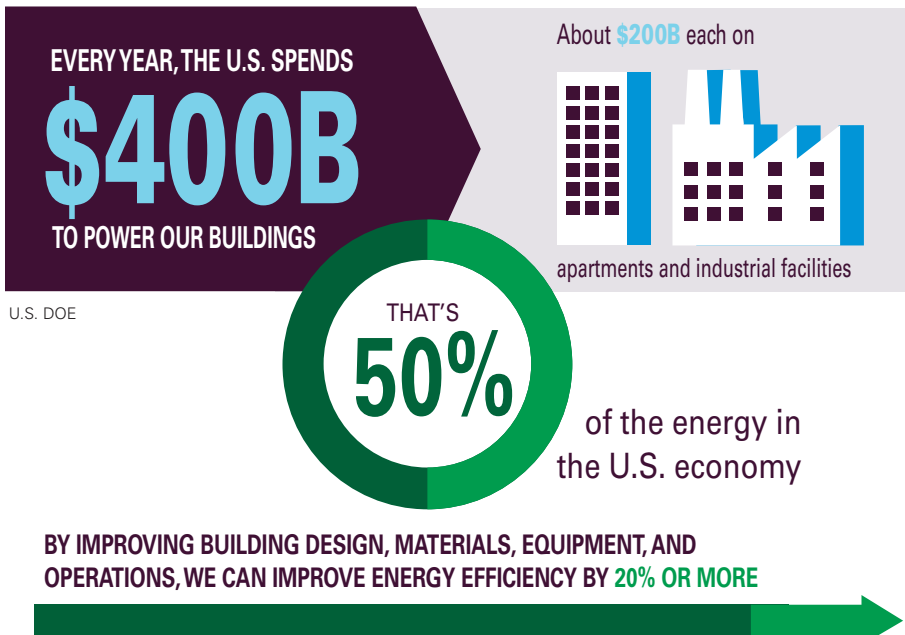
**Shveta Oak** is a product manager for NWP's UtilitySmart solution for utility bill processing, expense management and reporting. Prior to NWP, Shveta managed the resident billing program at Equity Residential, the largest publicly traded U.S. apartment owner. She has a degree in accounting and a minor in sports medicine. Shveta lives near Ann Arbor, Mich. Don't let her small size fool you: at her high school (in Kenya) she was on the first



importance of utility management. Tim lives near Austin, Texas, and knows the difference between "use" and "utilize" but won't lord it over you.

**Tim Rogers** is vice president with SmartSource by NWP. He has been involved in real estate operations for over 20 years including asset management, finance, accounting, risk management, utility management, internal audit and telecommunication initiatives. He holds a degree in Accounting from the University of Denver and is a CPA. When Tim's not busy helping customers with their back office operations, he is preaching about the

## HOW MUCH THE U.S. WASTES



## New multifamily score from ENERGY STAR raises the bar of competition

On Sept. 16, 2014, the ENERGY STAR program will officially launch its much-anticipated score for multifamily buildings.

The new 1-to-100 score is part of the U.S. Environmental Protection Agency (EPA's) ENERGY STAR commercial program.

"What we're really looking to do," said Michael Zatz, chief of the market sectors group for EPA, "is to get people excited and interested so they are prepared for the launch of the score which will come in the early fall of 2014. I'm delighted to give those in multifamily a preview. We are relying on

them to become engaged, get the word out, and be ready to use that score when it becomes available."

ENERGY STAR has certified billions of square feet of space across thousands of commercial buildings as being among the most energy efficient in the country.

### Benchmarking: How do you stack up?

The cornerstone of the ENERGY STAR

program is benchmarking. Buildings that consistently benchmark energy use have saved an average of 2.4 percent per year, said Zatz.

If all commercial buildings in the U.S. followed a similar trend, over 18 million metric tons of carbon dioxide equivalents could be saved each year.

Many multifamily owners and operators are new to benchmarking the energy performance of their buildings. Thankfully, EPA provides a user-friendly tool.

### Portfolio manager: your data tool

Launched in 2000, ENERGY STAR Portfolio Manager (ESPM) is a free online software tool that helps multifamily owners and managers track the energy and water performance of their properties, as well as track changes in energy and water use, costs, and greenhouse gas emissions. As of December, 2013, more than 19,000 multifamily properties have been benchmarked in Portfolio Manager said Zatz.

The ENERGY STAR 1-100 score, accessed within Portfolio Manager, will provide an easy assessment of the energy performance of a property relative to that of its peers from across the U.S. It takes into account differences in physical and operating characteristics, as well as weather, to provide this national comparison. The release of the score will also allow existing multifamily properties scoring 75 or higher (placing them in the top 25 percent of multifamily properties in the country) to earn ENERGY STAR certification.

The ENERGY STAR score evaluates a property based on its actual billed energy use for the entire property. It is calculated by comparing a property's predicted energy use (estimate based on the physical and operating characteristics of the property) to its actual energy use.

It doesn't sum the energy used by individual pieces of equipment, evaluate buildings relative to others in the Portfolio Manager, or adjust based on technology choice or market conditions (such as energy price). Furthermore, it is meant to explain how a property performs, not explain why it performs that way. For information on why a property performs in a certain way, EPA suggests an energy audit.

EPA hopes to encourage multifamily businesses to develop a strategic approach to energy management, while conveying information about energy performance in one simple metric that can be understood by all in the organization, as well as residents. Such data will also be valuable in future infrastructure planning and assessments.



**Chris Dorando** is the product manager for NWP's UtilitySmart solution for utility bill processing, expense management and reporting. Prior to NWP, he held various marketing, business development and product management roles in technology companies and utilities, managing energy efficiency programs. Chris enjoys running, gardening, and outdoor activities. He graduated from the University of Michigan with an MBA. Chris has lived in various locations in the United States, but will soon be moving back to Ann Arbor, Michigan.



**Kent McDonald** Kent is the self-appointed green guy at NWP. He serves in a sales support role, helping property owners and operators get a handle on utility costs, energy management, and sustainability. Previously Kent worked at Aimco Apartment Homes for 14 years where he served on the Utility Management Advisory board of directors and the internal Corporate Social Responsibility team. He earned his bachelor's from the University of Kansas and his master's from Denver Seminary. Passionate about nature, Kent is a member of the Sierra Club and registered sustainability merit badge counselor for Boy Scouts. Kent lives in Southern California where he enjoys medium-distance running in a spiderman suit.

### Getting the data into the tool

Before a company can use Portfolio Manager, the data needs to be loaded into the online dashboard. There are three options for loading data into ENERGY STAR Portfolio Manager:

1) Manual data entry which involves first collecting a stack of historical utility bills. There is a familiar wizard interface to walk property managers through adding property and meter data. 2) If you're already using Excel to track data or you have a lot of buildings, you may want to import your data straight from Excel. For large portfolios, this feature helps cut the time that would otherwise be required to add each building manually. 3) Many leading energy service companies exchange data directly with Portfolio Manager. Your utility may also be able to automatically exchange data with Portfolio Manager, in which case they can help keep your energy information up-to-date every month.

Several organizations electronically exchange data with ENERGY STAR Portfolio Manager via web services. The first of the multifamily utility billing providers to adopt and provide an automated direct interface with the tool was NWP.

NWP is based in Costa Mesa, Calif., and has been part of the program for about three years. Other multifamily utility billing companies currently listed on the ENERGY STAR Service and Product Providers website include Logan, Utah-based Conserve. Through this type of data exchange, multifamily companies gain streamlined access to ENERGY STAR benchmarking, simplifying continuous energy management across a portfolio of properties.

"NWP has been an active partner in promoting the work EPA is doing in multifamily," concluded Zatz. "We look forward to working with NWP and with NWP's customers as we launch the ENERGY STAR score and work to get our first ENERGY STAR-certified multifamily buildings through the ENERGY STAR commercial buildings program."

### Do you have whole building data?

Earning an ENERGY STAR score requires benchmarking the whole property, but owners and operators wishing to do so frequently lack the energy data for the whole property since residents often pay some or all of their own utility bills. Thus, they have little or no access to building energy performance information that can help shape real estate decisions. This lack of information hampers the ability of legislators, utilities and lenders to influence the development of policies,

incentives, and financial vehicles to advance energy efficiency.

The shortage of information on building energy performance has prevented property markets from valuing energy efficiency and undermined both public and private efforts to increase the energy efficiency of multifamily housing.

In some cases, where available, the utility will provide property owners with an aggregate number for entire buildings that includes all of the common area and resident units. In others, the property is master-metered and so the operator already has the data.


However, in many cases in multifamily, none of these situations exist and the owner/operator can't get the whole property data. This is the single biggest barrier to benchmarking in multifamily, and is one that many people are working hard to overcome. One such initiative was launched by the federal government last winter.

### Hope for whole building data

In December 2013, the U.S. Departments of Energy and Housing and Urban Development expanded the President's Better Buildings Challenge to multifamily housing and launched the Better Buildings Accelerators to support state and local government-led efforts to cut energy waste and eliminate market and technical barriers to greater building efficiency.

Of the three Accelerators, the one perhaps most helpful to multifamily will be the Better Buildings Energy Data Accelerator. More than 30 cities and utilities (left) will streamline building owners' access to whole-building energy use data. Secure, reliable and user-friendly energy data will help building owners accurately benchmark energy consumption and identify the best ways to achieve greater energy and cost savings.

Throughout 2014 and 2015, Better Buildings partners are convening local stakeholders to overcome key technical barriers, upgrading energy data systems, and designing and piloting systems in their areas. In these efforts, partners have committed to put systems in place to provide whole building data to at least 20 percent of commercial and/or multifamily building owners by the end of 2015.

Since the announcement in December, several updates have been reported including a full-day meeting in Washington, D.C. on May 9 to report on stakeholder engagement and discuss remaining tasks and challenges. Hopefully more and more utilities will get on board as the initial group of participants solves challenges and blazes the trail of best practices. 

## BETTER BUILDING PARTNERS PARTICIPATING IN Better Buildings Energy Data Accelerator

### Utilities

Atlanta Gas Light Company  
Austin Energy  
NSTAR/Northeast Utilities  
Commonwealth Edison  
AEP Ohio  
Pepco Holdings, Inc.  
Reliant (an NRG Company)  
Kansas City Power & Light Company  
Los Angeles Department of Water and Power  
Southern California Gas Company  
Xcel Energy Inc.  
National Grid  
PECO Energy Company  
San Diego Gas & Electric Company  
Rocky Mountain Power  
Pacific Gas & Electric Company  
Southern California Edison  
Puget Sound Energy

### Local government

City of Atlanta, Ga.  
City of Austin, Texas  
Cities of Boston and Cambridge, Mass.  
City of Chicago, Ill.  
City of Columbus, Ohio  
District of Columbia  
City of Houston, Texas  
City of Kansas City, Mo.  
City of Los Angeles, Calif.  
City of Minneapolis, Minn.  
City of New York, N.Y.  
City of Philadelphia, Pa.  
Cities of San Diego and Chula Vista, Calif.  
City of Salt Lake City, Utah  
City of San Francisco, Calif.  
City of Santa Monica, Calif.  
City of Seattle, Wash.

SOURCE: DOE WEBSITE 8-17-2014

# The evolution of utility management



**NWP Services Corp** launches national utility billing service for apartments and develops a wireless submeter reading application with its partner. The invention of automated wireless meter reading allows reads from anywhere.



Billing companies are mostly small, regionally-focused.



Apartments include **utilities in rent**. To conserve, electric providers are mandated to meter apartments so residents pay for their usage. Electricity use decreases 18-30%.



**USI Energy** innovates bill pay industry with vacant cost recovery



**NWP, Ista and Conserve** adopt vacant cost recovery

Billing integrates with **property management software**

**2000**

**1999**

**1990**



EPA regulations, population growth and drought lead to a significant **rise in water / sewer** rates. **Natural gas use and costs** rise as well. Apartment owners must mitigate rising expenses.



Early water submetering systems for apartments were manually read or daisy-chained systems read at a touch pad outside the apartment.



Apartments with single unit shut-offs outside the unit are easily sub-metered. **Small, localized billing companies** begin to pop up.



**UDR, EQ, Archstone** are first national REITs to pass water and sewer costs to resident. Fledgling attempts are in-house and limited to read-bill-collect.



Submetering first began in trailer parks.

**1970**

# 2010 & beyond



**Energy Star Portfolio Manager** transitions from voluntary to required in some jurisdictions



**Government-mandated requirements** create new in-unit investments



**Resident utility billing** companies begin to differentiate through performance



**RUBS billing** becomes as popular as metered billing for existing properties



**Energy Star** ranks apartments for energy efficiency



**Leak detection** is next big thing in conservation



**Economic incentives** and rebates for conservation gain traction



**Utility Mgmt Advisory** works with government agencies and multifamily professionals to formulate best practices



**Wireless reading** technology makes submeters faster and less expensive. Speed-read and other technologies follow.



**States begin to regulate** bill-back fees, allocation and resident utility billing



**Public Utility Commission (PUC)** begins regulating multifamily utility billing. Resident billing companies pop up across the country.



**Ratio Utility Billing (RUBs)** expands. Stacked units, multiple entries make submetering hard for many properties.



**Waste / sewer bill-back grows;** including waste / sewer in RUBs becomes more prevalent.



**Convergent billing** takes off. There's new focus on energy management and mining data for green.

SOURCE: TOM SPANGLER, WES WINTERSTEIN, ROB ESPOSITO. TOM IS ENERGY MANAGER WITH GREYSTAR. ROB IS VICE PRESIDENT WITH NWP. WES IS VICE PRESIDENT WITH BELL PARTNERS.



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