Journal of
Utility
management

THE LATEST RESEARCH AND MODELS ON
OPTIMIZING UTILITY USAGE IN MULTIFAMILY
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MULTI
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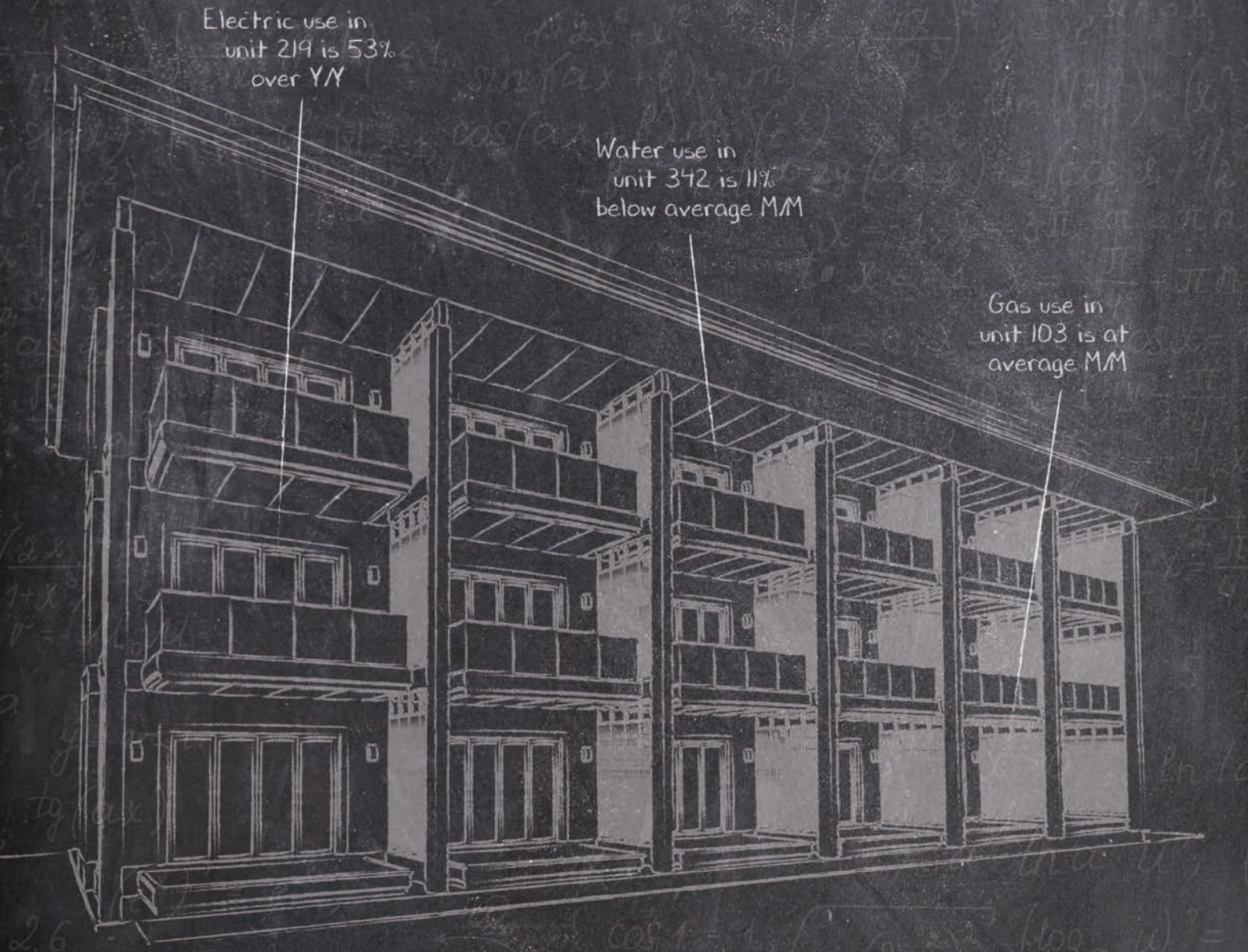
Back to basics



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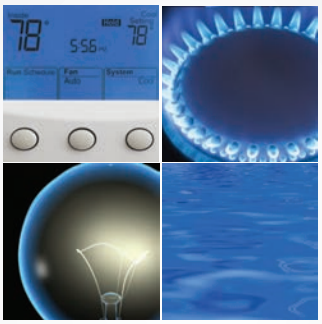

Journal of Utility management

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It is no small thing we do here today

When I started in ancillary services more than a decade ago, the discussion regarding utility management focused primarily on Ratio Utility Billing System (RUBS). While RUBS is still a significant part of utility management (people do conserve and recycle when they have skin in the game), there has been a shift—managing utilities now encompass conservation. Sustainable has gone from "green washing" to more of a smart business practice that positively impacts Net Operating Income (NOI). We use a smaller amount of resources to achieve the same result (this is sexy as hell but it's not easy). How do we learn more? We struggle to stay abreast of changing technology and best practices in our world of utility management. At its core, the *Journal of Utility Management* exists to be a resource to help us with that challenge.

That is why I believe that you are reading this *Journal.* If you were not interested in controlling the uncontrollable… utility expenses, for example, you would find something else to read. If you did not want to be better at your job, you would not be interested in the contents of the *Journal of Utility Management.* I believe you see what I see—that the industry is shifting and utility management is a significant part of improving the NOI of our assets. The theme of this issue is "back to basics." You might think that you are above basics at this point. Maybe. Or perhaps what was considered the basics have changed. We are going to dive into the new normal.

It is with great pleasure that I present this issue to you, but with this warning: if you read it, you may just become better prepared for your job and be poised to improve NOI. Welcome to the new "basics." We will cover some blocking and tackling with Tim Haddon's "Affordability and Benchmarking" article, learn how to qualify for green financing, and discuss the practice of conducting a blower door test in an occupied building versus new construction. There is a lot of ground to cover in about 12 pages, so let's get started.

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Reducing energy costs and building resilience

One of the best parts of my job is hearing what's on the minds of owners and operators. It's simple. How can utilities move NOI? What are those things with the power to move caps rates?

Utility management. In one heartbeat, it can impact nearly every facet of an apartment business from asset value to cash flow to resident well-being. In a business as old as time itself, certain basic principles remain at its core. The same economic and operational guidelines that have long informed business owners are now enriched by well-engineered technology.

It's a new day where simple process can turn energy management into competitive strength by controlling costs, reducing risks and deploying conservation programs. We're excited to bring you your executive brief, of sorts, to keep you in front of this most exciting effort, and the processes leading the charge.

Jason Lindwall
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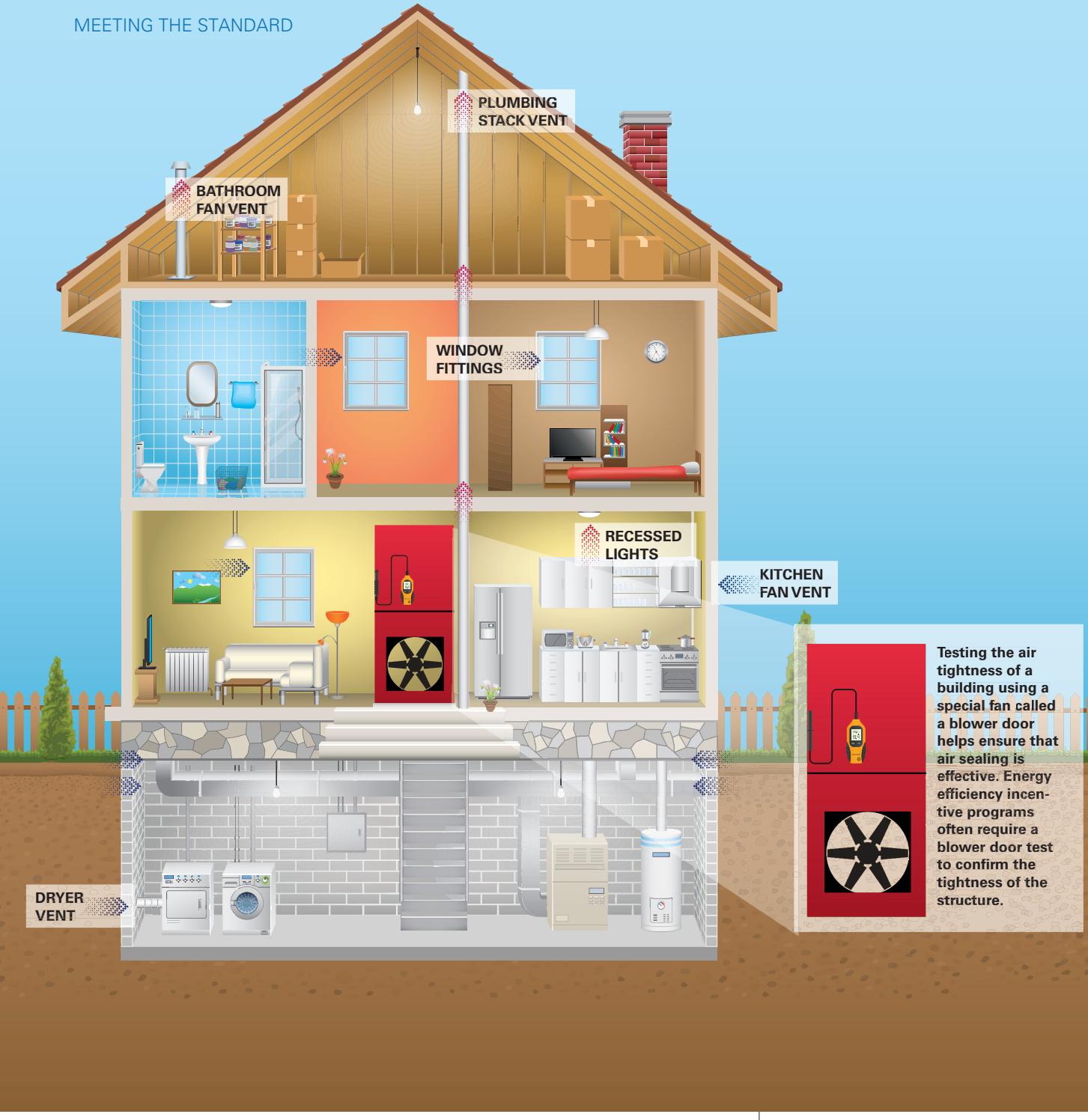


Testing the air tightness of a building using a special fan called a blower door helps ensure that air sealing is effective. Energy efficiency incentive programs often require a blower door test to confirm the tightness of the structure.

Blower door testing and the building envelope

They work well in commercial buildings, but not a lot of research has been done for multifamily.

What is a blower door test, you ask? Great question. I honestly didn't understand what it was myself until recently. The first time I heard of blower door testing a few years ago, I (naively) thought it sounded easy. Conceptually, I loved the idea of the blower door test. A test to make my buildings more energy efficient? Yes please! However, the idea of the blower door test and the reality of it in practice are two **very** different animals.

Blower door testing is a test you can conduct on your building to see if you have any leaks in your building envelope. Leaks can occur through cracks, windows, wood walls, attics, attic doors and regular doors. Basically, anything in your entire building has the potential to sprout a leak.

"Why should I care?" you ask. Do you like money? If your answer is yes, then you do care. Think of how irritated you get with, say, your kids when they leave a window open in December while you're heating the house. You think, "What a waste of money!" and use some terrific language as you shut the window and consider taking the energy

bill out of your kids' college fund. Maybe you get irritated when someone leaves the freezer door open while they scoop out ice cream on the kitchen counter. The scenario repeats itself. If this has happened to you, congratulations. You are a person with the potential to be passionate about blower door testing, and you're curious how your conditioned air is leaving your building.

Blower door testing first appeared in several forms during the late seventies in Sweden, Canada, Texas and New Jersey to account for unidentified energy loss through leaks. The test essentially measures the air tightness of a building. Testing for air tightness has become part of the requirements for LEED Certification and some green loan programs. In some areas, it's already integrated into the building codes.

So how does a blower door test work? It's all about pressure. The test itself can be completed in a few different ways. The first way (and most common) is to take a sample of the units to test, open the unit door, set up a blower fan (which has plastic covering the entrance to the unit to seal it off), turn on the fan and use your manometer to measure pressure to determine if air is escaping in ways it is not supposed to (i.e. leaks). That is the most common method. You could also conduct a whole building blower door test which is similar, but instead of sealing the door to a unit, you pressurize or depressurize the entire building using multiple blower doors. All apartment unit doors have to be wide open. As you can imagine, this is not commonly done in apartments (imagine how exciting this test will be if your residents have cats). Then there is the guarded blower door test, which is technical and involves multiple blower doors running concurrently to measure leakage through the exterior wall only, negating any leakage between adjacent units.

Sarah Hill, Program Coordinator for the Association for Energy Affordability, Home Energy Rating System (HERS) rater and architect, has completed blower door tests on more than 600 units in the United States. "Most commonly (when conducting a blower door test) you find leaks in the detail work. A eighth-inch gap between the bottom plate and the subfloor around the perimeter of the unit begins to constitute a large leak when you add it up." Sarah's recommendations to property owners are to do a pre- drywall inspection and test early. "That way you can spot early on where the leak is during construction."

As you can imagine, challenges often arise when conducting blower door testing in existing, occupied buildings. Jeff Shipley, community manager of the award winning 415 Premier Apartments in Evanston Illinois, a Portico managed community, recounted his experience conducting a blower door test on his property. "It was surprising to me just how invasive it was," he related. "The test takes a couple of hours, so you are in the unit for a long time. Once you determine there is air penetrations you need to seal the leaks, and then perform the test all over again to make sure the leaks were sealed properly. Setting expectations with the residents was very important." In addition to the unit being tested, it was important to communicate with the residents in adjacent units. "The testing was extremely loud; therefore, the residents in the adjacent units were affected by the testing as well," he said.

A plastic, air-tight seal covers a door during a blower door test.

But the challenges around testing on occupied buildings don't end there. Angel Gutierrez, Regional Project Management of 550 Moreland in Santa Clara California, a Prometheus Real Estate Group managed neighborhood, shared his struggles. "Blower door testing is not as common in California for some reason. It was challenging to find a vendor who would conduct a blower door test on an apartment building. Just finding a testing facilitator was hard," he shared. "Then it was difficult to find an experienced vendor to seal the leaks. Most indicated that our neighborhood (430 units) was too big." It was critical to find a vendor who could effectively test in California. "You want to make sure they know what they are doing. If they don't and you follow their recommendations, you could seal up air pathways that are engineered to be there. You could actually degrade indoor air quality and end up with a building that makes people sick." It's very important to have a qualified team complete the test to seal the leaks, not the designed air pathways.

Sarah Hill recounts one of her successes in blower door testing: "I did a blower door test with a fog machine on a historic building. We could actually see where the leaks were in the wall assembly. The owner was very engaged and sealed all of the leaks we identified. What was so great was not just the energy savings and health implications but by closing the leaks, the acoustics of the building changed. Residents were thrilled that not only were their units more affordable and comfortable, but they were quieter." Happy residents equal a greater renewal rate in most markets.

Not all buildings have the same experience. Shipley explained, "415 Premier Apartments was built in 2008 and very well constructed. We really did not have significant leaks in our buildings so our residents and our owner did not have a dramatic improvement in energy savings or experience." Gutierrez indicated that the jury is still out for 550 Moreland as his project is still in progress. "It will be interesting to find out."

You may not have a choice in conducting a blower door test. Your renovation may trigger a code requirement, or you may be aspiring to green designation. Whatever the circumstances, I strongly encourage you to embrace this relatively new and effective way to ensure whether your building is up to par and leak-free. Make sure your test facilitator really understands what they are doing to ensure a positive outcome.

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 U.C. 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.

Energy basics

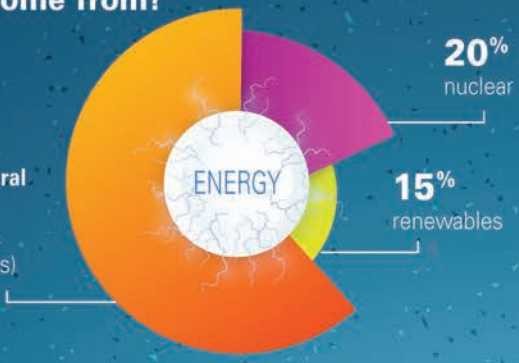
70-90% of natural gas is methane. The rest is a mixture of other naturally occuring ethane, butane and propane.

It's estimated that the U.S. has a 100-year supply. Natural gas production has grown 20% making the U.S. the world's largest producer and 95% supplier of its own natural gas domestic.

It generates a quarter of the nation's electricity. The EIA predicts that by 2035, 46% of generating capacity added to the grid will come from natural gas.

Over half of American homes use natural gas for heat, hot water and fuel for cooking.

Where does our electricity come from?

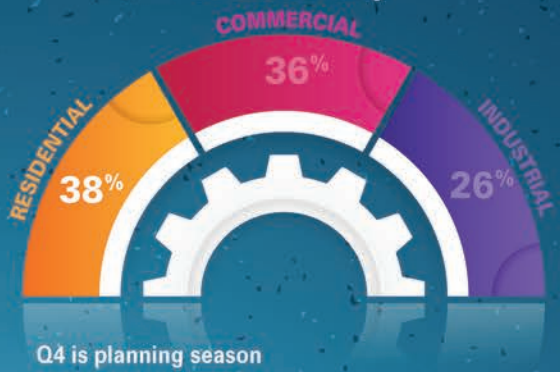


65% fossil fuels (coal, **natural gas–34%,** petroleum, other gases)

20% nuclear

15% renewables

Biggest buyers of electricity



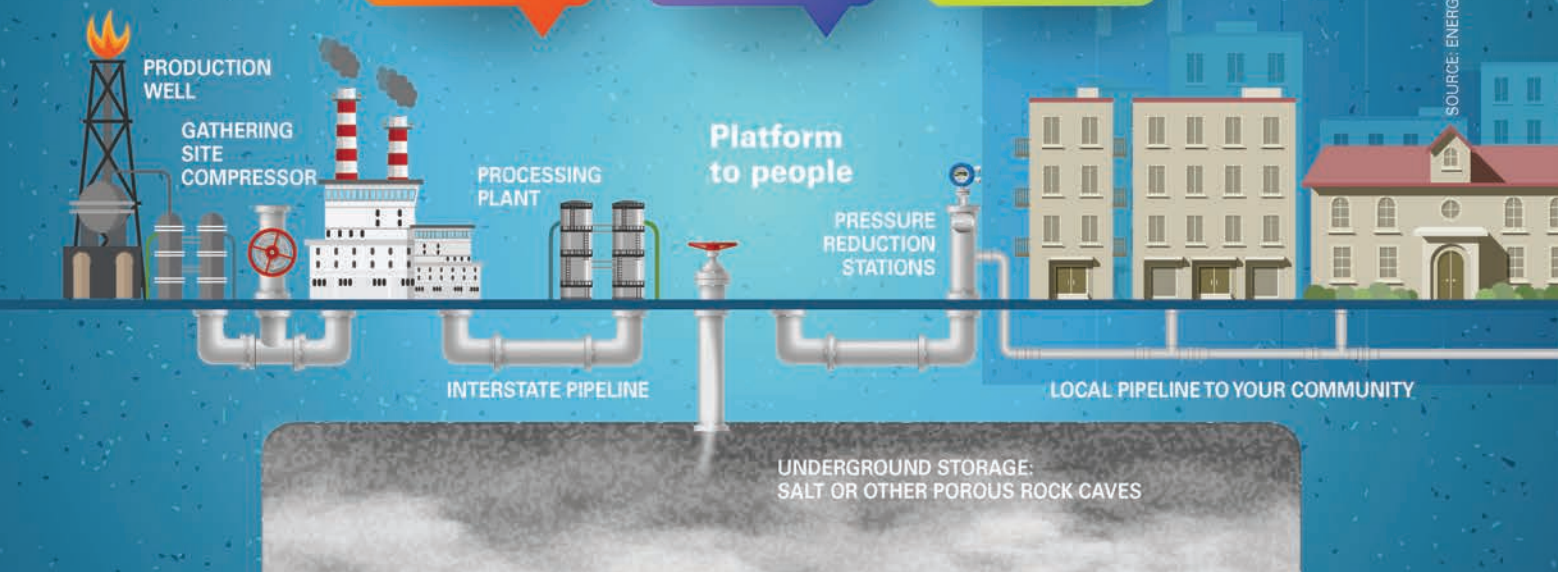
Q4 is planning season when multifamily owners and operators set in motion energy procurement strategies and assess risk tolerance. Which is right for your operation: fixed prices or unlocked agreements that are associated with the risk of cost fluctuations?

What drives energy prices?

Supply
Power generation
Natural gas production
Storage
Pipeline capacity

Demand
Consumption
Weather

Politics
Change in:
Regulations
Standards, restrictions
taxes, law



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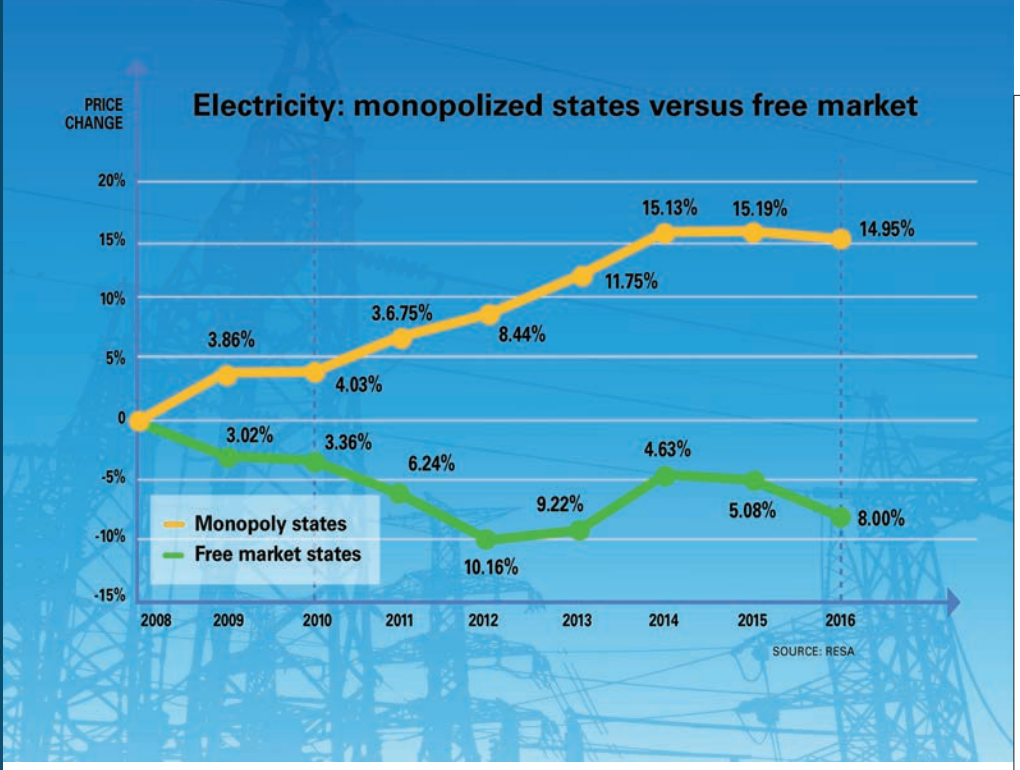


Navigating the energy map

Apartment properties stand as one of the nation's largest consumers of energy. As owners and operators feel the growing impact on their operations, the ever-evolving world of utility management shows a lot of promise in controlling costs and increasing both asset value and savings.

Energy deregulation

In 1978, new Federal Energy Regulatory Commission (FERC) policies began to open the nation's electricity transmission system to retail suppliers, effectively allowing qualified generators and wholesalers onto the country's grid to create wholesale market competition.

In the mid-1990s, under pressure to control costs at a local (retail) level, state legislators began efforts to decouple electric utility monopolies, with expectations that open market competition would be a more effective way to control costs. Electric utilities were separated into two businesses. Distribution would remain a monopoly while supply would be opened to competition. Deregulation of electricity was born.

Between 1996 and 2004, 17 states passed legislation to deregulate their electric industry, with each state creating its own unique market structure. Some market designs were not successful and have since halted deregulation; most notably the California market. Today, 13 states plus the District of Columbia have deregulated markets for electricity. These jurisdictions comprise one-third of the nation's total electric consumption. Over 3 million commercial and industrial customers, and 16 million residential households procure their electricity through non-utility suppliers.

In 2016, over 72 percent of all eligible electric load within deregulated states was supplied by retail suppliers. This represents 85 percent of the commercial and industrial load and 49 percent of residential load.

Deregulated states enjoy not only the benefits of competitive energy prices, but also receive more pricing options and more innovative energy solutions. Those purchasing electricity through retail suppliers have seen an 8 percent decrease in prices since 2008, while customers in non-competitive states have seen an average 15 percent increase over the same period.

What this means for apartment owners and operators with properties in these markets is the opportunity to save money. Having energy market expertise is critical to ensure companies are maximizing these rate opportunities and making sound energy decisions.

Weather

Weather plays a significant role in energy economics. When the temperatures go up, so does our demand for air conditioning. When electricity demand goes up and supply stays the same, prices naturally rise. Similarly in the winter, when temperatures drop, our furnaces get pushed for more heat. The higher demand for heating fuel coupled with a limited natural gas supply cause prices to rise.

The National Oceanic and Atmospheric Administration (NOAA) predicts that the nation will experience a mild fall. However, January is expected to be colder than average in many parts of the country. Energy prices should remain flat for the remainder of this year, however colder than average January temperatures may impact first quarter of 2018 prices.

Recently, hurricanes have been the big weather news. Hurricanes can wreak havoc on the energy markets because a significant portion of natural gas production comes from the Gulf of Mexico region. Any damage to drilling rigs, gas pipelines or processing plants can have a profound impact on getting gas to the market, and in turn, alter market prices. Hurricanes Harvey and Irma devastated the southeast, yet had very little impact on energy prices. Natural gas prices experienced a spike for a few days after Irma, but have since retreated under the $3/MMBtu threshold and long-term gas contracts remain attractive. However, we have another month of hurricane season remaining before we're completely in the clear.

Natural gas storage

The U.S. produces over 95 percent of the natural gas it needs every year. In fact, as a result of the fracking boom and recent horizontal drilling technologies, we are now the world's top provider of this resource.

Natural gas markets typically do not have

Dimitris Kapsis joined RealPage in June of this year, bringing over 15 years of energy expertise and leadership. Before joining RealPage, Dimitris and his team of energy experts helped AUM become the premier energy management provider to the multifamily. Kapsis previously served as director of energy management for Archstone. He is also active in the Association of Energy Engineers (AEE), the American Society of Mechanical Engineers (ASME), and the American Society of Heating, Refrigerating and Air-Conditioning (ASHRAE). He holds several professional certifications, including Certified Energy Manager, Certified Energy Auditor, Certified Sustainable Development Professional, and Certified Energy Procurement Professional.

supply challenges, but they do have transmission (pipeline) issues in getting the gas to consumers. Without sufficient pipeline capacity to move gas from well-heads to consumers during peak times, the equilibrium of supply and demand must be offset by natural gas storage. To offset the lack of pipeline, natural gas is stored in regional underground caverns during the summer months when demand is low and withdrawn during peak demand times in the winter. The level of natural gas in storage is critical to easing price volatility and fulfilling just-in-time market demand.

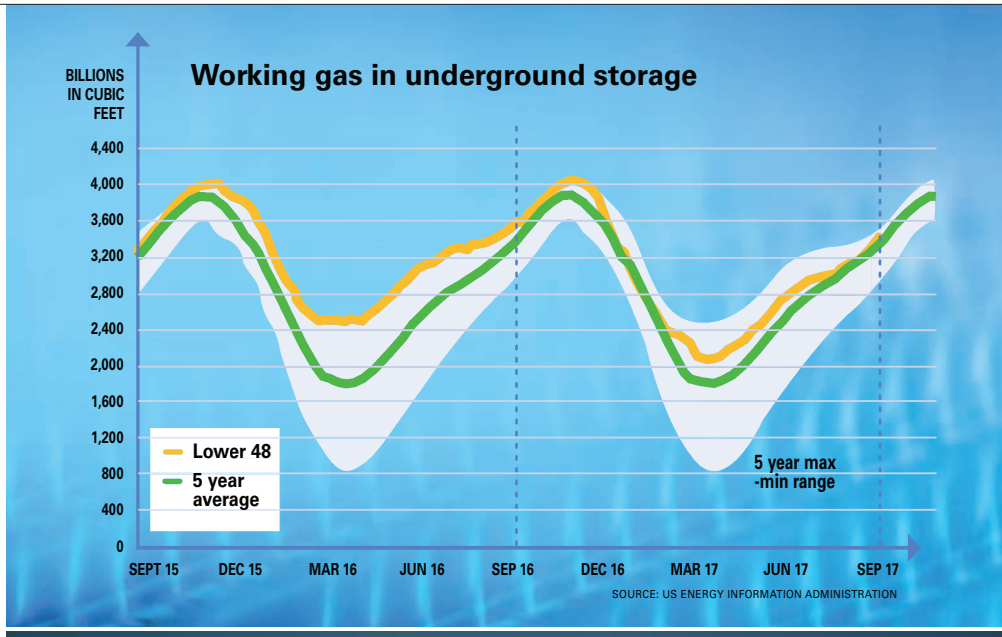
The Energy Information Administration (EIA) releases its Natural Gas Storage Report each week. This report indicates the nation's level of stored gas and is a principal driver in natural gas prices. As of press, the EIA reported an injection of 97 BcfE—9 percent above analysts' projections. BcfE stands for billions of cubic feet equivalent, a natural gas industry term of measurement for the amount of natural gas that is either untapped in reserves or being pumped and delivered over extended periods of time. This increase in injection levels decreased the NYMEX spot market price down from $3.081 to $2.946 (4.4 percent price drop in a few hours of trading). Current storage levels are 3.8 percent below same period last year and 2 percent above the 5-year average level.

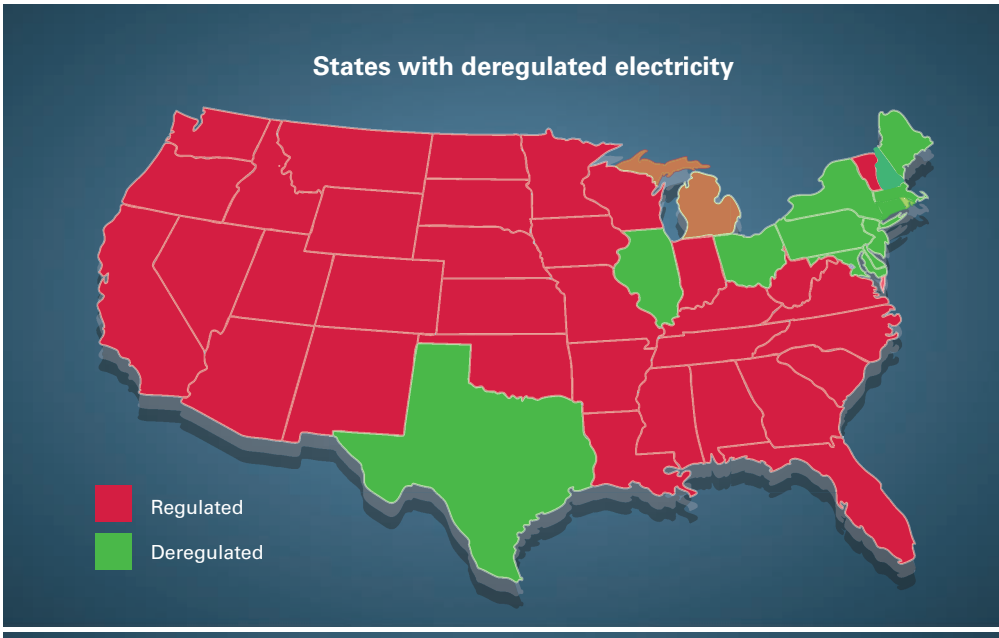
We focus primarily on natural gas prices since gas prices lead electric prices. As natural gas prices increase or decrease, electric prices often follow suit hours, days or weeks later. Also, natural gas has a national price established on the NYMEX. Electricity is different because the U.S. is divided into multiple regional markets, each setting its own price and having its unique market rules. Most regions tend to move in the same direction but price volatility and generation vary considerably between regions.

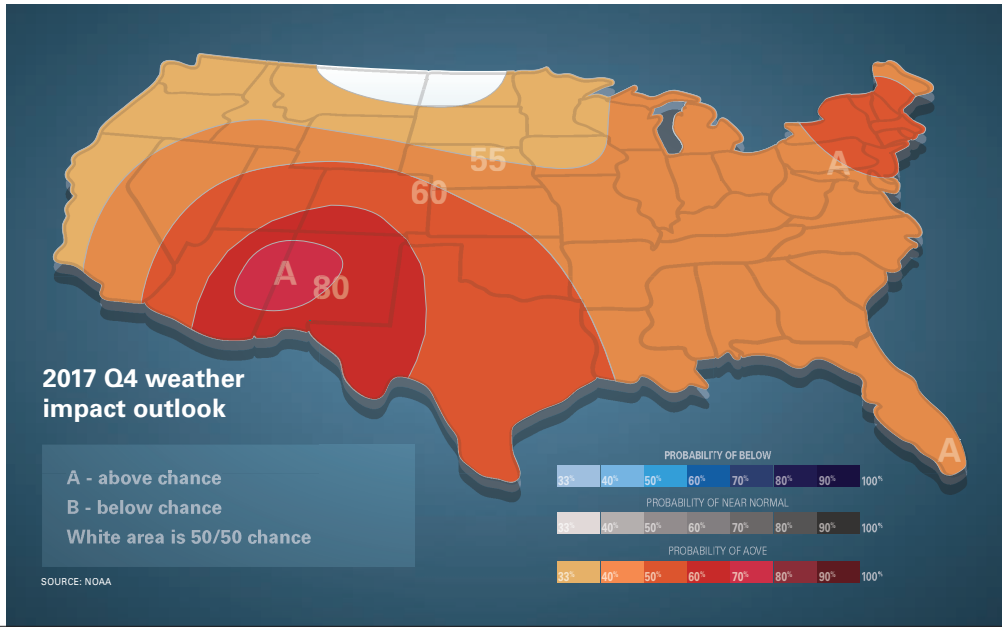
At press, NYMEX spot prices for natural gas were trading down at $2.94/MMBTU after bouncing above the $3.00 threshold for the past two weeks. Looking longer term, the 12-month strip prices have dropped to $3.01/MMBtu for 2018. Electric 12-month strip prices in all regions are also seeing a dip.

Q4 energy outlook

Natural gas prices were trending slightly up and then showed a small spike after Hurricane Irma. The recent trading sessions have seen prices retreat back under the $3.00/MMBtu threshold. Long-term prices still look attractive for 2018. Mother Nature looks to be providing a mild fall, however that warmth will end as January looks to be below normal temperatures.







Risky business

New owners of multifamily residential property are often surprised at the number of laws that affect their ability to do business. In addition to statewide landlord and tenant codes, an owner electing to pass through the cost of usage and ancillary services must consider the local utility tariffs, city or county ordinances, state utility law and any public service commission (PSC) regulations.

Sometimes, the PSC rules may conflict with other local or state laws. In many jurisdictions utility regulations are ambiguous with a dearth of appellate case law to define the vague rules. Penalties for noncompliance can be severe. Owners are often faced with difficult decisions when deciding what recovery methodologies to employ in light of the lack of legal clarity. Therefore, it is important to work with a provider that has a demonstrated understanding of the jurisprudence governing the billing activities.

When evaluating such a partner, owners should ask the following:

1. What is the process when a billing methodology is not supported but not expressly prohibited by applicable law?
2. What systems are in place to analyze the risk associated with a billing methodology that is not expressly allowed by law?
3. What is the communications process between the management company and the billing vendor for regulation amendments that affect property operations, billing methodologies or recovery amounts?
4. While the responsibility for employing a recovery methodology rests with the owner, does the billing vendor have a process to assist the owner in analyzing risk to help make an informed business decision?
5. Can the billing provider produce a formal report that communicates the levels of risk associated with specific billing practices?

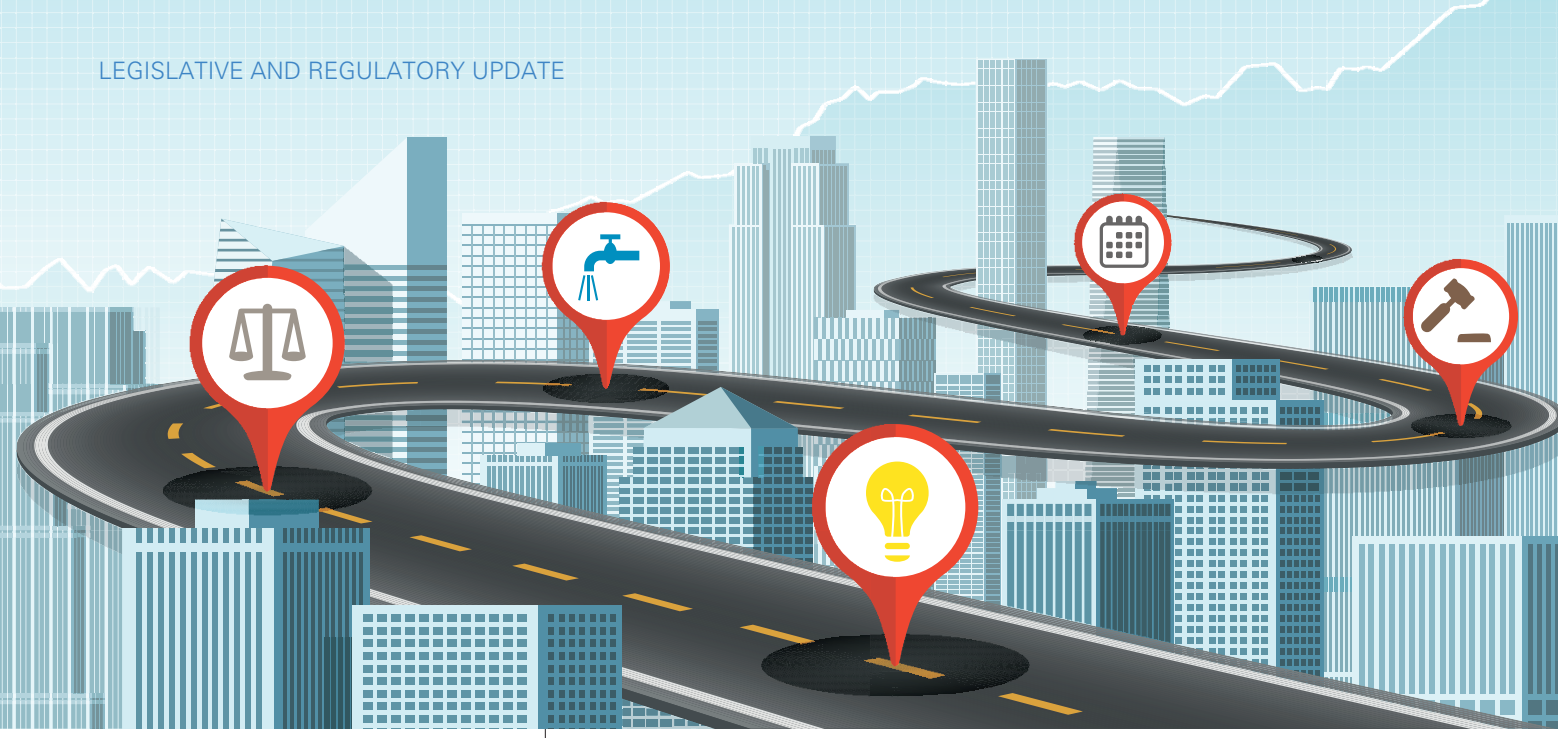
Michael Semko is vice president of legal for RealPage and advises the company on corporate and regulatory issues. Prior to that, he was VP and legal counsel to the National Apartment Association for nearly a decade.

Complying with the statutes, rules and tariffs governing utility and services billing is only half of the battle. In order to compel the resident to pay for utility usage, the lease must require the tenant to do so. Some jurisdictions require specific language in the lease to enable the owner to pass through the cost of the utility. Lease forms with default fields for management or onsite staff to complete must be done so properly. Often a management company uses a rigid form-lease produced by a third party company or association that contains charge descriptions that do not match the line item labels on the billing statements. It is important for the owner to ensure that line item descriptions and fee amounts match the tenant's lease language. Moreover, it is critical to put processes in place to notify and coordinate with the billing vendor when a lease is amended. A slight change in lease language can cause a line item to be unsupported by the contract.

Before contracting with a billing vendor here are important questions to ask to help ensure that lease language will support the recovery program:

1. Do you have regulatory professionals involved in the implementations process of a new site?
2. Do the regulatory professionals review the lease to determine if a billing line item is supported by the contract?
3. What is the process for determining if a lease adequately requires a resident to pay for a service?
4. What is the process when a management company changes lease language that may affect the resident billing statement?
5. What is the process when charge amounts in the lease do not match the figures on the billing statement?

Utility and services billing is a critical tool for owners to enhance their recovery. Managers should put in place processes that identify and analyze the risks associated with specific billing practices so that owners can make informed business decisions on which services to pass through. Minimizing risk can be as important as maximizing recovery.



California

California Senate Bill 7 (SB 7) was signed into law in 2016 by Gov. Jerry Brown. By its terms it becomes effective as of Jan. 1, 2018. All properties that request a water connection from a water utility after that date must demonstrate that the units at the property will contain submeters to measure water consumption.

Additionally, multifamily operators must include specific language in their lease disclosures for water and sewer billing and may need to modify existing submetered set-ups to comply.

Ohio

As background, In Sept. 2013, the *Columbus Post-Dispatch* ran a series of articles highlighting multifamily owner/operators who were "marking up" rates that they charged their residents for electric service and allocating more than their expense to residents. Legislators introduced three separate bills in 2014 to regulate "submetering companies" in different forms. None of these bills made it out of committee.

In 2016, the legislature introduced two new bills to regulate utility billing performed by landlords to residents. As in 2014, these bills did not make it out of committee. Apartment associations and billing vendors attempted to jointly craft language with the Office of Consumer Counsel to address recovery and consumer protection interests. Unfortunately, these efforts did not produce a bill that could advance in 2016. The Public Utilities Commission of Ohio (PUCO) opened a generic investigation into "submetering" earlier in 2017 where it found that landlords that are only recapturing their expense and not marking up charges or rates, operate within the guidelines of Ohio law and PUCO regulations.

In its findings, PUCO stated that a legislative solution is the best way to ensure fairness and transparency to utility end-users. Currently, there are two bills in the Ohio Legislature. House Bill 249 was introduced by Rep. Mike Duffey (R) on June 1, 2017. This bill limits the amounts that multifamily operators can recover to the "standard service offering" in the utility territory. That amount "may" be less than the actual costs that a property incurs for a billing period. HB 249 specifically prohibits all "common area" billing, as well. However, HB 249 does not create a statutory scheme regulating utility billing. HB 249 directs PUCO to promulgate regulations regarding the practices. This bill is currently in the Public Utilities Commission (PUC).

Senate Bill 157 was introduced on June 15, 2017 by Sen. Kevin Bacon (R). It is currently in the PUC. This bill limits recovery to "market-based rates" that effectively caps at the amount that a resident would be charged if they were customer of record for the utility. The bill specifically allows for submetered billing, flat rate, and allocated (RUBS) methodologies. However, the bill places a limitation on fees. Only one monthly administrative fee can be charged—but not account set-up or final bill charges. This bill specifies penalties for non-compliance at three times the amount of any overcharge.

Texas

In 2016 the Texas Public Utilities Commission (TPUC) took over responsibility for regulating landlords who bill residents for water and sewer services from the Texas Commission on Environmental Quality (TCEQ). TPUC adopted the existing TCEQ regulations for water and sewer billing and intended to keep them in place for one year and then hold a rulemaking to overhaul the regulations. This will represent the first wide-ranging changes since 2003. Upon information and review, TPUC will hold a larger rulemaking in 2018.

In the interim, TPUC is convening a limited rulemaking in the near future to deal with Texas Senate Bill 873, which was signed into law on June 1, 2017. SB 873 obligates TPUC and the State Office of Administrative Hearings to establish an online and telephone complaint and hearing system and grants jurisdiction over resident claims to the TPUC and modifies the available penalties for violations.

Michael Foote is vice president, legal/utility billing compliance at RealPage. Mike joined the RealPage legal team through the 2016 acquisition of NWP Services Corporation, where he had been the director of regulatory services, having joined NWP in 2008. Mike's expertise in utility billing law has been gained over his more than 17 years exclusively practicing in this area.

What qualifies as noteworthy?

Affordability and benchmarking in affordable housing

As a recent addition to the affordable housing realm, I've had to adjust my approach to the areas of opportunity an ancillary revenue and utility management person would generally operate in. Utility management specifically has taken on a new focus. I'm used to categorizing properties by building type, then benchmarking the buildings in each category against one another to see who is using the most of a particular commodity on a per unit basis. That process is still the same. The nuance that many affordable housing properties have that most market rate properties don't is that the owner or manager pays for the utilities consumed in the apartment units. I'll let that sink in. They pay all the utilities! This changes everything when it comes to utility management.

The first thing this changes is the benchmarking process. Properties that pay the utilities for residents can't be benchmarked against properties that don't pay resident utilities. The cost and consumption benchmarks will be very different, so keep those property types separate. This will ensure you are comparing apple to apples.

For the sites that pay resident utilities, convergent billing could be useful for collecting rent and ancillary fees, but it's not applicable for utilities. Utility billing and vacant cost recovery are not relevant since there is no one to whom we can allocate those expenses. There are cases where these programs can be added, but for the sake of this discussion, they aren't necessary. This allows utility management to focus on other areas, like reducing consumption.

When the owner or manager is paying for all the utilities at the property, the value of consumption savings is amplified. For market rate properties, the return on investment (ROI) often doesn't pencil for consumption saving retrofits because the resident is paying the bill for their usage. This means the owner or manager doesn't see any cost savings generated by the reduced consumption. The return comes through increased rent. We can debate whether residents will or won't pay for low flow fixtures and LED lighting in another article. For affordable housing properties, the ROI for in unit cost saving projects work. Period. It's just a matter of getting the data and proving the model. That is no small task, but it certainly can be done. Like any new initiative, just get one done and prove it works. Then the rest will be much easier to accomplish.

In addition to the expense savings through reducing consumption, rate becomes increasingly important. If an affordable housing property is on a variable rate and there is an event that causes the rate to go up, the economies of scale are against you. Having an in-house team, trusted vendor or broker to monitor and manage electric and gas supply agreements in deregulated markets is a must. If you had buildings impacted by the polar vortex a few years back, you know what I'm talking about. Even the recent hurricane activity has impacted utility pricing this year, so keep an eye on your supply rates.

When the owner or manager is paying the utility bills for the entire property, there isn't anything revolutionary that the utility manager needs to do. Reducing consumption and optimizing rates are still key. Having a good plan to accomplish both is critical since all the utility expenses hit the property's bottom line.

Timothy Haddon is director of strategic business services with PK Management, having come from Fairfield Residential. Tim is an advocate of utility management and conservation as a member of an internal Environmental and Sustainability Taskforce. Earlier in life Tim worked in residential construction and earned his BA from Kent State University. Haddon is an avid cyclist. He is the captain of Cheryl's Crew, a cycling team that raises money for Multiple Sclerosis research. Spare time is rare, but Haddon is also fond of motorcycles and snow mobiles.

Qualifying your retrofit

Increasing property value through Fannie Mae's green financing

Whereas the future was once plastics, in the world of multifamily it boils down to cap rate. It drives everything—and low-cost financing drives it.

Financing and its ensuing debt servicing not only sets the world stage (how much do we owe China and what do they do with all the interest?), but it determines everything about a property from its cap rate to cash flow and profitability.

Capitalization (cap) rate is the relationship of Net Operating Income (NOI) to asset value. Perhaps the least intuitive part of understanding cap rates is their direct relationship to interest rates. Multifamily properties are largely driven by the amount of debt that can be borrowed to purchase a property and the resulting spread between the interest rate and the cap rate. The larger the spread, the better the potential return.

Think of the interest rate as the cost of money, and the cap rate as the value of that same money when invested into a property. The interest rate can directly change a property's cap rate, and thus heavily impact the property's value. Green incentives not only discount the cost of this money, but add value through both cap rate and capital improvements. Win-win.

Both Fannie Mae and Freddie Mac announced earlier this year that they each expect to fund $60 billion in multifamily loans in 2017, close to their 2016 lending. Fannie Mae, for example, offers as much as a 50-basis point reduction on all-in interest rates on loans secured by multifamily properties with a Fannie Mae-recognized green building certification. In 2016, the agency issued $3.6 billion in these green loans—almost a 1,000 percent increase from $309 million in 2015. Multifamily owners know opportunity when they see it.

What does it take to qualify for a green rate? Two things. A 20 percent, year-over-year improvement in energy conservation on a property, and a certified, third-party agency to verify the improvement. That's it.

The greatest challenge has been providing whole building data, and privacy laws that preclude owners for directly accessing the information. However, significant progress has been made in accruing this data from energy providers in aggregated, randomized form opening the gates for owners to take advantage of these loans. Such certifications are also marketing opportunities, but the monetized value of such campaigns has yet to be established.

Properties must secure a current green certification prior to rate lock. Lowering energy consumption on a property may be accomplished in a number of ways, including installing high-performance HVAC equipment and insulation and using air-sealing techniques. Management of a conservation program is also critical to achieving and tracking goals. Most green programs require Grade 1 or 2 insulation quality. Any additional costs for such products can be minimized if planned for early in the process, and when considering the potential energy savings, they can yield an excellent return on investment.

Where to begin?

If your property has a multifamily green building certification:

- Earthcraft
- ENERGYSTAR
- Enterprise Green Communities
- Green Globes
- GreenPoint
- Leadership in Energy and Environmental Design (LEED)
- National Green Building Standard (NGBS)

GREEN CERT

NO GREEN CERT

If you're beginning the certification process by:

- Upgrading to ENERGYSTAR appliances
- Upgrading your boiler
- Replace inefficient lighting
- Install solar
- GreenPoint
- Install water-saving irrigation
- Upgrade insultation and more

You get

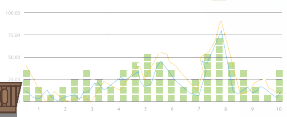
→ Preferential pricing

Green Building Certification Pricing Break: Property must hold a current Fannie Mae recognized Green Building Certification prior to rate lock.

You get

→ Preferential pricing

+



Free energy-water audit paid by Fannie Mae

Additional loan proceeds

+

Green Rewards or Green Preservation Plus: Property owners must commit to property improvements that are projected to reduce the whole property's annual energy or water use by at least 20%.

2016 Top 5 DUS producers for green financing:

1. Walker & Dunlop
2. CBRE Multifamily Capital
3. Wells Fargo Multifamily Capital
4. Berkeley Point Capital
5. Berkadia Commercial Mortgage

SOURCE: FANNIE MAE

Property accounting: making owners nimble and cash flow

Apartment owners and operators love the business of real estate. Creating value. Improving process. Trading assets.

But accounting, producing financial reports and other repetitive functions? Not so much.

The core of utility management is found in the books. And while keeping the books is critical to the value of an operation, the process can create drag on the margins when it should improve an owner's ability to build profit. The truth is accounting processes and other back office functions haven't changed in decades. Words like "disruption" garner attention, but how do you spot genuine innovation through an ocean of hyperbole? We want to believe there's a better way because so much of our world has already transformed into awesome, simpler, life-just-got-easier processes, but what is the goal in property accounting?

Most think that new technology spurs transformation—actually, no more than a car without wheels moves. Instead, it's the targeted connection of technology to market need that creates and captures value.

Today's best disruptive business models are born from creating efficiencies in the allocation and organization of resources. As demonstrated by the great disrupters of our time–Uber, AirBnB and Amazon–a technology platform must provide improved and obvious value through efficiency in order to truly change a market.

"Accounting is a critical part of multifamily operation," says Kim Kowalski, vice president SmartSource Operations at RealPage. "But where you stand—that is, the owner's distance from this function—often determines where energy and thought is invested. Are owners focused on minute process or big picture?"

SmartSource, a major player in the space, offers a full service, back-office management solution for multifamily owners and operators. The SmartSource team handles accounting, accounts payable, and IT network hosting for apartment companies on a national scale. As one of the only providers in the national arena, SmartSource has seen not only a huge growth in business, but a significant shift in both asset management and the industry.

Real estate cycles have always been a notable challenge for owners who are constantly scouting market fundamentals for opportunities to trade assets and reinvest. Strong fundamentals in many markets still translate to continued active trading, portfolio turnover, growth and divestiture. Such active environments historically cause owners to seize the opportunity to bring management in-house, forming their own management companies to run some or all of their assets. They view this as a way to potentially bolster cap rate, cash flow and perhaps even hedge against future downturns.

While owners often believe they can manage their assets better and more efficiently themselves, the necessary accounting functions are rarely part of that vision.

Kowalski notes that in her business, outsourcing back office services has been a key strategy for many of these new enterprises. If an owner of a portfolio of 30 properties is currently managing 7 of those assets in-house, and wants to bring the other 23 under its roofline in the next 2 years, it's entirely conceivable to do so without increasing the headcount or the infrastructure it takes to support the management team. "The math becomes very simple," said Kowalski.

Apartment owners operate by the numbers and outsourcing back-office function easily improves fiscal and process efficiency.

"There's more to adding an accounting department than 'two people at $50,000 a year,'" said Kowalski. SmartSource recently launched an evaluation tool that monetizes its value proposition against the all-in cost of an in-house accounting department including square footage, equipment, training and more.

By out-sourcing repetitive processes, asset owners can step back from the detail and see the forest from the trees—a vantage point most asset owners enjoy far more. Many are already outsourcing grounds keeping, painting, remodeling and other services, so decoupling a property's accounting function from a larger enterprise also allows it to move with the property and provides operational continuity. It is then easier to equate value not only in dollars, but in practices and process.

One of the most significant benefits, especially in today's active markets, is a simple and cost-efficient way to scale business while holding a tight rein on cash flow.

"I think it's similar to the leap from paying bills online versus writing a check," said Kowalski. "Once you realize there is actually more control—and flexibility—to paying online, it's hard to imagine any other way."

Beyond the numbers which drive the business model, the level of efficiency of outsourcing back office functions is a value add that owners see as the greatest benefit of all. "After all," said Kowalski, "owners want to run properties, not keep books. That's really their highest calling."

Mandatory Benchmarking

Multifamily energy disclosure requirements

TOWN	LAW / ACTION	BLDG SIZE	DEADLINE
Austin	**Energy Conservation Audit & Disclosure (ECAD)** — 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)	N/A
Atlanta	**Commercial Buildings Energy Efficiency Ordinance** — Multifamily owners must report their usage for energy. Energy audit required every 10 years.	≥ 25,000 sq. ft.	June 1
Berkeley, Calif.	**Berkeley Energy Saving Ordinance (BESO)** — Multifamily owners must report their usage for energy and water. All buildings > 4 units must complete energy assessment.	≥ 50,000 sq. ft. (eventually phasing in all buildings > 4 units by 2020)	October 1
Boston	**Building Energy Reporting and Disclosure** — 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.)	> 35,000 sq. ft. or 35 units	May 15
California (statewide)	**California's Assembly Bill 802 of 2015** — Details TBD. California Energy Commission has been directed by legislature to adopt regulations providing for public transparency of benchmarking energy use data for commercial and multifamily buildings.	≥ 50,000 sq. ft. (by anticipated initial deadline of 4/1/19 for multifamily)	April 1 (anticipated)
Cambridge, Mass.	**Building Energy Use Disclosure Ordinance** — 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	June 1
Chicago	**Chicago Energy Use Benchmarking** — 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.	≥ 50,000 sq. ft.	June 1
DC	**Clean and Affordable Energy Act** — Owner must report whole building data for energy and water. This includes aggregated resident data, which can be obtained from the utility providers.	> 50,000 sq. ft.	April 1
Kansas City, Mo.	**Energy Empowerment Ordinance** — Owner must report whole building data for energy and water.	≥ 100,000 sq. ft. (≥ 50,000 sq. ft. by 5/1/2018)	May 1
NYC	**Local Law 84** — 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	May 15
Philadelphia	**Building Energy Benchmarking Ordinance** — Owner must report whole building data for energy and water.	≥ 50,000 sq. ft.	June 30
Seattle	**Building Energy Benchmarking and Reporting Program** — 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. (Seattle's 2016 building energy law that requires "building tune-ups" every 5 years does not appear to impact multifamily buildings, but only commercial buildings.)	5+ units	April 1

Some jurisdictions have passed energy disclosure laws that currently do not apply to multifamily: Minneapolis, Minn.; Portland, Ore; San Francisco, Calif; Montgomery County, Md.; Boulder, Colo; and the state of Washington. Areas expected to add similar legislation include Columbus, Ohio; Denver, Colo.; Houston, Texas; Orlando, Fla.; Salt Lake City, Utah. This chart is merely an overview and not intended to be a substitute for legal advice. Additional details such as who to disclose to, penalties for noncompliance and links to government websites are available at realpage.com/utility-benchmark/

PUSHING YOUR LIMITS

"The new RealPage® Utility Management Interface is an impressive upgrade providing us with more graphical insight into our resident utility billing recovery. We can easily and quickly identify trends and potential issues at a global level and drill down for more detailed property analysis. The site navigation is intuitive and easy-to-use with just a few clicks. The customizable widgets and chiclets make it simple to review the most important and pertinent data to make clear and appropriate decisions on maximizing our utility recovery."

Brandon Winter

Project Manager

Equity Residential

Chicago, IL

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