Journal of Utility management

MULTI FAMILY

THE LATEST RESEARCH AND MODELS ON OPTIMIZING UTILITY USAGE IN MULTIFAMILY

VOL. 2, ISSUE 3 • SUMMER 2013

The internal flame

And it's not about fracking.

PAGE 10

SUPPLEMENT TO MULTI HOUSING PRO magazine

Utility cost management?

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The drilling boom has helped boost U.S. natural gas production by one-third since 2005, with production reaching an all-time high of 25.3 trillion cubic feet last year, according to the U.S. Energy Information Administration. In recent months, however, production has begun to level off as the glut of natural gas keeps U.S. prices down. In response, producers have begun pushing to export the fuel to Europe and Asia, where prices are far higher.

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Field of dreams

Natural gas is a hot topic these days, pardon the pun. We can't seem to get enough of the conversation, from fracking, to cold winter pricing, and now, increasing our export of the stuff to Europe and Asia.

Twenty-one percent of U.S. natural gas supply heats the air and water of apartment dwellers, among others, and another 30 percent is used to generate their electricity. Either way, the conversation affects the multifamily industry, and its patrons, in a major way. We are, after all, the nation's largest dispenser of utilities.

"A recent study commissioned by the Energy Department concluded that exporting natural gas would benefit the U.S. economy even if it leads to higher domestic prices for the fuel, as is likely," reports the Associated Press.

It stands to reason that the administration will approve at least a portion of the 20 export projects before it, and yes, that will affect the sweet-spot pricing we've enjoyed heretofore. Even as pricing edges upward, the production of such exports may also benefit many of us in the way of renter demand, as the required workforce clamor for apartments.

The question remains, how do apartment operators best navigate the natural gas prices ahead, knowing that upward movement is likely?

Mark Copeland has the answer in his cover story, "The Internal Flame." The smart purchase of gas (and other utilities) makes a significant difference on his bottom line and he makes a brilliant case study of his own.

Data suggest that the smart purchase of utilities is just one in a blue ocean of opportunity for apartment operators to capture revenue within their communities. This issue is full of other such opportunities.

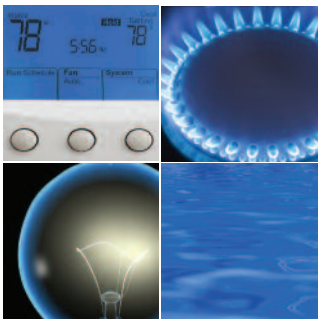
Utility cost recovery is, perhaps, the next true boom of our industry. As we continue to research and pursue opportunities in recovery for multifamily businesses, it is knowledge and business intelligence that will propel us from here to there. For our part, let's be ready and informed.

Michael Radice
mike@UMAdvisory.org

Utility Management Advisory

OUR MISSION

The **Utility Management Advisory** is a forum to leverage multifamily owners' real-world experiences and perspectives into information that will drive education to policy makers and property owners, and dispense tangible, actionable recommendations. This alliance will improve multifamily owners' and managers' ability to: conserve, save money, serve residents, while protecting and enhancing their fiscal bottom lines and property values, and staying ahead of emerging policies and requirements.



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Multifamily cash cow: recycling

I'm first. I'm first. That's my nanny-nanny-boo-boo prophetic warning to all y'all outside California. And, yes, you might want to throw my Birkenstocks and granola in the trash, but you best take a better look at what you are putting in that dumpster. Trust me; this is not some Charlie Sheen style "winning."

I took the first recycling bullet with California's new recycling law, affectionately known by the locals as AB 341 (the California 2011-2012 legislature's Assembly Bill number 341 that supercharged AB 939).

I take my AB 341, super-seriously. It requires that multifamily dwellings with 5 apartment units or more maintain recycling ratios, versus waste, of 75 percent recycled material and 25 percent waste.

I am incentivized to do so. Although I want to talk about the money because that's my favorite part, let's begin by understanding how my trash is measured. The trash provider takes the size and number of my dumpsters, multiplied by the number of trash pick-ups, plus the size and number of recycling containers, times the number of pick-ups. This formula goes something like: (# of trash dumpsters x dumps) + (# of recycling dumpsters x dumps) = waste for site

The percentage of recycling versus trash in the community is then evaluated to determine compliance. If I am compliant, I get the good stuff: lower costs, better planet, happy residents who feel good about their community's recycling program—a triple bottom line.

In the land of fruits and nuts, a.k.a. California, recycling costs are lower (sometimes substantially) than our regular waste

pick-ups. In some of my markets, recycling pick-ups are free. I can empty green bins 7-days-a-week and my trash provider does not charge a dime.

Trash dumpster pick-ups is where my costs lie. Have you ever looked at your trash bill to compare dumpster cost pick-up, versus recycling container of said? I recommend it. In fact, you will probably find that invoice more thrilling than a Disneyland "E" ticket ride.

AB 341 provides an added layer of "you gotta;" it gives cities authority to charge penalties to owners whose trash-versus-recycling percentages are uncompliant. Such penalties are already surfacing on owners' bills. (Unless you look carefully, you may not even know that you are that person with the toilet paper stuck to your shoe.)

The ripples of this legislation are many. AB 341 completely shifts how property owners are billed for trash in some markets.

Cities charging minimums for pick-ups on a multifamily property must change the way they bill residents.

Many cities, like Mountain View, California, consider the number of units at a property and develop a monthly baseline to charge per number of trash pick-ups. Pick-ups exceeding this established number are charged accordingly.

It's similar to an electric bill where a household establishes a minimum baseline on use. Every kilowatt over that baseline graduates users into a higher, more expensive, tier of electricity. Trash in California now works the same way. Minimums violate AB 341 when they are in conflict with the trash-to-recycling ratios we're required to keep. Simply put, in Mountain View it currently doesn't matter if I reduce trash-pick-ups by increasing my recycling volume because my bill won't change. As managers realize that trash minimums are not in harmony with the grape state's legislation, it's likely these minimums will change or be dissolved.

This legislation will also change how we design and construct future multifamily projects. We will likely start looking at larger, centralized trash enclosures that allow for robust recycling in lieu of a plethora of tiny enclosures not big enough to sustain the correct percentage of trash and recycling containers. It may even change how we design the kitchens in our units to create spaces that promote trash, recycling and related sorting in the home, where such handling starts.

The new law will impact how we communicate with residents. How many times have you stopped residents to ask, are there bottles or cans in that bag of trash you are lobbing into our dumpster? Although, residents will tell us that they want composting and more robust recycling, the truth is that such facilities are not very convenient.

We know that if it's not easy, few residents will sort their stuff. And in addition to causing us to more carefully watch what goes into our bins, this bill is going to change how we monitor what comes out. Some people are dumpster divers who like to pull the good stuff out of our recycling bins for personal profit; we need that volume of recycling and every bit counts.

I believe that what is happening in California with trash legislation isn't going to stay isolated on the left coast.

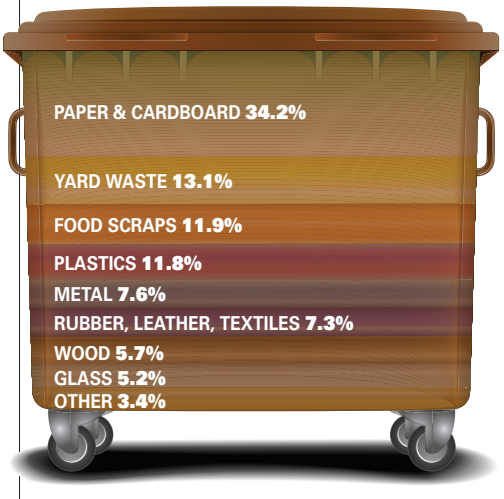
My trash law is likely coming your way. For now, those with properties in California just might want to look at my Birkenstocks and granola as they sit in your dumpster, costing you more money, and consider if any of my stuff is recyclable or compostable, and redistribute your waste. You may not like it but you'll thank me later.

Author 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.

Americans generate about 250 million tons of trash annually

Americans recycled and composted 85 million tons (up from 15 million tons from 1980). That's a 34.2 percent recycling rate. This prevented the release of approximately 186 million metric tons of carbon dioxide into the air in 2010 (equivalent to taking 36 million cars off the road for a year.)

What do we toss?



SOURCE: US ENVIRONMENTAL PROTECTION AGENCY

Past due

Many multifamily owners and managers' billing programs are on perpetual autopilot. If their efficacy were a billing cycle, it might be in the 90-day column.

When was the last time your property or regional managers sat down with your billing companies to look for new revenue opportunities? It's a shared responsibility since no reputable billing company would make changes to your program without a discussion on the impact to your residents, and verifying proper leasing language.

Where to begin?

What's your current reimbursement recovery? What percent of your utility expenses are recovered from your residents according to your financial statements? This is the bottom line for your program and should be reviewed monthly, quarterly and annually. If it is lower than expected, now is the time to find out why.

Compare the recovery percentage from your financials with your billing company's figure. If there is a disconnect, there may be a problem with your property set-up, like a missing utility account, or line item deductions.

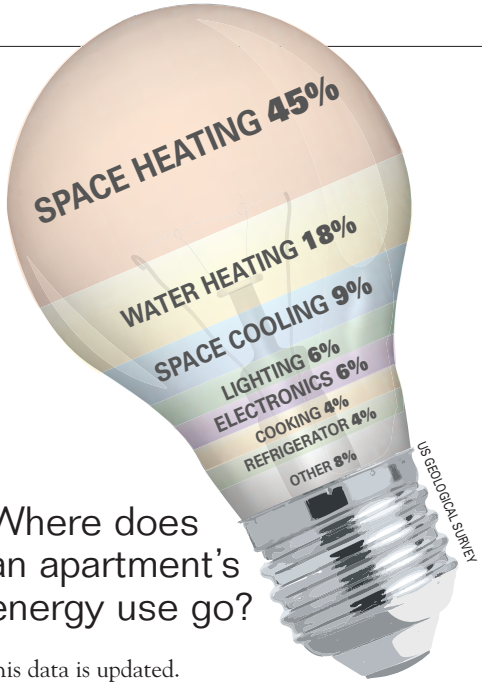
Look at your billing penetrations. Does it match your occupancy? If not, why not?

Review deductions. This includes common area deductions, goodwill deductions, irrigation, etc. Discuss these with your biller to see if they still make sense.

Look for caps. Such remnants may have outlived their intended usefulness. Some may be at the property-level, or maybe just for specific residents. Ask your biller to provide regular reporting on these.

Consider your billing methodologies. This includes metered, allocation methods, and flat fees. It may be best to reevaluate your billing methods to accurately recover pass-through costs by resident use.

Look hard at your flat fees. When were they last adjusted? When did your billing company last review your bills to verify your fees are still appropriate? If your billing company uses tariff rates, ask them how often this data is updated.



Where does an apartment's energy use go?

Check your utility bills, and real estate tax bills. Local governments have become creative, as of late, in creating new sources of revenue. Some, but not all, of these additional charges may be passed through to your residents.

With a list of new revenue opportunities, you should amend your lease (if necessary) to reflect the proper lease language. You may also need to send notices to your residents. Before making any of these changes, discuss this with your billing agent's regulatory team, or your counsel.

Then, develop a plan to take advantage of these additional billable items, and to decide when and how much to bill on these items. Just because something is billable doesn't mean you have to bill it right away. Roll it in gradually. This may be perceived akin to rent increases by residents since it is an increase to their total housing expenses. You do not want to jeopardize occupancy or rental income, just to get a $5 increase on the water bill.

Your billing company should provide an analysis of your options, but your management team needs to be actively engaged and involved in the decisions due to their far-reaching potential.

Be smart. Know your options, and put together a plan with your biller. The sooner you get started, the faster you will see the impact to your bottom line.

Author Tom Spangler is a consultant currently serving as Energy Manager for Greystar. Prior to that, he managed ancillary income and utility expense programs for UDR for over a decade.

Bringing the heat

The Energy Protection Agency (EPA) has over 65 product categories, but noticeably absent was clothes dryers. As the second-largest energy-users of a residence, the market was hung out to dry on hopes for efficiency, until now.

The EPA has published standards for lighting, heating, cooling, home envelope, office equipment, commercial food service, appliances, and home electronics to name a few.

"Pretty much all conventional clothes dryers require the same, hefty amount of energy—they're the second greatest energy users in the home behind the fridge—to operate. The technology for a less-consuming dryer simply doesn't exist," says Matt Hickman of the Mother Nature Network.

The EPA hopes to change that. Recognizing the void and wanting to use the market power of their brand to nudge manufacturers, the EPA is currently working on a standard for clothes dryers.

"Considering that dryers account for roughly six percent of residential electricity, this attention to efficiency is good news for consumers, even if the benefits are not immediate," states *Consumer Reports*. Demand for electric dryer efficiency could be significant given they have a typical power draw of 5kw during the drying cycle.

Goals for dryer standards

Proposed qualifications are a minimum of 13 percent reduction in energy consumption for electric dryers, and 10 percent reduction for gas. The existing 2015 Department of Energy (DOE) product standards are used as the baseline. But EPA's assumptions on normal usage could be too conservative.

Based on a study by Ecova for the Natural Resources Defense Council in 2011, real-world usage savings are likely 35 percent higher than the government's test scenario. If new equipment provides a 30 percent energy savings for electric dryers and 20 percent for gas, it would offer "annual savings that range from $21 (electric) to $6 (gas), which provides lifetime savings of $95 to $342," according to the EPA (assumes $0.1089/kilowatt-hour electricity price, $10.50/BTU natural gas price, 283 cycles per year, useful life of 16 years).

Based on conversations with stakeholders, the EPA is estimating the price premium for electric dryers with the energy saving features at $50. This puts the payback period at less than 3 years.

Chances are, to qualify for the Energy Star label, machines will need to include automatic shut-off and minimum warranty features. Smart grid compatibility is encouraged but optional, at least on the initial version of the standard. (Smart grid is a class of technology whereby computer-based automation is used to calibrate energy demand against availability.)

The EPA proposes that dryers be equipped with an automatic shut-off using both moisture and temperature-sensing controls. While most dryers on the market include temperature-sensing technology, less than 25 percent are moisture-sensing.

"Manufacturers and *Consumer Reports* have indicated that moisture-sensing does a better job at sensing when a load is dry than temperature sensing," says the EPA. The EPA also seeks to phase out timed-drying as it can lead to wasted energy and greater wear and tear on clothing by over-drying.

Also. the EPA's guidance is that minimum warranties increase consumer confidence in new technology. So they are proposing minimum 3-year-parts warranty for control boards (microprocessors), and 5-year-parts warranty on sealed systems.

Looking ahead

Smart appliances, connected to the smart grid, are encouraged, but optional on the first version of the Energy Star clothes dryer standard. EPA is highly interested in supporting smart grid technology, and plans to encourage manufacturers to integrate this technology into this, and other product categories, going forward.

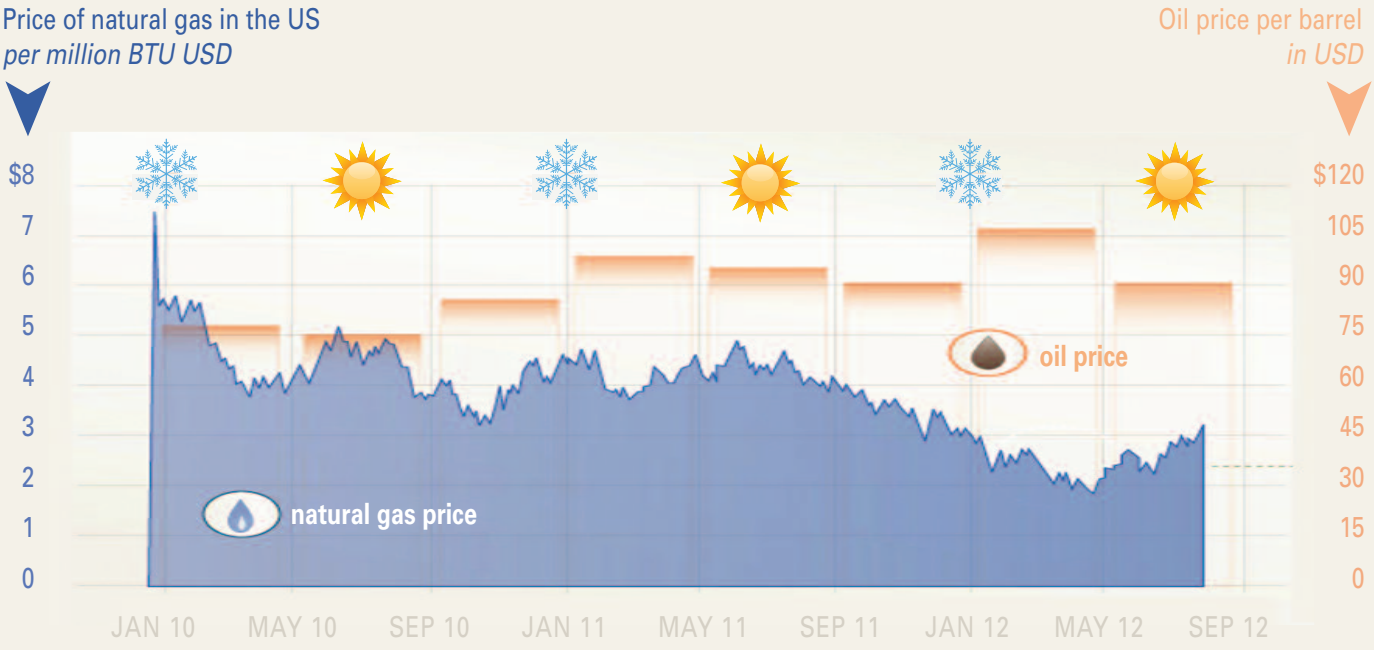
The EPA is developing criteria first for refrigeration, and will then parlay that work into other categories such as laundry.

"Connected functionality can also deliver near-term convenience and energy-saving features, e.g., enhanced energy awareness, product level energy consumption, messages and alerts relevant to the product's energy consumption, and remote management capability," according to the agency.

Commercial clothes dryers will be excluded from version 1, due to lack of efficiency data. This is unfortunate news for multifamily owners with common area laundry rooms. But for owners who provide in-unit laundry equipment, the new standard will make a near-term impact.

Author Kent McDonald helps property managers control their utility costs. Previously, he was with Aimco as VP of ancillary services.

References: Energy Star is a certification program by the U.S. Energy Protection Agency (EPA) established to rate appliances, materials and environments for greenhouse emissions impact. Find more at energy.gov.



U.S. ENERGY INFORMATION ADMINISTRATION

The internal flame

What's up with natural gas prices? Anyone who reads or watches TV probably knows about hydraulic fracturing, or fracking. But this is not about fracking.

It is, however, about its benefits. Top on the list: an abundant supply of clean-burning natural gas. If you are a consumer of natural gas, either for home or business, when did you last check the price you are paying for this necessary commodity?

Historical precedent

Natural gas prices are on the rise after remaining low over the past 3 years. At press time, the price hovered at $3.97-per-million-btus, almost double year-over-year, but much lower than the all-time-high of $15-per-million-btu's back in 2005, which launched the fracking industry.

While the recent increase was due to a cold northern winter and depletion of the U.S. energy reserves to much lower levels, the price should come back down this summer. Don't quote me. I am not a commodities trader, just a property management executive. I rely on the much-smarter people at NWP who specialize in the purchase of electricity and gas for business.

Which leads me to being smart about purchasing natural gas for heating and hot water for multifamily communities. My natural gas provider in Texas is CenterPoint. This is not an ad for them, but it was they who presented me with a method of purchasing natural gas 4 years ago when its price was through the roof.

About 30 percent of my Texas properties have domestic hot water boilers. CenterPoint provided transmitters that attached to the existing gas meters, leaving the properties to simply add an Internet connection. These are similar to the smart meter that electric providers install across the nation. The new technology meant that my gas provider could monitor consumption by time-of-use, and make an informed purchase of natural gas based on a analytical calculation of what the property would need for the next day. The CenterPoint program is called the Commodity Price Index.

We purchase our natural gas on a baseline agreement allowing us to manage costs in a most calibrated way. This method allows us to group multiple locations into a single price, or hedging strategy, and receive a single convergent monthly invoice including all my locations on one bill.

While natural gas prices have remained low, this purchasing procedure has allowed our company to save between 20 and 30 percent on our natural gas. The longer the term you lock in your commodity pricing, the higher the rate.

Our baseline agreement with CenterPoint has a monthly cap so we are protected from the large increases of seasonal influences affecting the market.

Most natural gas providers should be able to provide this service to your properties If your properties' utilities are provisioned by a city municipality, they may not have adopted this technology. And some gas providers may not be as willing to provide this service as in North Texas, where we're serviced by Atmos Energy. But the technology is there. It's best to inquire.

Author Mark Copeland heads management operations of Atlas Residential based in Addison, Texas. Atlas with 3,500 units.

Sources: *Wall Street Journal* 3/26/13, *Barrons* 3/21/13, Monthly Price Lock, Commodity Price Index are products of CenterPoint Energy Services Inc.

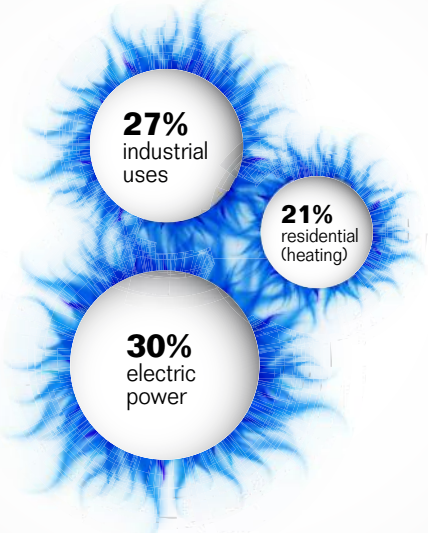
Seasonal demand

Since natural gas is used to heat millions of U.S. apartments, changing seasons and weather patterns directly affect its price.

On the warm side

In 2012, the United States had the warmest winter since 2000. Fortunately, natural gas prices dropped due to oversupply.

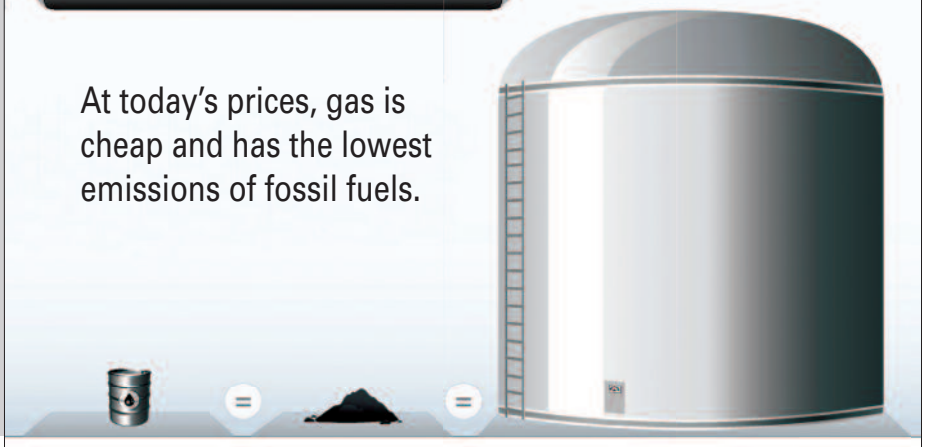
Where is natural gas used?



14% commercial use, 5% oil and gas company operations, 3% pipeline fuel, <1% vehicle fuel

Gas vs other fossil fuels

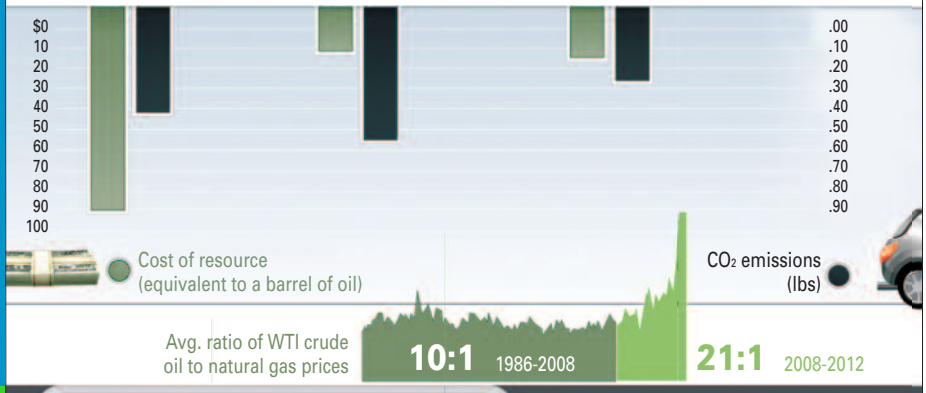
At today's prices, gas is cheap and has the lowest emissions of fossil fuels.



1 barrel of oil equals 5.8 million BTU

464 lbs bitumous coal

5,800 cubic feet of natural gas



The natural gas market

The physical properties of natural gas and new technology make the natural gas market different from other commodities.

New technology

While many commodities are becoming more difficult to get, technological advances have made natural gas extraction more efficient.

Prices have been falling as a result

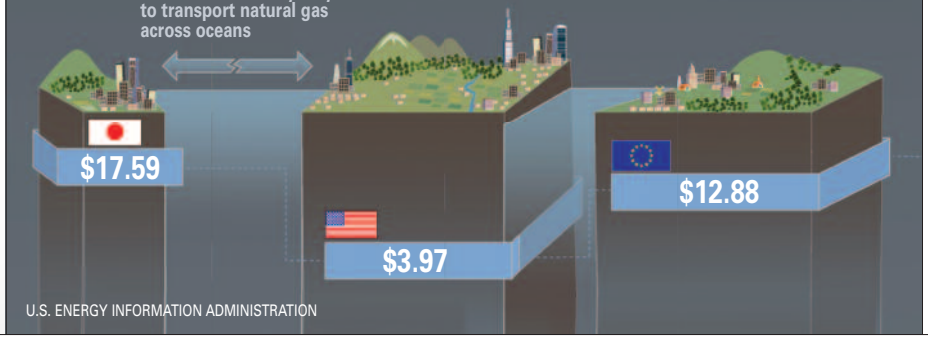
Especially in America

Regional markets

While oil is a global market, the most efficient way to transport natural gas in on land through pipelines. This means that natural gas prices can vary widely in different parts of the world.

Price of natural gas, May 2012

Prices in USD / per million BTU



U.S. ENERGY INFORMATION ADMINISTRATION

When light bulbs are compared side-by-side, some consumers are turned off by labeling that stresses the environmental benefits of efficient choices, a study finds.

Renting energy-efficiency

New research suggests that fewer buy energy-efficient light bulbs when they're labeled as being good for the environment, largely because the issue of carbon emission reductions is so politically polarizing in the U.S.

"I think we've shown the negative consequences of environmental messaging," explained Dena Gromet, of the Wharton School of the University of Pennsylvania, lead author of a study. "In particular, you can lose significant portions of people who would otherwise be interested in these products when you use that environmental labeling. So it indicates that different messages can reach different groups."

The U.S. is one of many countries forcing a switch to more efficient light bulbs. In January, new efficiency requirements went into effect for 75-watt incandescent bulbs, following new standards on 100-watt bulbs a year earlier. The changes drive a projected 857 kilowatthour-per-household reduction in energy used for U.S. residential lighting by 2040, a greater cut than for any other area of household energy use. But consumer complaints have been persistent, and Congress cut funding to enforce the standards.

The importance of price

Gromet and colleagues from Wharton and Duke University's Fuqua School of Business first queried 657 volunteers to find out whether their opinions on energy-efficient products were split along a political divide. They were, she reported, and the issue of emissions reductions explained much of that ideological distance.

Then, a set of 210 potential buyers were armed with information on the benefits of compact fluorescent light bulbs (CFL), which last 9,000 hours longer than incandescent bulbs, and cut energy costs by 75 percent. They were asked to choose between lower efficiency and higher efficiency options; efficient bulbs were offered, labeled with a "protect the environment" sticker in some cases, and at other times with a blank sticker.

Political divisions appeared in purchasing choices—but not until price became an issue. When priced the same, every participant save one chose the energy-efficient option regardless of political persuasion.

"That indicates that people recognize the greater economic value of the bulb when there isn't a higher up-front cost," Gromet explained. But when the study represented retail realities, that more efficient options carry a higher up-front price tag, fewer conservatives were willing to pay extra for bulbs labeled as good for the environment.

"Our results demonstrated that a choice that wasn't ideologically polarizing without a 'protect the environment' label became polarizing when we included that environmental labeling," Gromet said. "We saw a significant drop-off in conservative people choosing to buy a more expensive, energy-efficient option."

The explanation, Gromet suggests, could lie in labeling a consumer choice to represent values that simply aren't shared by all buyers—in this case the environmental issue of reducing carbon emissions.

"So it makes that choice unattractive to some people even if they recognize that it may be a money-saving choice. When we asked afterward, those consumers identified the CFL bulbs as providing greater monetary savings over time. But they would forgo that option when that product was made to represent a value that was not something they wanted to be identified with."

The study also suggested that pro-environmental messages don't have much of a positive influence on liberal consumers at the other end of the political spectrum. "We didn't see a significant boost among political liberals when we used the environmental message in our study," Gromet added. "One possibility stemming from that is that you're not necessarily getting that much of a boost on the liberal side."

Other factors at work

Jacquelyn Ottman, a marketing consultant specializing in sustainability who wrote *The New Rules of Green Marketing*, said she wouldn't expect green labeling to provide a big consumer boost for liberals or conservatives. People buy green products for the value they represent and because they work, she explained. Environmentally aware consumers do appreciate health benefits, and hope to protect the future for their families, but they aren't entirely swayed by green messaging, she said.

"Green marketing I lump in with things like 'made in America' or 'the union label.' They are nice for some people to think about when purchasing, and maybe they add a little value, but are not really game-changers in terms of swaying decisions. Some people conclude that Americans don't care about the environment because if they did they'd be buying more green products. But by that logic you'd say Americans don't care about America because if they did they'd be buying more 'made in America' products also."

As for the possible negative implications of green labeling, Ottman said other factors are likely at work besides politics. Some green offerings still battle stereotypes from decades ago, she said, when many were viewed as "alternative" products that simply didn't work as well and weren't produced by the larger brands consumers had come to trust. "There is a lingering misconception about green products that they don't work and that they are overpriced because they are gouging people based on their sentiments about saving the planet," she said.

Recent market research suggests that a different factor might be at work: Consumer dislike for CFLs may be a far greater problem than price or messaging. Sales of solid-state LED lighting are growing rapidly, even though this high-efficiency choice is more costly than CFLs. The Wharton-Duke study did not test attitudes on LEDs.

"It's an open question whether emphasizing those other aspects of energy-efficiency might have different appeal to different political sensibilities and a different impact on consumer decisions," she said.

Excerpt Brian Handwerk for *National Geographic News*

Objects in mirror: perception

When they flick off light switches or ease off the gas pedal, many Americans feel they are doing their part to save energy. But the authors of a new survey say that consumers consistently ignore larger changes—more efficient appliances or vehicles, or the level of insulation in their apartment—that would cut fuel consumption far more dramatically.

The research from Columbia University is the latest attempt to probe the psychological roots of the energy problem, and to understand why it has been so hard to realize reductions in greenhouse gas pollution.

The survey showed that consumers gravitate to "low-effort, low-impact" actions on energy, rather than strategies that might reap higher rewards. The largest group, nearly 20 percent, cited turning off lights as the best approach to save energy—an action that the study authors said actually could affect energy budgets relatively little.

Only about 3 percent of the respondents cited more efficient cars or appliances.

"When people think of themselves, they may tend to think of what they can do that is cheap and easy at the moment," said lead author Shahzeen Attari, a postdoctoral fellow at Columbia University's Earth Institute. She said the people surveyed tended to believe in "curtailment" rather than efficiency. "That is, keeping the same behavior, but doing less of it," she explained. "But switching to efficient technologies generally allows you to maintain your behavior, and save a great deal more energy."

Some energy experts point out that turning out lights can amount to a large cut in consumption. "If you're using 100-watt light bulbs, that's not an inconsequential amount of electricity," said Tom Simchak, Alliance to Save Energy, a D.C.-based nonprofit.

One of the factors that could be skewing perceptions is the way that energy efficiency information has been communicated, both by policymakers and by industry. Attari's team cited a paper by Duke University, "The MPG Illusion," which showed that use of "miles-per-gallon" can be misleading.

What seems like a modest change in mpg terms, a switch from a 10-mpg gas guzzler to an 11-mpg sport utility vehicle, would actually save 100 gallons over 10,000 miles. That's the same as a switch from a relatively high-efficiency 33-mpg car to a 50-mpg hybrid-electric model. "Even small improvements in mpg can be a lot of gas savings if you're driving a really inefficient car," says study co-author, Richard Larrick, professor at Duke University.

"You need to look at your refrigerator or your air-conditioner and realize it's the SUV of your home, and there is an opportunity for big savings if it's 10 or 15 years old," Larrick said. "I do sometimes worry that the focus on light bulbs is creating a lot of 33-mpg-to-50-mpg" results—smaller savings than would be realized by a focus on appliances that are using far more energy.

Ironically, survey respondents who reported that they engaged in more energy-conserving behaviors actually had less accurate perceptions for reducing fuel and power consumption. Attari said that might be a reflection of unrealistic optimism about the actions they personally were choosing to take. Also, "single-action bias" might be at work—meaning that people tend to be willing to take one or two actions to address a perceived problem, but attention fades after they believe they have done all they can.

"We should be doing everything we can," Attari said. "But if we're going to do just one or two things, we should focus on the big energy-saving behaviors."

Excerpt Marianne Lavelle, for *National Geographic News*

Financing smart grid a challenge

The U.S. electricity industry is struggling to figure out how to finance smart grid investments, a survey by the engineering firm Black & Veatch finds.

Investment in the so-called smart grid—where communications and computer technology more tightly tie and manage energy from the power plant to the home—aren't easily captured in the rate structures most investor-owned utilities rely upon.

B&V surveyed 600 industry participants and 58 percent said that smart grid business cases often don't pass financial muster.

About half the respondents said that large upfront smart grid investments can't compete with other, more traditional priorities.

"Utilities want to get a return on the investments and get them into rates," said Dean Oskvig, president of B&V Energy. "Sometimes that is difficult with smart grid investments."

"Everybody is going to have to adapt in some fashion because the old business model in some cases doesn't fit the new," Oskvig said.

The survey's findings aren't a surprise. There's been a lot of discussion on the issue.

Traditionally, investor-owned utilities, which provide about 70 of the nation's electricity, make their money two ways: selling kilowatt-hours and building new plants and lines and then getting the public utility commissions, which oversee them, to allow them a return on the investments.

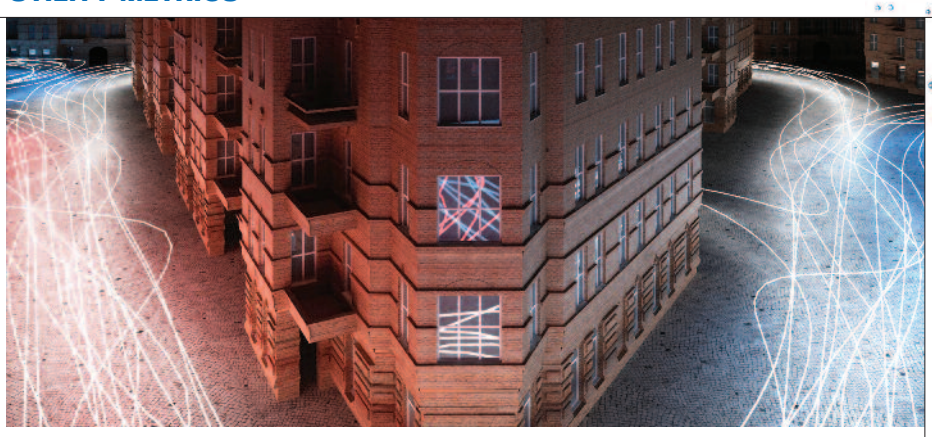
"The model based on going to a public utilities commission for rate increases was premised on the idea there would be investment for growth," said Daniel Jaouiche, a financial analyst with Clareo Partners.

Load growth, however, has been flattening in the U.S., according to federal Energy Information Administration data.

The smart grid compounds the trend by emphasizing energy efficiency and smaller distributed investments in things such as residential solar panels. "There is a disconnect and it is straining the system," Jaouiche said.

As part of the economic stimulus package, the Obama administration provided about $3 billion for smart grid investment, but that is now gone.

Excerpt Mark Jaffe, *The Denver Post.*



Just do something... the next step

In the previous issue, I suggested targeting communities in your portfolio that use the most electricity, natural gas, and water, on a per-unit basis.

Following this strategy, you might now be looking at a short list of target properties, and wondering what to do with them. The answers may not be as easy as you would think. Sometimes, findings are quick and actionable. Other times, further research is needed before proper steps can be taken. Here's what happened when my company went through such a review.

When examining per-unit electricity consumption, one midrise property stood out. The 5-story property with structured parking and air-conditioned hallways has a large number of light fixtures in the parking garage and common areas, large air handlers in the parking garage that run frequently and five elevators.

There is no obvious quick fix, so a deeper dive was required. We hired an energy management consultant to review the property and determine the most cost effective measures to reduce electric consumption. There's no shame in calling in experts. It's far better to pay them to assess the most efficient options, rather than wasting precious capital dollars on projects with an unclear return on investment. Our consultant analyzed the property's consumption while we set our sights on rebates. City, state, and utility providers' rebates can offset the expense of costly retrofits. This project is still ongoing, and we anticipate the effort will bear fruit.

In analyzing per-unit consumption for gas, we uncovered a garden-style property with a unique lighting feature that drove usage above the norm. The property has natural gas lamps throughout the property for exterior lighting. As such, there is no way to turn the lamps off during the day.

You might think that switching the fixtures to electric pole lamps would save significant dollars. Potentially, yes. However, expense to run power to each of these poles proved to be prohibitive. Since the gas lamps are not expensive to run, the ROI on an electric retrofit was many years out.

We continue to look for ways to add exterior electric fixtures to the property in, perhaps, alternative locations that cost less to install, while delivering adequate lighting throughout the property.

Lastly, looking at per-unit consumption for water highlighted a garden community with a history of high water consumption. We determined that the increased consumption was due to water leaks at the property. Since most of the leaks happen underground, there was no good way to detect them until the water comes to the surface, found its way to a storm drain on a dry day, or we received the utility bill.

To be proactive, we installed a consumption monitor on the master meter. This device sends notifications to the site staff if the property's water consumption exceeds a predetermined threshold on a daily, even hourly, basis.

This has worked well, but the property has 24 buildings. Finding a leak, once we are notified, can be like finding a needle in a haystack. To zero in even further, we are installing a submeter system to monitor the consumption on a per-building basis. Upon completion, we will be notified of a leak and be able to pinpoint its location the same day it happens. The combined cost of both systems will pay for itself with the first leak.

None of these findings were a surprise. From an expense standpoint, management was aware of the spend related to the consumption demands of each property. Factoring out the expense and looking only at the consumption, then comparing that consumption to other like properties placed a greater spotlight on these particular communities. Utility management projects are ongoing. This is not a part of property managemet where you will complete a project, then just move onto the next.

The best utility management requires vigilance and constant measurement to ensure threshold ROIs are achieved, and high-consumption communities are addressed.

Author Timothy Haddon is director of ancillary services with Associated Estates.

Why renters waste more energy than homeowners

Renting an apartment can seem like a compact, environmentally-efficient way of living, but when it comes to energy use, that's not always the case. University of California, Berkeley economists Lucas Davis and David Levine recently found that renters are significantly less likely than homeowners to report having efficient Energy Star appliances.

What's going on here? Davis and Levine think it's the so-called "landlord-tenant problem." Simply put, landlords have little incentive to buy energy-efficient appliances for their rental units, because the renters themselves typically pay the utility bills. In theory, landlords could buy efficient appliances and pass on the cost as higher rent, but they might have a hard time telling potential tenants exactly how much they'll save on utilities.

"As a consequence, rental units tend not to be very energy-efficient," write Davis and Levine.

A working paper by Davis points to three rental appliances as particularly inefficient: refrigerators, washing machines, and dishwashers. His data came from a national survey of residential energy consumption. The survey indicated who paid for utilities (tenant, landlord, or owner) and excluded units with utilities included in the rent.

Davis found the renter-homeowner disparity persisted even when controlling for factors like household income, weather and other demographics. He also effectively ruled out explanations other than the "landlord-tenant problem," including the possibility that homeowners and renters simply have different tastes for green appliances.

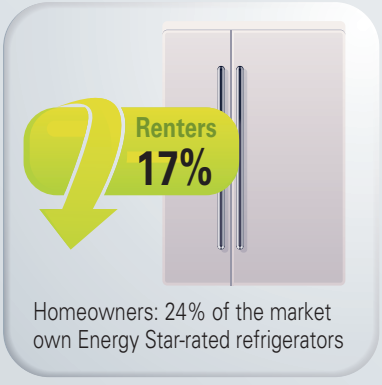
Case in point: when it comes to air conditioners, the pattern doesn't hold true. More renters report having Energy Star models than homeowners do. That's because renters often bring in their own air conditioners, moving them from unit to unit with their other belongings. In contrast, appliances like refrigerators or washing machines are much less portable, making it unlikely a renter would buy their own.

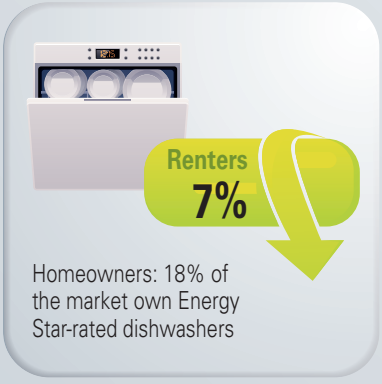
Davis concludes that if renters had as many energy-efficient appliances as homeowners, annual energy consumption would decrease by 9.4 trillion BTUs across the United States. (That's only half of 1 percent of total energy consumption in rental units, writes Davis, but that figure would likely rise if all household appliances were considered.) Under this scenario, energy expenditures nationwide would be reduced by $93 million, and carbon emissions by 166,000 tons.

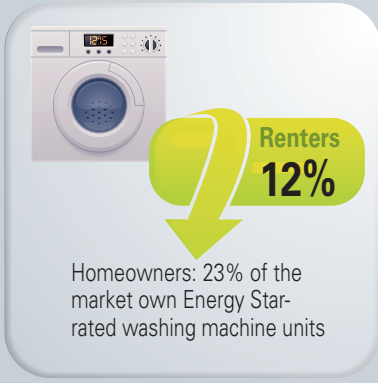
To address the problem, Davis and Levine recommend that cities create energy "report cards" so potential tenants could consider energy costs while shopping for an apartment. Ideally the report card would give an expected utility cost per month and state how much higher (or lower) that cost is compared to other apartments the same size. Cities can develop their own criteria and require energy labels without federal approval. Efficiency awaits.

Contributor Eric Jaffe

Percentage of energy-efficient appliances: homeowners vs renters







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