

Spring 2020 | Volume 4, Issue 1

How COVID-19 Can Impact Your Multifamily Buildings?

"When the time to act has come, the time to plan has passed."

Multifamily property owners should have plans available to deal with the predictions of experts related to the spread of the COVID-19. According to HUD, 40 percent of public housing units are occupied by households headed by a person 65 years old or older, most of whom live alone (88 percent). Over half of the elderly households live in projects specifically designed for the elderly. Public housing contains a much higher percentage of elderly households than the overall rental housing stock. Only 14 percent of all rental housing is occupied by the elderly.

Households with children comprise 43 percent of public housing. A slight majority of these (56 percent) are single-parent households. Households headed by disabled persons are also an important component of public housing; 12 percent of public housing families have a nonelderly disabled head of household. To summarize: 52 percent of all public housing is occupied by elderly or handicapped households, 43 percent by households with children (including some with handicapped heads of household), and the balance by nonelderly households without children.

The new coronavirus is not an equal-opportunity killer: Being elderly and having other pre-existing illnesses, for instance, greatly increases the risk of dying from the infection the virus (COVID-19) causes. The age-related death risk probably reflects the strength, or weakness, of the respiratory system. It's also possible being male could put you at increased risk.

Because the virus is spread person to person through contaminate droplets, the occupied space is a susceptible area of transmission and spreading. Coronavirus can residually contaminate a building in two ways: First, by droplets (e.g., coughing, sneezing) from an infected person being deposited or settled on surfaces in the occupied space. The time the virus can remain infectious depends on several factors including surface substrate, presence of a food source, ambient temperature and relative humidity.

Second, the droplets can enter and be distributed by the building HVAC system. Much of the same stimulus that effects surface longevity of the virus is likely true for the HVAC system. Many studies have looked at the HVAC system's connection and role in the spread of microbes into the occupied space. Scientists from the Greifswald University Hospital and Ruhr-Universität Bochum in Germany, recently compiled information from 22 studies from two of the most recent outbreaks:

UPCOMING EVENTS

- » **NAHRO Washington Conference**
March 29-31, 2020
Washington, D.C.

- » **CLPHA 2020 Housing Is Summit Conference**
April 30 - May 1, 2020
Washington, D.C.

- » **MARC NAHRO/ New Jersey Conference**
May 3-6, 2020
Atlantic City, NJ

- » **PHADA Annual Convention and Exhibition Conference**
May 31 - June 3, 2020
Denver, CO

- » **SERC NAHRO Annual Conference**
June 21-24, 2020
Boca Raton, FL

- » **NAHRO Summer Conference**
July 23-25, 2020
New York, NY

Severe Acute Respiratory Syndrome (SARS) and Middle East Respiratory Syndrome (MERS). The compiled study was published in The Journal of Hospital Infection as "*Persistence of coronaviruses on inanimate surfaces and their inactivation with biocidal agents*" [J. Hosp. Infect. 2020](#)



The study concluded "**Human coronaviruses can remain infectious on inanimate surfaces at room temperature for up to nine days. At a temperature of 30°C [86°F] or more, the duration of persistence is shorter.**"

Overall, a coronavirus outbreak in a building will disrupt residents' well-being and the residential community's operations, as well as productivity. As always, it is recommended that MF property managers educate building residents on the personal hygiene best practices outlined by the Center for Diseases Control (CDC), and make sure staff or residents who think they may be infected take the proper precautions to seek help and minimize the spread of the virus. Also, contractors doing work on MF properties need to describe their techniques for limiting exposure to residents and others, e.g., using masks, gloves when entering units, wiping down surfaces when work is complete, etc.

A note of caution, unfortunately, emergencies often bring out the snake oil salesmen. Look to reputable companies who offer various levels of decontamination services to fit your requirements. You also want to be sure resident displacement is at a minimum and residents are protected during the decontamination process. Price may not always be a single determining factor. In building health-related services you get what you pay for. The better firms will address your needs with a variety of services that address different scenarios, including the use of:

1. *Electrostatic charged EPA Registered Disinfectant for Emerging Pathogens (DEP) which is sprayed on high touch surfaces.*
2. *Atomized DEP treatment of the indoor environment and air conveyance system (ductwork); full sanitization of the Air Handling Unit (AHU) and coils using a steam process.*
3. *Topical cleaning (HEPA Vacuuming and use of EPA registered sanitizer) and cleaning of ductwork, Variable air terminal boxes and reheat coils.*
4. *Topical cleaning processes for office computers, electronic equipment, any stock (e.g., office supplies, merchandise, books folders, etc.), wall decorations (e.g., picture frames, posters, artwork, etc.). The books and sensitive items will be cleaned via laminar flow chambers.*
5. *Decontamination process for the resident occupied space (more inclusive), HVAC system and ductwork with containment. This level of cleaning addresses topical cleaning of toilets, showers, interior of cabinets and desk drawers, dishes, canned foods, refrigerators, towels, linens, and curtains.*

"Air filtration, cleaning and hygiene management of HVAC of a building can potentially reduce the risk of coronavirus (COVID-19) spreading into occupiable spaces. Therefore, when developing a proactive program for good IAQ practices, it is encouraged to evaluate the hygienic condition of the HVAC system. In the event of undesirable sanitary conditions of the HVAC system due to both a-biological and biological contaminants, call a professional environmental remediation company that specializes in restoring HVAC systems to mitigate the issue/s." *Dr. Rajiv Sahay, FIAS, CIAQ, Laboratory Director, EDLab at Pure Air Control Services, Inc.*

Most important, be rational and sensible. Do not panic, and take the precautions to protect yourself, staff, and the residents you serve.

Watts Hot Newsletter™ wants to recognize and thank Alan Wozniak, CIAQP, CIEC, President, Pure Air Control Services, Inc for this informative article. For more detailed specifications please contact Pure Air Control Services directly, providing important building location, condition and HVAC equipment data so they can expedite the response. Pure Air Control Services are available through a variety of cooperative procurement agreements. Contact Alan at 800-422-7873 ext. 802 or visit their web site <https://pureaircontrols.com>.

NJNAHRO/MARC NAHRO to Co-Host Annual Conference & Trade Show

Atlantic City, New Jersey | May 3-6, 2020

Come make new friends or reconnect with colleagues at this year's New Jersey Chapter of the National Association of Housing & Redevelopment Officials (NJNAHRO). NJNAHRO holds its annual spring conference at the Hard Rock Hotel during the month of May. NJNAHRO would like to announce that the 2020 spring conference is being co-hosted by the Middle Atlantic Regional Council of NAHRO (MARC NAHRO). This partnership will allow New Jersey to hold a regional housing conference encompassing New Jersey, New York, Maryland, Delaware, Pennsylvania, Washington, DC, Puerto Rico and the Virgin Islands.



The conference agenda will include numerous representatives from HUD, industry experts and elected officials. This year's conference provides for many outstanding topics that will interest Commissioners, Executive Directors, staff and residents. The conference provides a major opportunity for Housing and Redevelopment Authorities to network with their peers from a large segment of our Nation's affordable housing providers. NJNAHRO has invited the Mayor of Atlantic City to discuss the city's redevelopment plan. Hands-on maintenance training will be provided in addition to the new REAC protocol for maintenance staff. The HUD Regional Administrators from New York, Lynn Patton and Pennsylvania, Joseph DeFelice have been invited to participate in a plenary session. Two sessions are being held on HUD's Public Housing Asset Repositioning which should be of interest to any Housing Authority considering converting their units.

Attend the Session **"A New Win-Win Funding Solution to replace your Agency's aging Infrastructure."** on **Monday, May 4th from 2:00 - 3:15 p.m.** Faced with rising utility; deferred maintenance costs; and, limited Capital Funds, how can a PHA reduce utility costs and replace, upgrade energy capital infrastructure (elevators, roofs, etc.)? A pioneering solution is emerging within the financial marketplace energy, fueled by new cloud-based technology and innovative capital financing. The solution is a utility-based usage approach where a third party owns, operates, maintains and is responsible for the energy saving performance of the new equipment. The PHA relies on the operating budget to pay a service fee; and, there is no debt. The result is a flexible, non-debt solution that addresses energy infrastructure replacement and preserves savings-scarce resources for core PHA business functions. Unlike traditional time-consuming funding alternatives, this approach can address important replacement issues quickly. And, like a utility service, the PHA customer is charged only for the utility it uses.

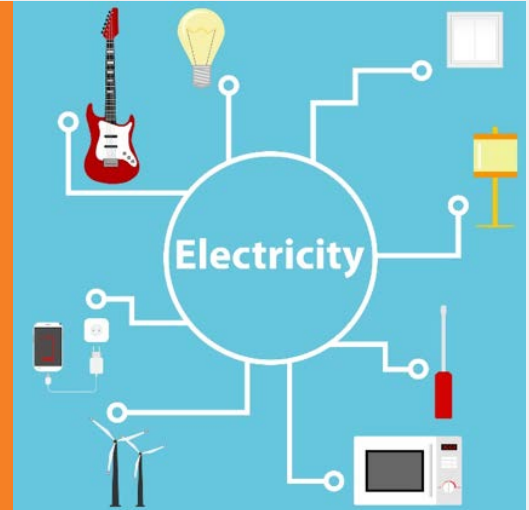
This new, win-win approach "as a Service", reviewed by HUD, is useful for PHAs with an existing energy performance contract (EPC); may be going to RAD or who have converted to RAD; or those without immediate access to capital funds and need to address an immediate infrastructure replacement items like elevators, roofs, boilers or chillers. Don't miss this opportunity to learn more about what is happening in the financial marketplace to address the backlog of infrastructure needs in the multifamily industry from Mike Nail (*Enlightened Enterprises, Inc.*) and Dick Santangelo (*Apollo Engineering Solutions LLC*).

Electrification: Not a Matter of If, Rather When

The city of Berkeley will no longer allow natural gas pipes in many new buildings starting January 1, 2020. It's the first city in California to pass such a law, officials said. Public support was also unanimous during 45 minutes of comment from community members and representatives of the University of California's Office of the President (UCOP), energy giant PG&E and the Sierra Club.

Electrification refers to the process of replacing technologies that use fossil fuels (coal, oil, and natural gas) with technologies that use electricity as a source of energy. Depending on the resources used to generate electricity, electrification can potentially reduce carbon dioxide (CO₂) emissions from the transportation, building, and industrial sectors, which account for 63 percent of all US greenhouse gas emissions.

Addressing emissions from these sectors is critical to decarbonizing the economy and, ultimately, mitigating the impacts of climate change. Substantially reducing emissions from vehicles will ultimately require fuel switching away from carbon-emitting gasoline or diesel to a cleaner fuel like electricity. In addition to decreasing greenhouse gas emissions, transitioning to electric vehicles can benefit the electric grid and improve air quality.



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The City of Berkeley, California became the first American city to ban natural gas infrastructure in new buildings last week after PG&E, the second-largest U.S. utility and notably both a gas and electric utility, publicly supported the move. Berkeley isn't alone—it's leading a national trend that will cut natural gas demand through building electrification.

What impact will electrification legislation on multifamily owners and the need for affordable housing? The greatest need for affordable housing—on the local, State, and national level—is concentrated among extremely low-income renters who earn no more than the federal poverty rate or 30 percent of the area median income (AMI). National Low-Income Housing Coalition's recent report, *The Gap: A Shortage of Affordable Homes*, found a shortage of 7.2 million affordable rental units for the nation's 11.2 million extremely low-income renters. Fewer than four affordable rental units exist for every 10 of the lowest-income renter households nationwide.

The challenge for multifamily properties owners going forward is understanding the implications of State, and local electrification public policy. This article discusses the basics and rationale for electrification to better understand the challenges to multifamily owners as the transition appears to make grass roots progress, nationwide.

Also, no discussion on electrification would be complete without recognizing the disproportionate share of income that low-income residents pay for electricity. There's a shift underway in how Americans consume energy. That's largely due to increasing efficiency, decreasing demand per capita, and the rapid expansion of renewable energy sources. Still, the share of income that low-income households spend on electricity rose by one third in the last decade. In fact, the bottom 20 percent of earners spend almost 10 percent of their income on electricity, more than seven times the portion of income that the top 20 percent pays. The report tracks the cities where the poor are hit hardest by electricity bills, and the results show stark inequalities.

Groundswell ranked cities by their proportion of poor residents who pay \$200 or more for electricity each month. The \$200 threshold is just shy of 10 percent of the annual income for a family of four living in poverty. It's also significantly higher than the median monthly electricity bill in the U.S., which was \$114 in 2013. The highest energy bills for the poor are clustered around the South—that's where 46 percent of households with high energy burdens live. Jacksonville tops the list with 14.5 percent of its poor paying \$200 or more. Baltimore, Miami, Orlando, and Austin follow, all with at least 10 percent. These are parts of the country that get hot, so it's not surprising that people there use more energy.

What's notable is how that burden is distributed across the population: It disproportionately falls on minorities and poor residents. Fifty percent of all families that spend 10 percent of income on power bills are minorities, the report notes. In addition, more than half of those energy insecure households are below the Federal Poverty Level, says Groundswell CEO Michelle Moore.

"People who earn less aren't just paying more for electricity as a percentage of their income, they're paying more because it actually costs them more per square foot," Moore says. In addition to greenhouse gas reduction, technology improvements will significantly improve efficiency, reducing the cost of energy per square foot for residents that need it most.

Building electrification is a utility transition – it involves swapping out fossil-fuel-powered appliances (e.g., gas stove) for electric appliances in a significant fraction of buildings. Several other California cities, including Los Angeles and San Francisco, are considering building electrification ordinances. The City of Los Angeles just released its new Sustainability Plan that includes ambitious emissions standards for new buildings to be zero-emission by 2030 and all existing buildings by 2050. New Jersey's draft Energy Master Plan would end natural gas use in buildings by 2030, and new Maine laws will reduce natural gas use in buildings. The city of Carlsbad in San Diego County was the first to adopt a water heating emissions reduction ordinance that will promote the installation of solar thermal or heat pump water heaters in buildings. The County of L.A., Santa Monica, San Luis Obispo, San Jose, San Francisco, and dozens of local governments across the state are considering options to accelerate the decarbonization of their buildings, beginning with ordinances covering new construction. These leadership initiatives are encouraged by business, labor, low-income, health, and environmental leaders urging even more California communities to follow, in perhaps the biggest wave of local government action on climate in the nation's history. Meanwhile, eight states, along with Washington, D.C. and Puerto Rico, have established 100 percent clean electricity goals. Because electricity is getting increasingly cleaner, it's imperative that policymakers adopt policies to power buildings with electricity to help put us on a path to meet climate goals.

Building electrification has been an overlooked climate imperative: decarbonizing the U.S. electricity sector would only address 28 percent of total U.S. greenhouse gas (GHG) emissions. Decarbonizing the entire economy will require tackling all sectors, especially buildings, which are responsible for 12 percent of total U.S. emissions. Medium-size multifamily properties typically use 134 kbtu/SF of source energy while large low-rise multifamily buildings use 120 kbtu/SF. That means they are using 12 percent more energy to serve essentially the same purpose, resulting in higher greenhouse gas emissions. Beyond climate, building electrification helps cut consumer costs, integrate renewable energy, and reduce air pollution. An important difference between multifamily and commercial building types is that the main energy source in the multifamily sector is natural gas, while that of the office sector is electricity. Largely, this can be explained by the higher usage of domestic hot water in the multifamily sector, in contrast to the increased role of plug loads and lighting in the office sector. Space heating is the largest load in both cases.

Multifamily property owners throughout the Northeast and Mid-Atlantic have transitioned towards smart energy buildings of the future, and many consumers are already engaged in that transition through enthusiastic adoption of a variety of smart building technologies. But smart technologies can and must be more than just fun gadgets. In the residential sector, smart energy buildings can drive the region towards building decarbonization by: 1) building the connection between the building's loads and the grid; 2) decreasing total residential energy use; and 3) enabling load shifting across as many end uses as possible. Smart building technologies and building energy management systems can integrate decarbonized distributed energy resources and strategically electrified technologies, such as air-source heat pumps and heat pump water heaters.

As electrification transition moves forward, the end goal of comprehensive smart energy multifamily buildings of the future becomes clearer. The ideal smart energy should be:

- Highly efficient, both for building envelope and regarding individual technologies within
- Equipped with distributed energy resources, including rooftop solar, battery storage, and electric vehicles
- Feature strategically electric technologies including air-source heat pumps and heat pump water heaters

- Include end uses that are smart, including appliances, various electronics and plug loads, lighting, air quality monitors, building security systems, and the heating, ventilation, and air conditioning and water heating; and,
- Include some building energy management systems at the center to act as the “air traffic controller” between these different elements, exchanging data, information, and sometimes directing energy flow. (Figure 1, The Smart Energy Residential Unit of the Future)

Individual technology markets that pertain to this future smart energy home—such as those for smart thermostats, solar, etc.—are developing at their own speeds. Some policies are in place to enable and spur investment in smart technologies. Though progress has been made on individual market and technology basis, there is much to be done on integrating these efforts into a broad infrastructure for decarbonizing residential buildings. Broader opportunities for infrastructure, enabled by smart meters, to further enhance these developments through establishing dynamic pricing are available.

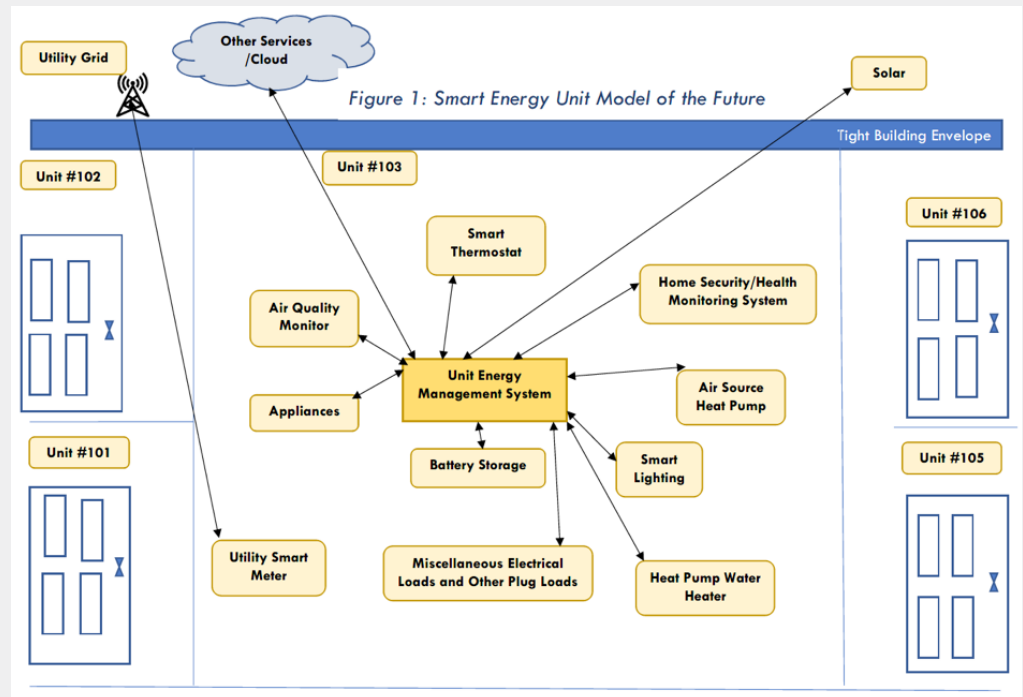


Figure 1: Decarbonized Smart Energy Unit Model of the Future

Ultimately, there are common barriers—such as unclear value propositions, flat utility rates, high costs, and unsupportive regulations and policies—but also common opportunities—such as technologies serving a customer amenity role, rebates and incentives, a wide diversity of products, and the grid benefits that many offer—between these markets. The goal is to create smart energy buildings that provide better customer amenities, grid benefits, and substantial carbon reductions. The areas of focus and some short-term steps to get there are:

- **Policy and Carbon:** Policies must evolve to recognize and value carbon reductions as a critical consideration and motivator for decision making so that a decarbonized residential building stock may be appreciated and incentivized.
- **Utility Regulatory Structure:** Utility programs of the future will serve as a “one-stop-shop” for smart energy buildings and strategic electrification technologies. These programs will account for carbon reductions, promote lower-carbon strategic electrification activities, and have dynamic pricing.
- **Smart Energy Buildings Drive Smart Buildings Performance:** As the grid decarbonizes and strategic electrification efforts increase, peak events will likely move towards the winter. Tight, low-load buildings are critical to the success of strategic electrification and broader residential decarbonization. Low electric loads will be reinforced by smart energy building efforts that increase performance of existing buildings.
- **Quality Assurance and Transparency in Technology:** Installed products in smart energy buildings of the future are high quality, easy to find, and work well together to enable a low-carbon residential sector.
- **Focus on the Locational Value of Smart Energy Buildings and Energy Efficiency:** A modernized grid that can account for a range of grid constraints when sending and receiving demand signals, particularly around location of savings, is critical.
- **New Construction and Smart Energy Building Integration with Building Codes:** New buildings are built to meet the future vision of flexible, low-load, electric buildings.

Ultimately, smart energy buildings, distributed energy resources, and strategically electrified technologies are gaining market adoption footholds throughout the Northeast and Mid-Atlantic. Several smart technology markets are healthy and thriving today, and there is a need to expand their functionality and interoperability with the distributed energy resources and strategically electric technologies to ensure we reach our residential decarbonization goals. Through focus and collaboration, and with a continued eye on equity and justice, regional actors can transform the residential sector with the smart energy buildings at the center. Together, decarbonization goals will be met as the smart energy building works to optimize the what, when, and where of building energy use for decades to come.

While electrification can be lower cost often, the incremental upfront capital costs can be higher for electrification when retrofitting the HVAC system in older buildings that lack air conditioning.

This is because air source heat pumps provide both air conditioning and space heating; when compared to just a gas furnace the cost of the heat pump is often higher. Heat pump water heaters are more expensive than conventional gas storage water heaters found in many existing buildings but are comparable in cost to tankless gas water heaters which have become the norm in new construction and in building renovations. Heat pump water heaters have mixed results for lifecycle costs but can generate lifecycle savings when water heater retrofits are combined with heat pump HVAC retrofits. Electric stoves and clothes dryers are not found to generate lifecycle savings for customers under today's rates usually and represent end-uses that may benefit from different electric rate designs, or from a longer-term market transformation effort.

Another retrofit challenge is that older buildings will require an electrical panel upgrades to support new electric loads. Electrical panel upgrades can add significant capital costs for some older buildings. Older buildings that require electrical panel upgrades will represent a decreasing proportion of the housing stock over time as buildings are renovated or as panels are upgraded for other purposes, such as to add electric vehicle charging, or rooftop solar.

No discussion on electrification is complete without mentioning potential financing sources to address a full multifamily building transformation. Resourcing an electrification transition of a multifamily building may require a combination of traditional and innovative financing approaches. For Public Housing Authorities, traditional sources include their reserves, Capital funds, capital fund financing, low-income housing tax credits, lines of credit, energy performance contracting (performance-based savings approach) and the Rental Assistance Demonstration. For private multifamily properties owners, HUD's multifamily programs have several avenues for insuring the refinancing of new construction and substantial rehab, including Section 221(d)(4), Section 207/ 223(f) and Section 223(a)(7) among others. The property assessed clean energy (PACE) model is an innovative mechanism for financing electrification, energy efficiency and renewable energy improvements on private property. Commercial and residential PACE programs share a common foundation. PACE programs allow a property owner to finance the up-front cost of energy or other eligible improvements on a property and then pay the costs back over time through a voluntary assessment. The unique characteristic of PACE assessments is that the assessment is attached to the property rather than an individual.

One of the most innovative approaches for financing large scale multifamily electrification projects in the current marketplace is "as a Service". A pioneering solution has emerged within the sustainability and resiliency rehab industry, fueled by new cloud-based technology and innovative capital financing. The solution – a utility-based usage approach where a third party owns, operates, maintains and is responsible for the energy saving performance of the new equipment. The property owner is charged only for the utility it uses. Performance risk lies with the third party. The multifamily property relies on its operating budget to pay a service fee; and, there is no debt. The result is a flexible, non-debt solution that addresses infrastructure replacement, maintenance and preserves savings-scarce resources for core MF business functions. The approach is not predicated on performance savings, like energy performance contracting, and can replace minimis energy savings systems, such as elevators, roofs, boilers or chillers. Procurement is focused on qualifying investors capable of supporting large holistic transitions to electrification, rather than specific system replacements under a traditional EPC RFP procurement. Unlike traditional time-consuming funding alternatives, this approach is flexible and can address important replacement issues more quickly.

Electrification is on the horizon. Will multifamily property owners be prepared for the regulatory requirements and the associated system upgrade costs to meet the needs of the anticipated low-income housing needs in the coming decades?

Watt's Hot Newsletter™ would like to recognize and thank the following authors, writers, report contributors for content in this article including:

- 1. Where America's Poor Pay the Most for Electricity, Julian Spector, April 14, 2016*
- 2. Resources for the future Electrification 101, Kathryne Cleary, December 5, 2019*
- 3. The Smart Energy Home: Driving Residential Building Decarbonization, Claire Miziolek, NEEP's Technology and Market Solutions Senior Manager, March 2019*
- 4. Five Steps to Decarbonize the Residential Sector, Claire Miziolek, March 12, 2019*
- 5. Residential Building Electrification in California, Consumer Economics, Greenhouse Gases and Grid Impacts, Energy and Environmental Economics, Inc., April 2019*
- 6. Opportunities to End Homelessness and Housing Poverty in the 116TH Congree, National Low Income Housing Coalition, January 2019*

Remembering Bob Groberg

Watts Hot Newsletter™ remembers a good friend and HUD colleague, Bob Groberg, who passed away Sunday, November 3, 2019 at his home in Washington, DC's Tenleytown neighborhood. Bob a Brooklyn, New York native attended PS 99 and was the Mayor of Midwood High School (Class of 1947). He received a B.A. from Syracuse University in 1951, a J.D. from Columbia Law School in 1954, and an M.A. in Public Administration from New York University 1960. Bob began his 50-year career in public service as the first intern at the Housing and Home Finance Agency, a predecessor to the US Department of Housing and Urban Development (HUD) in New York City. Bob and his wife Debbie moved to her hometown of Washington, DC in 1961 as Bob continued his career at HUD, then the National Association of Housing and Redevelopment Officials (NAHRO) and the U.S. Conference of Mayors, where Bob was awarded the Key to the City of New Orleans in 1968.



Bob worked tirelessly to advocate for energy efficiency and combined heat and power (CHP) in HUD developed subsidized housing, public housing, and FHA insured multifamily properties. Bob forged partnerships between HUD and federal and state agencies and laboratories to promote CHP. In HUD's 50th Year Anniversary Publication reflecting on HUD's energy leaders and the efforts to improve energy efficiency in HUD-subsidized housing and housing throughout the United States, Bob was recognized as a *Key Contributor to HUD's Energy Efficiency Efforts*. This is no small accomplishment in an agency that spends nearly \$6.4 billion each year in utility assistance.

My memories of Bob go back to the days of the Three Amigos. As I became the Energy Program Manager in Public and Indian Housing, Bob Groberg, working in CPD, mentored me in HUD energy policy and the history leading to Energy Performance Contracting. His historical files were second to none, some still on carbon paper. Bob working with Michael Freedberg as cochairs of HUD's Energy Action Plan attempted to increase energy efficiency across all programs. Working as the Public and Indian Housing representative on HUD's Action Plan committee, we became known as the Three Amigos. As Action Plan members we: attended conferences on HUD's behalf; coordinated departmental energy polices among HUD programs; developed Federal partnerships, sharing resources, furthering partner-agency goals; established Departmental energy reduction goals; tracked/reported performance.

Bob was a life-long musician and music lover, going back to his early days playing clarinet, saxophone, and glockenspiel. Bob continued playing music throughout his adult life, picking up piano, Spanish guitar, and cello before settling on the flute as his main instrument. Upon his retirement from HUD at 80, Bob enrolled in the University of the District of Columbia's Jazz Studies Program, studying jazz flute and improvisation.

Bob graciously contributed Combined Heat and Power articles to Watts Hot Newsletter™ over the years. I also considered Bob a foodie, having spent several lunches with him at the annual DC Food Festival, while working at HUD. Bob was always looking for the next food adventure. We will miss his HUD heart for the efforts he displayed to support the agency's mission. I will miss him for his trusted friendship, mentorship and as a fellow energy professional. R.I.P.

Innovative Approach for Procuring Competitive Electricity/Natural Gas

Apollo Energy Solutions and Enlightened Energy have partnered with Grid Energy Exchange to help PHAs manage their energy supply needs while creating optimal savings opportunities through a unique reverse auction approach.



This innovative, comprehensive and transparent approach uses a six-step process culminating in an on-line reverse auction that allows the PHA (in deregulated states – see below) to see in real time bids that come in from competing energy suppliers. Grid Energy Exchange aligns a PHA's contract needs with their internal risk tolerances to design an ideal energy supply product, and then schedules a reverse auction with 10-15 suppliers competing in real to provide the best option and term. Pre-Auction contract review services are included before the auction to eliminate post auction delays in locking in savings. Grid Energy Exchange auctions do NOT require a contract commitment post auction if results are not in line with cost saving expectations determined during the pre-auction process when suppliers provide quotes before being invited to bid in a live auction-this ensures only the top 10-15 competitive suppliers participate.

Many municipalities, universities and schools have been using this approach and now PHAs have found it is an excellent way to maximize their savings. Join Housing Authorities in Texas (Houston) and New Jersey (Jersey City, Brick Township) and others finding success with this new way of procuring electricity and natural gas. If you are in the deregulated states (below) and want more information on Grid Energy Exchange's innovative and transparent platform for electricity and natural gas procurement, visit www.GridEnergyExchange.com, call 844-Energy-9 or email james@gridenergyexchange.com.

DEREGULATED STATES		
California—Gas only	Illinois—Electric & Gas	New Hampshire—Electric & Gas
Connecticut—Electric Only	Indiana—Gas Only	New Jersey—Electric & Gas
District of Columbia—Electric Only	Maryland—Electric & Gas	New York—Electric & Gas
Delaware—Electric Only	Maine—Electric Only	Ohio—Electric & Gas
Florida—Gas Only	Massachusetts—Electric & Gas	Pennsylvania—Electric & Gas
Georgia—Gas Only	Michigan—Gas Only	Texas—Electric & Gas

179D Tax Incentive Available in 2020

In December 2019, Congress passed a budget agreement that included tax energy extenders, including the Energy-Efficient Commercial Buildings Deduction (179D) through December 31, 2020.

What does this mean for Public Housing Authorities?

History and Benefit

The section 179D tax deduction was originally passed by Congress as part of the Energy Policy Act of 2005 in direct response to broader energy usage and independence concerns. According to data released by the U.S. Department of Energy, buildings cause 73 percent of all electricity consumption in the U.S., with about half of that coming from commercial buildings.

To curb this trend and encourage broader energy efficiency, section 179D allows qualifying building owners (including Public Housing Authorities) and businesses to receive an up to **\$1.80 per square foot tax deduction** for their energy-efficient buildings placed into service during all open tax years (typically the "look back period" for buildings is three years, with some notable exceptions). Any accrued tax deductions from these buildings can be carried-back two tax years or can be carried-forward for up to 20 years.

Who/What Qualifies?

New and existing MF properties and PHA properties (3+ stories), government buildings, schools, hospitals, airports and military facilities are covered by the Statute. Measures include qualified lighting, HVAC and building envelope retrofits.

Chicago Housing Authority

Danita Childers, Senior Director of Revenue and Partnerships, (left), Michael Gurgone, Chief Investment Officer and Treasurer; and former CEO Eugene Jones, Jr., (now, President and CEO of the Atlanta Housing Authority) display the savings from a tax incentive program that encouraged energy efficiency.



Contact

If you have performed energy efficiency upgrades to lighting, HVAC and building envelope retrofits in 2017, 2018, 2019 or plan to perform upgrades before December 31, 2020, do not leave money on the table. Contact William J. Volker at Efficiency Energy, LLC, www.wesavegreen.com, 2101 L Street NW, Suite 800, Washington, DC 20037, 720-201-6856 cell or 202-776-7709 office wvolker@wesavegreen.com.

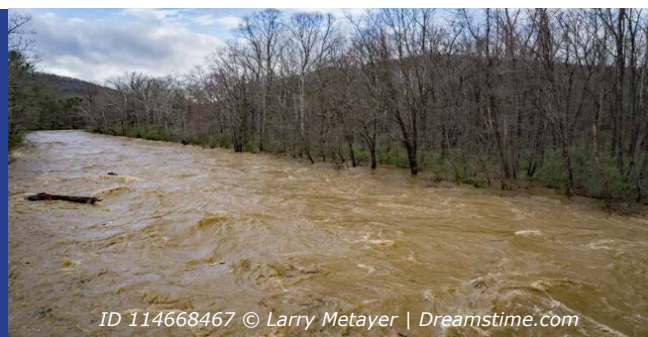
Utility Forecast for Spring 2020

Weather Outlook – March, April, May

(Data courtesy of NOAA)

The March-April-May (MAM) 2020 temperature outlook favors above normal temperatures from central and southern portions of the West, across the southern tier of the CONUS, northward to Great Lakes, and to the East Coast states. Increased chances for below normal temperatures during MAM are forecast across the northern Great Plains. Equal chances of above, near, or below normal temperatures are indicated across the remainder of the CONUS. Above normal temperatures are favored throughout much of Alaska, with the highest odds from the Seward Peninsula to about Point Lay.

The MAM 2020 precipitation outlook indicates enhanced probabilities of above normal seasonal total precipitation amounts from the Mississippi Valley to the East Coast. West of the Mississippi Valley, above normal seasonal total precipitation amounts are favored from the Northern Rockies to the Central Plains.



Below normal seasonal precipitation amounts are favored across southwestern Oregon, California, southern Nevada, Arizona, New Mexico, and parts of West Texas. Equal chances are forecast among areas where seasonal precipitation amounts are expected to be like climatological probabilities. In Alaska, there are elevated probabilities of above normal seasonal total precipitation amounts from about the Alaska Range northward to the Arctic Coast. Elevated odds for below normal seasonal total precipitation amounts are confined to the southernmost portions of the Alaska Panhandle, while EC are indicated for southern coastal areas and Aleutians.

Global Liquid Fuels (Source: EIA)

- EIA expects global petroleum and liquid fuels demand will average 100.3 million barrels per day (b/d) in the first quarter of 2020. This demand level is 0.9 million b/d less than forecasted and **reflects both the effects of the coronavirus and warmer-than-normal January temperatures across much of the northern hemisphere.** EIA now expects global petroleum and liquid fuels demand will rise by 1.0 million b/d in 2020, EIA's global petroleum and liquid fuels supply forecast assumes that the Organization of the Petroleum Exporting Countries (OPEC) will reduce crude oil production by 0.5 million b/d from March through May because of lower expected global oil demand in early 2020. This OPEC reduction is besides **the cuts announced at the group's December 2019 meeting.** **EIA now forecasts OPEC crude oil production will average 28.9 million b/d in 2020, which is 0.3 million less than forecasted.** Besides these production cuts, EIA's lower forecast OPEC production reflects ongoing crude oil production outages in Libya during the first quarter. Russia-Saudi price war sends oil prices plummeting amid coronavirus anxiety. With the viral epidemic already limiting economic activity in affected countries and reducing the demand for crude oil since late February, members of the OPEC cartel and the group's key ally Russia met last week to discuss by how much each country should reduce output to address the crisis.

Economists agree that the main reason why coronavirus is a threat to oil prices is that China is the main new consumer of oil in the world. When there has been an imbalance between supply and demand of oil in the past, oil-producing countries have agreed to reduce the supply to shore up prices, said Manouchehr Takin, an international oil and energy consultant who previously worked for OPEC. At this time, OPEC — the Organization of the Petroleum Exporting Countries — and Russia

failed to agree on a way to deal with the price fall caused by the virus. Analysts told NBC News that Saudi Arabia had pushed for even deeper cuts to production, but Russia had disagreed and appeared unwilling to bear the brunt of more cuts. amid

Natural Gas

- In January, the Henry Hub natural gas spot price averaged \$2.02 per million British thermal units (MMBtu), **as warm weather contributed to below-average inventory withdrawals and pressure natural gas prices.** As of February 6, the Henry Hub spot price had fallen to \$1.86/MMBtu, and EIA expects prices will remain below \$2.00/MMBtu in February and March. EIA forecasts that prices will rise in the second quarter of 2020, as U.S. natural gas production declines and natural gas use for power generation increases the demand for gas. EIA expects prices to average \$2.36/MMBtu in the third quarter of 2020. EIA forecasts that Henry Hub natural gas spot prices will average \$2.21/MMBtu in 2020. EIA expects that natural gas prices will then increase in 2021, reaching an annual average of \$2.53/MMBtu.

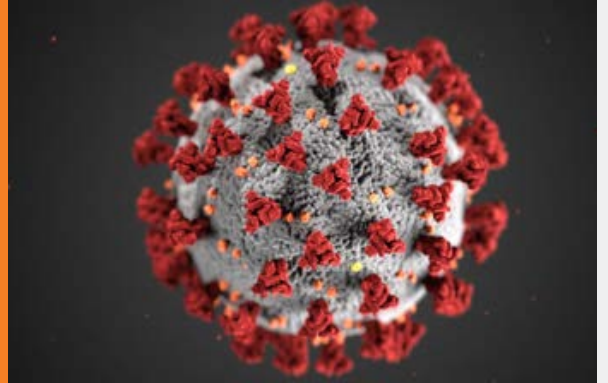
Electricity, Coal, Renewables, and Emissions

- EIA expects the share of U.S. utility-scale electricity generation from natural gas-fired power plants **will remain relatively steady**; it was 37percent in 2019, and EIA forecasts it will be 38 percent in 2020 and 37percent in 2021. Electricity generation from **renewable energy sources will rise from a share of 17percent last year to 20 percent in 2020 and 21 percent in 2021.** The increase in the renewables share results from expected use of additions to **wind and solar** generating capacity. Coal's forecast share of electricity generation **will fall from 24 percent in 2019 to 21 percent in both 2020 and 2021.** The nuclear share of generation, which averaged slightly over 20 percent in 2019 will be slightly lower than 20 percent by 2021, consistent with upcoming reactor retirements.
- EIA forecasts that U.S. coal production will total 595 million short tons (MMst) in 2020, **down 95 MMst (14 percent) from 2019.** Lower production reflects declining demand for coal in the electric power sector and lower demand for U.S. exports. EIA forecasts that electric power sector demand for **coal will fall by 81 MMst (15 percent) in 2020.** EIA expects that coal production will stabilize in 2021 as export demand stabilizes and U.S. power sector demand for coal increases because of rising natural gas prices.
- After decreasing by 2.3 percent in 2019, EIA forecasts that **energy-related carbon dioxide (CO₂) emissions will decrease by 2.7 percent in 2020 and by 0.5 percent in 2021. Declining emissions in 2020 reflect forecast declines in total U.S. energy consumption because of increases in energy efficiency and weather effects,** particularly because of warmer-than-normal January temperatures. A forecast return to normal temperatures in 2021 results in a slowing decline in emissions. Energy-related CO₂ emissions are sensitive to changes in weather, economic growth, energy prices, and fuel mix.

Stop the Spread of Germs Novel Coronavirus (COVID-19)

We need to work as a community, city, state and nation to control the spread of COVID-19.

The virus that causes novel coronavirus (now called COVID-19) seems to be spreading easily and sustainably "community spread" in some affected geographic areas. Community spread means people have been infected with the virus in an area, including some who are not sure how or where they became infected.



As community spread is detected in more and more countries, there are few simple things we can all do to help stop the spread of germs, including COVID-19.

To help prevent the spread of respiratory diseases like COVID-19:

- Avoid close contact with people who are sick.
- Cover your cough or sneeze with a tissue, then throw the tissue in the trash.
- Avoid touching your eyes, nose, and mouth.
- Clean and disinfect frequently touched objects and surfaces.
- Stay home when you are sick, except to get medical care.
- Wash your hands often with soap and water for at least 20 seconds.

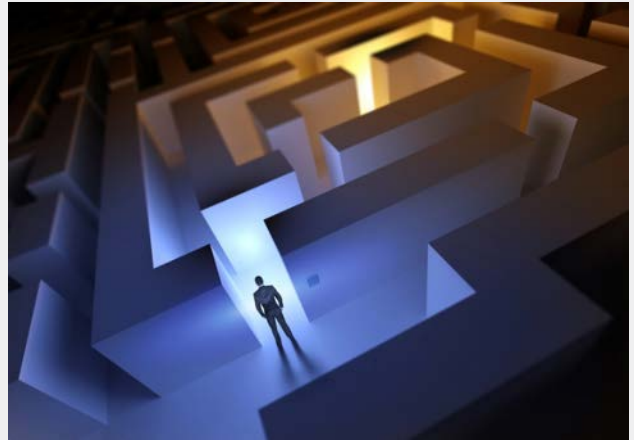
Visit the [Center for Disease Control and Prevention website](#) for more information, or stay tuned to their Weekly Wellness articles every Sunday morning where we will continue to provide [updates on the COVID-19 outbreak](#).

Customizing your Consulting Needs Around Solutions

Let's face it, being a PHA Executive Director in this rapidly changing and complex world is challenging. As a PHA "ED", you face unpredictable funding from Congress, staff stretched to the limit, new and sometimes confusing HUD regulations and programs, new trends and financing approaches all the while keeping your Agency solvent, in compliance and residents seeking a safe and healthy home environment.

Finding workable solutions to the myriad of tasks to effectively manage a PHA is often elusive. You need to have a diverse, strong and sensitive skill set to keep everything together – including being a good listener, decisive leader, sensitive manager, astute financier, inspiring motivator, strong negotiator and inclusive collaborator. We all can use some help occasionally!

Enlightened Energy and Apollo Energy Solutions has assembled a Team of seasoned, experienced and knowledgeable PHA advisors on all facets of PHA operations that can assist you in navigating the troubled waters of the PHA world. Whether you need advice on general management issues, strategic planning, innovative funding approaches, energy management and efficiency savings, a challenge you are having with HUD or you just need an experienced, friendly CEO to listen and bounce ideas off of...we are here to assist! Call today to set up a free initial consultation. Mike Nail 301-639-3767 or Dick Santangelo 703-627-7161. The Doctors of Energy are in!



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DJ Lavoy, Former Real Estate Assessment Center Director, Retires



DJ Lavoy, Former Real Estate Assessment Center Director

Washington, D.C., February 28, 2020 – DJ LaVoy, Deputy Under Secretary for the U.S. Department of Agriculture's (USDA) Rural Development (RD) (former Deputy Assistant Secretary for Real Estate Assessment Center Director) is retiring. DJ LaVoy was a dedicated public servant and brought decades of leadership to HUD. DJ has over 22 years of experience working as a leader in affordable housing and economic development at the U.S. Department of Housing and Urban Development.

DJ created and served as the Deputy Assistant Secretary for the Real Estate Assessment Center (REAC) where he drove agency innovation. LaVoy led the replacement of numerous, outdated IT data collection systems with data streaming, and web portals architecture in a cloud environment. LaVoy also partnered with members of the federal family and all 58 State Housing Finance Agencies to lead the way in establishing a universal inspection standard for federally subsidized properties. LaVoy started his career with the United States Marine Corps and is a marine aviator and combat veteran. He earned his Bachelor of Applied Science Degree from Old Dominion University and his Master of Industrial Engineering from U.S. Army War College.

Watts Hot Newsletter™ wishes DJ fair winds and a following sea!

Watts Hot at HUD

Since 2017, HUD has been undertaking a "wholesale reexamination" of the Real Estate Assessment Center's inspection process and working hard to model. The new model, NSPIRE, prioritizes health and safety over appearance, focusing on the areas that impact residents directly. NSPIRE brings more objective standards, value-added inspection protocols, and scoring elements that are more defensible and less complex.



HUD has released early versions of NSPIRE standards for HUD-assisted housing and welcomes comments to ensure clarity, accuracy, overall usability, and any other relevant aspects.

The National Standards for the Physical Inspection of Real Estate (NSPIRE) model builds on three mutually supporting elements consisting of three types of inspections, three categories of deficiencies, and three inspectable areas. When employed together, these components will increase focus on residential units, reduce inspection complexity, and increase confidence in HUD's ability to distinguish safe and habitable houses from substandard properties. NSPIRE introduces a system of more objective standards and simpler protocols that will enable a trained inspector to detect, identify, and record deficiencies more accurately and submit those results to HUD.

These "objective standards" will be in Critical to Quality Indicators (CTQs). CTQs are a well-defined subset of NSPIRE Standards with a high correlation to overall quality and are calibrated to strongly assure that a property conforms with HUD's minimum property standards. When a deficiency is noted against a CTQ or several CTQs, there will be a high correlation to substandard conditions within a property. This direct correlation to quality allows for inspections built around CTQs to evaluate fewer standards but remain highly effective in determining substandard conditions.

HUD is seeking participation from 4,500 properties and will select from a nationwide pool of Public Housing Authorities (PHAs) and Property Owners and Agents (POAs). PHAs and POAs are encouraged to register one or multiple properties for acceptance into the demonstration, but there is no requirement to submit all properties within a portfolio. Submission of an application does not constitute acceptance into the program nor does it obligate the PHA or POA. Once accepted into the demonstration, participants may voluntarily withdraw any properties. To learn more about NSPIRE, please visit: https://www.hud.gov/program_offices/public_indian_housing/reac/nspire

In 2018, Watts Hot Newsletter™ reported on S-2155. S-2155 provides additional opportunities for small PHAs (550 units or less). On January 3, 2018, S-2155 amended Title I of the United States Housing Act of 1937 ([42 U.S.C. 1437](#) et seq.). <https://www.congress.gov/bill/115th-congress/senate-bill/2155/text>. Recently, HUD partially implemented a Small PHA Section of Housing Act. On February 27, HUD published in the *Federal Register* "[Economic Growth, Regulatory Relief, and Consumer Protection Act: Initial Guidance on Property Inspections and Environmental Reviews](#)." NAHRO worked closely with Congress to ensure S. 2155 provided statutory and regulatory relief to small PHAs across the country. And NAHRO also submitted comments to help guide HUD in implementing the provisions, many of which HUD incorporated into this notice.

The notice also resolves a key sticking point in implementing S. 2155 – what is a small rural PHA? HUD defines "small rural PHA" as a PHA that operates 550 or fewer combined Public Housing and Housing Choice Voucher units and predominantly operates in a rural area. The notice takes NAHRO's suggestions to exclude Project-Based Rental Assistance (PBRA) units in determining unit count. The notice also draws heavily on NAHRO's comments on how to define "predominantly operates," taking two out of three of NAHRO's suggestions on the definition. "Predominantly operates in a rural area" is defined as having a primary administrative building with a physical address in a rural area OR over 50 percent of its combined Public Housing units and voucher units under Section 8(o) are in a rural area. Rural area is defined by a Consumer Financial Protection Bureau regulation. There are 1,519 PHAs that qualify as a "small rural PHA" under this definitions and HUD has published a [list of small rural PHAs](#) (scroll to bottom on HUD link page). The notice also implements portions of the property inspection and environmental review provisions of S. 2155.

Small rural PHAs that operate the Housing Choice Voucher programs can now inspect their tenant-based and project-based voucher units every three (3) years. This new inspection schedule will begin for the small rural PHA after its next schedule inspection. Small rural PHAs must continue to conduct any lead safety inspection required under the Lead-Based Paint Poisoning Prevention Act.

Small rural PHAs will now be exempt from Environmental Reviews regarding development or modernization projects that cost no more than \$100,000. This exemption applies to any section 9(d) Capital Fund, section 9(e) Operating Fund, or section 8(o)(13) Project Based Voucher (PBV) eligible work activity by a small rural PHA at a project site with a project cost of \$100,000 or less. For project with a cost of more the \$100,000, the small rural PHA must complete the appropriate Environmental Review but HUD will use the rulemaking process to proposed streamlined Environmental Reviews.

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