WATTS HOT Newsletter®

YOUR SOURCE FOR ENERGY, TECHNOLOGY, SUSTAINABILITY & RESILIENCY

APOLLO Engineering Solutions®

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Five Steps MF Buildings Can Take to Prevent Coronavirus Spread

What basics steps can MF owners take regarding HVAC and building design to help reduce the spread of COVID-19?

MF owners are inundated with information on COVID-19 practices. We are learning more about COVID-19 every day; however, we cannot wait for the perfect solution. At this stage, many are asking, what will the future of MF housing look like? As housing industry groups and individual MF owners plan for an eventual transition to return employees back to the office safely, which is still far into the future for many, a variety of questions arise. Many MF owners are working diligently to implement safe and effective ways to return employees to work. Before the full workforce attempting to return, a common question has been: "What building modifications must be made, if any?"

Given the airborne nature of highly contagious viruses like this coronavirus, could a large investment in improving a building's HVAC system intending to reduce the spread of contaminants help? How much affect would it have? If a building has improved HVAC items, does it help? Yes! How much? It is hard to say.

For the residents and housing staff that spend 8+hours in the office, an improved HVAC system could bring better air quality with the exchange of more fresh clean air, therefore exposing residents and staff to fewer contaminants. Due to the way this virus is transmitted through human and surface contact, the HVAC system could not prevent someone from getting coronavirus, the flu, or even the common cold though, it just decreases the chances of exposure for the time spent in a building. We have learned that even working in a state-of-the art building with the highest level of systems and safety precautions, a simple stop for coffee on the way into work, running errands, grabbing lunch, and/or attending a meeting outside the housing site are all ways of increasing risk of exposure.

At this critical point in history, MF housing organizations are carefully examining every element to provide the safest environment for residents and staff. Here are five strategies housing facility managers should consider in current and future building plans:

UPCOMING EVENTS

- **2020 Summer Study on Energy Efficiency in Buildings**
  August 16-21, 2020
  Virtual Event

- **PHADA 2020 Legislative Forum**
  September 14-15, 2020
  Washington, D.C.

- **NAHRO National Conference and Exhibition**
  October 1-3, 2020
  Orlando, FL

- **PHADA 2021 Commissioners' Conference**
  January 10-13, 2021
  Orlando, FL

- **PHADA 2021 Annual Convention and Exhibition**
  May 16-19, 2021
  San Antonio, TX

1. Increase the air change rate in buildings; be able to flush out air

- This means that more outside air is coming into the building, replacing air in the building with outside air. This outside air dilutes or removes contaminants in the space faster. The more outside air brought in, the higher the air change rate.
- Having the ability to flush out a building. The air handling units would bring in 100% outside air, which would then be exhausted out of the building. This change-over of air would occur several times, typically for a short duration in the evening when the building is unoccupied. This would help remove contaminants and pollutants introduced to the air while the building was occupied.

2. Add higher levels of filtration

- Provide a higher level of filtration, such as Activated Charcoal, on air handling units that remove volatile organic compounds (VOC) gases and vapors through the process of chemical adsorption. Given many unknowns on all potential ways the coronavirus is spread, it is unknown how filtration levels would affect this disease; however, it would help health in general.
- Add ultraviolet light (UV-C) inside air handling units serving areas with larger amounts of people, like assembly halls or college cafeterias. UV-C lights at the right intensity can kill bacteria or virus. Although, the intensity required to kill COVID-19 specifically has not been determined yet.

3. More separation within buildings

- Instead of one or two large air handling units serving a building, provide additional small air handling units and isolate areas, so contaminants are not spread between these zones.
- By pressurizing each zone we ensure air does not flow between them.

4. Provide isolation-type workspaces for people to use

- We all see people coming into work when starting to get sick or know they are sick but must stay to complete an urgent task. Housing organizations could provide several closed offices with a high air change rate and their own filtration that workers can sign up to use when they want to isolate themselves from their co-workers to help prevent the spread of any illness.

5. Retro-commissioning

- HVAC systems are typically complex and have sophisticated controls. Over time, minor issues such as sensors or control devices out of calibration or no longer working, air balance issues, or issues with the control sequences, can affect the overall performance of the building. When a building undergoes retro-commissioning, a team goes into the building and does intensive testing of the HVAC systems and controls to ensure the building is operating as intended. By doing this, we are ensuring there are no unforeseen conditions occurring that would help spread the virus instead of helping reduce our exposure to the airborne contaminants.
- Over the next few months, we are all hoping our country opens back up safely. Our new normal will be different. We are just not sure how much. The same goes for HVAC systems. This pandemic will most likely lead to changes in how we design buildings and could also lead to changes in codes and standards. One organization, The American Society of Heating Refrigeration and Air Conditioning Engineers (ASHRAE), has established the creation of the ASHRAE Epidemic Task Force to help use their resources to address the challenges of the pandemic and future epidemics as it relates to the effects of heating, ventilating and air conditioning system on disease transmission.

Above all, the HVAC-related ideas and design discussion points are potentially one way to help reduce risk to our population, but this does not disregard the other important evolving CDC guidelines to combat human-to-human transmission including, proactive quarantine/screening measures, face coverings/masks, human hygiene, and sterilization of all surfaces. In planning for a safe return to work locations, the housing leadership must always remain current with what the CDC is recommending.

Watts Hot Newsletter™ wants to recognize Cathy Crowley, PE, CxA, LEED AP BD+C for this informative article. She is mechanical director at Mason & Hanger, a worldwide architectural and engineering firm.

Think Like Your Multifamily (MF) Clients

Imagine a few of your clients started their own MF Housing Consulting firm. MF Owners have had a lot of experience with firms like yours, so they have a fairly good idea of what is involved.

But these folks do not want to start just another Housing Consulting firm. They want to do something substantially different—to create the Housing Consulting firm they wish they could work with. What would that firm look like? How might MF Owners do business differently?

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If you want to know how to differentiate your Housing Consulting firm, retain more clients, and increase profits, the best advice is simply this: Think like your MF clients. Try to look at how you conduct every aspect of your business through their eyes.

The best way to understand how MF clients see your firm is to ask them. Here are a few examples of how MF clients think based on client interviews:

Tell me something, I do not know. Do not call me unless you have something specific to offer. Know how it feels to be on the receiving end of a cold call. Yet you call me out of the blue wanting to introduce me to your firm. If you want to talk with me, do a little homework to understand my current operational needs and call only when you can offer information specific to my problem.

Respect my time. If you want to meet with me, give me something more than the usual drop-by sales call or unfocused project meeting. Come prepared to deliver what you promised when you called—real help in solving my problem. Do not take more time than is necessary; keep the chit-chat to a minimum.

Do not expect me to read your whole proposal. Do a total word count for your document and divide that by 250, which is about the number of words the average American adult reads per minute. So, do you think I will spend over an hour reading your proposal or report? No, I think you know I will skim and search for the information I am looking for. Make your document more skimmable and give me a well-written executive summary that covers its most essential points.

Tell me when you can deliver the project, not what you think I want to hear. I know this is a little confusing. I pressed you to commit to an ambitious deadline you probably knew you could not make, but you said you could and made me happy for a while. Now it's crunch time and your deliverable is late. Had you said no at the start, I could have adjusted the overall project schedule—even though I would not be happy about it. Now, you put me in a real bind.

Do not wait to tell me about a problem until it is a big one. MF project problems rarely go away by ignoring them. They get worse. I want you to tell me when you see a problem developing so we can intervene before it gets out of hand. Better yet, anticipate when a problem might arise so we can consider proactive steps to prevent it from occurring.

Give me a chance to be proactive. Do not just communicate with me on a need-to-know basis. I almost hate to hear from you because it is usually bad or late news. Yeah, I am busy and do not want to be bothered with trivial updates, but I do not like hearing about important developments after the fact. That sometimes leaves me with few options for responding to the situation.

Understand my business. It is not just an engineering, facility, or administration project; it is a business move designed to address financial, operational, or competitive issues critical to our success. Sometimes you do not seem to make the connection. You focus on the technical issues that you are interested in and overlook the business drivers I need to respond to. I do not just need a designer or specialty consultant; I need a problem solver who can see the whole picture.

These are just a few perspectives gained from clients over the years. None are hard to understand if you imagine yourself in the client's role. To raise the value of your housing services, try mixing more empathy with your expertise.

Watts Hot Newsletter™ wants to recognize and thank Mel Lester, of management consulting firm BizEdge, specializes in helping engineering, architectural, and environmental firms improve business performance in areas such as leadership, strategic planning project delivery, business development, customer service, and human resources.

How Can MF Property Owners Cope Financially During an Economic Downturn?

When events such as the recent COVID-19 pandemic, economic downturns, extreme weather, natural disasters, power safety shutoffs and other energy interruption events occur, many owners, PHAs think about what they could have done to better prepare beforehand. Keeping the lights on is most important, and when the potential threat of a power loss occurs, the value of keeping the lights on goes way up.

For others, having the lowest fixed expenses possible is most important and allows them to remain up and running while riding out a prolonged period with reduced revenue. Most housing owners rely on income or financial assistance to remain up and running during an emergency event. The U.S. Department of Housing and Urban Development announced the allocation of $380 million in supplemental administrative fee funding to all Public Housing Authorities (PHA), including Moving to Work (MTW) PHAs. The two months of additional funding are available for traditional administrative fees and for new costs related to protecting assisted families and employees throughout this coronavirus pandemic. The funding was provided by the CARES Act legislation. HUD acted immediately to allocate its first wave of funding, over $3 billion to assist communities and non-profits, help protect the homeless and Americans with compromised immune systems and assist Tribal communities in their COVID-19 response efforts. And HUD announced an additional $685 million for PHAs to prepare for, prevent, and respond to a coronavirus outbreak for the public housing program. Congress also appropriated additional funding for several Multifamily Housing programs through the CARES Act, most of which is designated for increased rental subsidy in HUD-assisted housing to cover tenants' loss of income during COVID-19.

The best time to prepare for a threat is before the incident happens, not when panic occurs during the event. Luckily, after even the worst that nature can throw at us, the sun rises again. Many decision-makers have taken matters into their own hands as they comb through their expenses, especially with their energy costs.

Energy represents the most valuable input to production. Without energy, MF communities can shut down almost instantly. With that in mind, MF owners across the U.S. are looking to renewable energy and other energy infrastructure management companies to help design, build and manage their energy systems. This helps organizations of all types to better control one of their biggest expense areas while maintaining production. These decision-makers also find that adding onsite generation from solar photovoltaic systems (rooftop, ground mount and/or parking structures) combined with energy storage and microgrid controllers is a great way to assure their operations continue with as little energy interruption as possible.

Many organizations are positively surprised by their bottom line when they see the cost and operational benefits of onsite or community solar fields along with the storage resiliency technologies of a microgrid.

Case in point: In 2019, utilities in California shut off public power in areas to reduce the risks of devastating wildfires throughout the state. Some areas were without power for five days, even though fire was not present in their area. The Blue Lake Rancheria Tribe used their solar-powered microgrid to provide food and emergency services to their entire community for each outage. That included housing for those needing life-saving medical equipment in their hotel, offering reliable WiFi and cellular services, and making space for thousands who just needed to recharge cellphones and laptops. The Blue Lake Rancheria Tribe's community forethought and proactive approach helped them save money when times were good and maintained their business when times were bad for everyone around them.

If you haven't taken a hard look at your energy expenses lately, start by putting them into a spreadsheet and looking at each expense as a percent of a total with a focus on the largest amounts. There is likely money to be found if you look closely enough.

When is the best time to act?

It is always best to prepare in advance so your business has a backup plan for when outages occur.

When should you take control of your most important input?

Now, while you can create a backup plan and look at your financials!

Watts Hot Newsletter™ wants to recognize and thank Jared Friedman. Mr. Friedman is Director of Commercial and Industrial Sales & Sales Operations with REC Solar, a Duke Energy Renewables company. REC Solar is a nationwide solar provider committed to creating a positive impact. Every day, we find new opportunities for energy innovation because we believe that to change the world, you must lead the way. REC Solar and Duke Energy One are both subsidiaries of Duke Energy Corporation.

179D Update for MF Owners and 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 are responsible for 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 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. Eligible activities include lighting, HVAC and building envelope and energy upgrades with at least 40,000 square feet of energy retrofits

179D Update

179D has been added to Congress's Infrastructure discussions. The House **Moving Forward Act (H.R. 2)** (Section 90423 p. 2214) proposes extension of EPAct 179D through December 31, 2025 and:

- Increases the amount of the deduction from $1.80 to $3 per square foot (for the partial deduction, increase from $.60 to $1.80 per square foot) and incorporates an inflation adjustment starting after 2020.
- Allows repeated use of the deduction (once per three-year period vs. one time).
- Updates the ASHRAE standard from Standard 90.1-2007 to the Reference Standard 90.1 most recently adopted as of two years before the date construction commences. To receive the maximum deduction, a project would have to achieve energy savings at a rate of 30% above the ASHRAE standard (currently 50%).

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

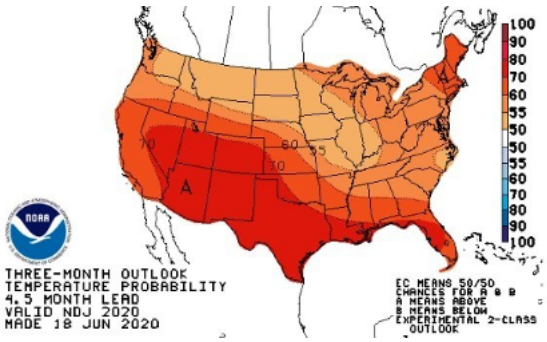
Watts Hot Newsletter™ will keep you apprised on the legislative updates. If you have performed energy efficiency upgrades to lighting, HVAC and building envelope retrofits do not leave money on the table. Contact William J. Volker at Efficiency Energy, LLC, www.wesavegreen.com, 2101 L Street NW, Suite 800, Washington, DC 20037 at 720-201-6856 (cell) or 202-776-7709 (office) or email wvolker@wesavegreen.com.

NOAA Temperature Outlook – Winter 2020-2021

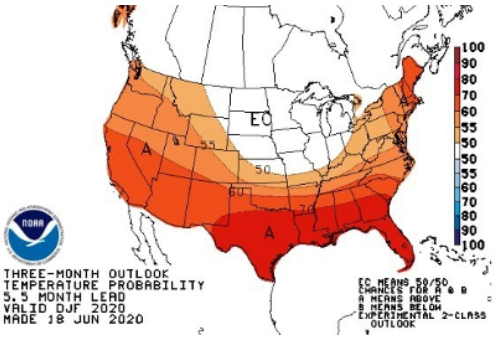
NOAA is projecting above average temperatures for most of the United States throughout the winter of 2020-2021. However, a chance for colder than normal temperatures could show up in the spring according to Climate Prediction Center models. Also, if La Niña shows up in force, expect these temperature outlooks to change drastically, with an opportunity for cold temps to cover the northern and central portions of the Rocky Mountains.

According to a recent report from NOAA's Climate Prediction Center, there is a 50-55% chance of La Niña conditions arriving this fall and lasting throughout the winter of 2020-2021. On a typical La Niña year, the jet stream has a more northern positioning, which can mean consistent cold storms in places like British Columbia, Oregon, Idaho, Wyoming, Montana, Utah, and central/northern Colorado. NOAA is predicting above average snowfall this winter in Montana, Wyoming, and the Great Lakes area with an increased chance of precipitation in Northern Colorado starting in March. Equal chances for average snowfall exist in most of Colorado, Utah, California, Nevada, Idaho, and the Pacific Northwest. Those that could be hurt by the La Niña pattern include Arizona and New Mexico. While each La Niña has the potential to be different than the last, the southern states of the west get slightly less than average snowfall. The last La Nina delivered historic snowfall to the California, so take these generalizations lightly. The northern mountains of the Western United States are favored by a La Niña pattern in terms of snowfall and temperature.

November – December



January – February



EIA Energy Outlook

- The July Short-Term Energy Outlook (STEO) remains subject to heightened levels of uncertainty because mitigation and reopening efforts related to COVID-19 continue to evolve. Reduced economic activity related to the COVID-19 pandemic has caused changes in energy supply and demand patterns in 2020. Uncertainties persist across the U.S. Energy Information Administration's (EIA) outlook for all energy sources, including liquid fuels, natural gas, electricity, coal, and renewables. The STEO is based on U.S. macroeconomic forecasts by IHS Markit, which assumes U.S. gross domestic product declined by 6.4% in the first half of 2020 from the same period a year ago before rising from the third quarter of 2020 through 2021.

Oil

- Daily Brent crude oil spot prices averaged $40 per barrel (b) in June, up $11/b from the average in May and up $22/b from the multiyear low monthly average price in April. Oil prices rose in June as numerous regions worldwide lifted stay-at-home orders and as global oil supply fell because of production cuts by the Organization of the Petroleum Exporting Countries (OPEC) and partner countries (OPEC+). In June, OPEC+ announced that they extended through July their period of deepest cuts set to relax on July 1. EIA expects monthly Brent spot prices will average $41/b during the second half of 2020 and rise to an average of $50/b in 2021, $4/b and $2/b higher than forecast in last month's STEO, respectively. The forecast of rising crude oil prices reflects EIA's expectation of declines in global oil inventories during the second half of 2020 and through 2021.

Natural Gas

- EIA expects U.S. dry natural gas production to average 89.2 billion cubic feet per day (Bcf/d) in 2020, down from 92.2 Bcf/d in 2019. This 3% decrease results from falling natural gas prices that caused a decline in drilling activity and production curtailments. EIA expects annual average dry natural gas production in the United States will decline by 6% in 2021 to 84.2 Bcf/d. EIA expects production to increase during the second half of 2021 as natural gas prices in the forecast rise. EIA expects U.S. natural gas consumption will decline by 3% in 2020. The main driver of the decline is lower consumption in the industrial sector because of COVID-19 mitigation efforts and related reductions in economic activity. Forecast U.S. natural gas consumption declines by 5% in 2021 because of expected rising natural gas prices.

Electricity

- EIA forecasts 4.2% less electricity consumption in the United States in 2020 compared with 2019. The largest forecast decline occurs in the commercial sector, where EIA expects retail sales of electricity to fall by 7.0% this year because of COVID-19 mitigation efforts. Forecast electricity sales to the industrial sector fall by 5.6%. EIA forecasts that residential sector retail electricity sales in 2020 will be similar to 2019 as less electricity use for heating in the first quarter is offset by more consumption during the rest of the year because of people spending more time at home. EIA forecasts total U.S. electricity consumption will rise by 1.5% in 2021.
- EIA expects the share of U.S. electric power sector generation from natural gas-fired power plants will increase from 37% in 2019 to 41% this year. In 2021, the forecast natural gas share will decline to 36% in response to higher natural gas prices.

Coal

- Coal's forecast share of electricity generation falls from 24% in 2019 to 18% in 2020 and then increases to 21% in 2021.

Renewable Energy

- Electricity generation from renewable energy sources rises from 17% in 2019 to 20% in 2020 and to 22% in 2021. The increase in the share from renewables results from expected additions to wind and solar generating capacity.

Nuclear Energy

- The forecast nuclear share of generation averages about 21% in 2020 and will be slightly less than 21% by 2021, which follows upcoming reactor retirements.

Green House Gases

- EIA forecasts that energy-related carbon dioxide (CO_2) emissions, after decreasing by 2.8% in 2019, will decrease by 12.2% in 2020 and increase by 6.0% in 2021. This forecast depends highly on assumptions regarding the economic impact and subsequent recovery from COVID-19 mitigation efforts. Besides economic growth, energy-related CO_2 emissions are sensitive to changes in weather, energy prices, and fuel mix.

Watts Hot at HUD

House FY 2021 Appropriations Bill In-Depth: Public Housing

Public Housing Capital Fund – The FY 2021 House bill would include $3.18 billion for the Capital Fund, an increase of $310 million from 2020, The President's budget proposed eliminating the Capital Fund. The House bill again includes hard-fought language that would require HUD to notify PHAs of their formula allocation within 60 days of enactment. The House bill would also include $24.25 billion in additional infrastructure funding for the Capital Fund. Of this, $19 billion would be distributed by formula, $2.5 billion would be distributed through a competitive grant for water and energy upgrades, and $2.75 billion would be distributed through competitive grants for health and safety upgrades.

Public Housing Operating Fund - The House bill would provide $4.649 billion for public housing formula grants. This is $100 million over 2020 Appropriations. The House bill recognizes the challenges of operating a calendar year program with fiscal year appropriations; the bill would continue to extend the period of availability of Operating Funds from one year to two years.

Capital Fund Set-Aside - *Emergency Capital Needs:* The House bill would provide $74.65 million for grants to public housing agencies for emergency capital needs resulting from unforeseen or unpreventable emergencies and natural disasters excluding presidentially declared emergencies and natural disasters under the Robert T. Stafford Disaster Relief and Emergency Act. Of this amount, $34.65 million would be set aside for PHAs in receiverships. This is $65 million more than FY 2020.

Competitive Lead-Based Paint Grants - The House bill would provide $25 million for competitive grants to PHAs to evaluate and reduce lead-based paint hazards in public housing. This is $10 million less than the President's proposed budget. The House bill would also provide $30 million for competitive grants to PHAs for full lead service line replacement for PHAs in areas where the public water system will undergo or has recently undergone a comprehensive water main replacement.

Housing-Related Hazard Grants - The House bill would provide $125 million in competitive grants to address housing-related hazards in public housing, including carbon monoxide, lead-based paint, and other hazards. The House bill would also provide an additional $5 million in competitive grants to address radon hazards and $25 million in competitive grants for PHAs to upgrade their sprinkler systems.

Public Housing Subsidy Flexibility - The House bill would carry forward the FY 2015 appropriations provision increasing the limit on fungibility for PHAs with 250 or more units of public housing to transfer up to 25% of their annual Capital Fund grant to operations. Through the Housing Opportunity Through Modernization Act of 2016, PHAs may transfer 20% of their operating subsidy to their Capital Fund grant.

As in previous years, the House bill would provide HUD the authority to waive the transfer limit to fund activities related to anti-crime and anti-drug activities, including the costs of providing adequate security for Public Housing residents such as above-baseline police service agreements. Small agencies retain their flexibility to make fungible 100% of their annual grants.

Annual Contributions Contract (ACC) - The House bill would prohibit HUD from requiring or enforcing any changes to the terms of the ACC as a requisite for PHAs to receive funding unless the changes are mutually agreed upon by HUD and the PHA. The House bill stipulates that any amendments to the ACC would need the authorized signature of the chief executive of the PHA, and that HUD could not withhold funds to compel any amendments to be accepted by the PHA. This provision was included in the 2020 Appropriations bill.

Physical Needs Assessment - The House bill would prohibit any funds to be used to require or enforce the Physical Needs Assessment (PNA) for public housing units.

Watts Hot Marketplace

Owner's Representative Services

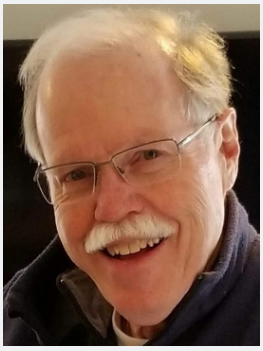
An Important Key to Success!

Whether it's helping you reposition your agency during the Pandemic, identifying strategies to replace and finance aging infrastructure or helping you to navigate an energy performance contract (EPC) or other complex energy construction projects, having a knowledgeable and experienced owner's representative on your team is one of the most valuable actions that any public agency can take. Owner's reps can help you to ensure that your projects are:

- Managed properly and in compliance with local, State, and Federal regulations.
- Delivered on time and in budget.
- Monitored effectively to ensure that costs are reasonable, and savings and incentives are maximized.
- Operated in a way that is sensitive to the impact on the Agency's staff—ensuring that key staff are not pulled away from other important work assignments to focus on what can become a complicated and labor intensive management effort.

Why Enlightened?

Enlightened, working with Apollo Engineering Solutions and our other world-class partners, is one of the most experienced and knowledgeable firms in the business. We have an established track record of excellence and our team of professionals are unparalleled in their knowledge of regulations and requirements, project and construction experience and expertise. Over the past 16 years we have been involved in over $400 million in successful energy projects. And, because of our commitment to fairness, openness, and transparency, we create customized, win-win strategies that bring innovation and value to our clients while keeping our rates affordable.



Michael Nail, President/CEO
Enlightened Enterprises

Contact Us Today!

We pride ourselves in bringing *Enlightened Energy Outcomes* to our public sector clients. Let us show you how we can help your agency diversify, grow, and become more successful!

Contact Michael Nail, Chief Executive Officer at 301-639-3767 or at **enlightened1on1@gmail.com**.

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