WATTS HOT Newsletter®
YOUR SOURCE FOR ENERGY, TECHNOLOGY, SUSTAINABILITY & RESILIENCY
APOLLO Engineering Solutions®
Fall 2020 | Volume 4, Issue 3

Focus: Resident Experience During the Coronavirus Pandemic

Do your residents feel safe? In the age of coronavirus, resident experience cannot be overlooked. It is more important than ever. Residents are demanding even in the best of times. So how about now, in the worst of times?

Multifamily buildings are home to their residents. Residents go to work and home. But what is waiting for them when they arrive at their place of sanctuary, their home, families?

Will residents be satisfied with new coronavirus mitigation measures? Facility and property managers have the formidable task of implementing strategies that not only keep residents safe and healthy, but also happy enough with their space that they actually want to look forward to coming home after being on the front line as first responders, nurses, store clerks, teachers, delivery persons, restaurant workers, etc.

Facility managers in MF buildings have their work cut out for them in assuring residents that their homes are safe and healthy. To do that, facility managers must know what is working — both to mitigate the threat of infection, but also in terms of a reduction in anxiety for residents and making them feel comfortable in their space. Even in the age of coronavirus, resident satisfaction cannot be overlooked; it is more important than ever that our homes becomes a safe zone and respite.

Now, though, satisfaction means showing, telling, and being more visible and accessible to residents than ever before. MF owners need to be more vigilant about what is working and what is not. Facility managers should consider monitoring the temperature of people walking into their building. Automatic scanners are readily available to provide quick and effective temperature readings, comforting residents, MF staff, and visitors, conveying to them they are in a safe environment.

Because we are still in the midst of this pandemic, understanding how to carefully evaluate coronavirus measures and gauge resident satisfaction is crucial for long-term success.

UPCOMING EVENTS

» **NAHRO Online: 2020 National Conference and Exhibition**
November 17-18, 2020
Virtual Conference

» **2021 Commissioner's Conference**
January 10-13, 2021
Orlando, FL

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

» **Better Buildings Webinar Series**
Registration:
https://betterbuildingssolutioncenter.energy.gov/better-buildings-webinar-series

- **Planning for Resilience in Multifamily Housing**
  December 1, 2020
- **Beyond Energy Savings**
  January 12, 2021
- **Risk Assessments**
  February 2, 2021
- **Perspectives on Resilience**
  February 9, 2021

Assuaging anxiety

Just because residents may be staying home more does not mean they will be totally psyched about some of the new measures imposed for safety. Mask requirements, temperature checks and health surveys, and new building layouts to encourage social distancing will be daily reminders to residents that this is the new normal. Facility managers have a somewhat new role to play helping to ease anxiety and explain why measures such as temperature checks and mandatory masks are necessary and important.

Take, for example, elevators. Naturally, there will be anxiety about hopping into a confined space with a bunch of strangers to ride to the 15th floor. That is why facility and MF property managers must craft policy that both works to mitigate the spread of the virus but also assuages residents' fears. With elevators, it is a careful balancing act with no perfect solution. Centers for Disease Control guidelines suggest that facility managers "place decals inside the elevator to identify where passengers should stand, if needed."

Elevators can be a hotspot for virus transmission. UV Light and other technologies can provide protection.

These are great policies, and can be effective, but only if they are practical, doable and adhered to. Occupants will understandably be anxious about using elevators. Clear signage showing how FMs have carefully considered elevator strategy to keep them healthy and safe can help.

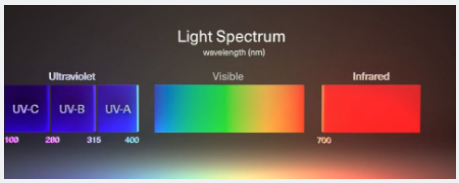
For a large high-rise building, even if it is only 50 percent occupied, it could take hours to get everyone to their destination if only few people are allowed in the elevators at a time. That means dozens of people are stuck congregating in the lobby, getting increasingly annoyed and nervous. People are better off being transported quickly than being jammed together in a crowd, being irritated, waiting for the next elevator.

Explaining to residents why a policy was put in place and its benefits for protecting their health and safety is the final step. This is especially true for elevators, and just about every new coronavirus mitigation measure. This discussion shows how policy must be carefully considered, enacted, communicated, and then evaluated. Because, again, people are nervous — but the better facility managers are at connecting and explaining, the more understanding and satisfied residents are likely to be. The imposed measures are not without inconvenience or difficulty, but they are not as bad as everyone thought.

*Watts Hot Newsletter® wants to recognize and thank Greg Zimmerman, Executive Editor of **FACILITIES MANAGEMENT** for his contribution to the article. Greg is a specialized trade publication for corporate facility executives and facilities management professionals in all commercial, industry and service sectors.*

Can Ultraviolet Light (UV) Make Indoors Safer?

UV light is the ideal wavelength to destroy microorganisms by inactivating their DNA. Pathogens are neutralized based on the time and intensity of exposure to UV s ultraviolet light.



A Brief History of UV Light

The history of studying UV light to kill bacteria and other organisms dates to as early as 1845, when it became known that microorganisms respond to light.

However, it was in 1877, when Downes and Blunt observed that exposing test tubes containing Pasteur's solution to sunlight prevented the growth of microorganisms inside the tube and, upon increased exposure durations, the test tubes remained bacteria-free for several months.

After confirming UV lighting's ability to kill pathogens, the next step was to replicate the UV wavelengths that would disinfect surfaces, air, and water. The first UV quartz lamp was invented in 1904 and resulted in the germicidal lamp.

Between 1937-1941, William F Wells proved that upper room ultraviolet germicidal irradiation (UVGI) prevented measles spread in public schools. These early findings laid the foundation for further research and scientific data on UV-C disinfection.

UV-C technology has been a disinfection method for decades in the healthcare industry. The UV-C wavelength of 253.7 nanometers has been proven to be effective at neutralizing dangerous microorganisms. However, the challenge with UV-C technology has always been the method of delivery. It cannot be used in occupied spaces and is only effective on areas that fall in its direct line of sight, until now with Clean Air USA and UV Angel.

What Sets Clean Air USA and UV Angel Apart?

Since the outset of the COVID-19 pandemic, there has been a great deal of "noise" and confusion about what to do about prevention and mitigating the spread of the virus. Clean Air has cut through this noise with clinically proven technology to eliminate harmful airborne pathogens.

Most UV-C systems cannot be used in occupied spaces. The MTA in New York City has deployed UV-C technology to disinfect their subway cars. This operation is done at night during their cleaning protocol. The problem is, as soon as the first-person steps into the subway car in the morning, it becomes immediately contaminated until its nightly cleaning. UV Angel Systems operate in occupied spaces, creating a safe environment continually throughout the day and night.

Science and research are the backbone of our products. Unlike most of the UV-C products on the market, UV Angel systems have gone through scientific peer-reviewed studies and clinical trials to prove their efficacy. These tests conclusively support UV Angel Air's claims to neutralize bacteria, fungus, and viruses in the air up to 99.99%. While other manufacturers rely on random and generic studies of UV-C, UV Angel's Chief Medical Officer, Dr. Linda Lee, has spent decades researching and perfecting this technology. UV Angel products are developed by a world-class team of expert professionals in key industries including engineering, public health, product design and IT.

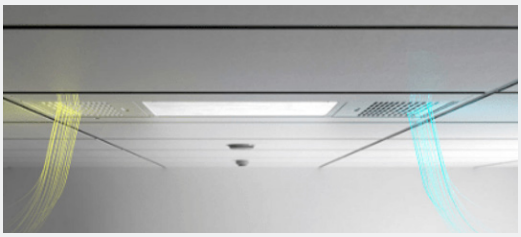
When harmful pathogens are left to circulate in a building or an enclosed space, they are easily spread via HVAC and physical movement of people. More problems occur when these airborne pathogens settle onto surfaces allowing for further spreading. Eliminating airborne hazards before they settle is what UV Angel Air does. Destroying these pathogens before they spread is the fundamental goal of our systems.

The public housing sector plays a critical role in American life. Protecting these residents is even more critical. Investing in proven technology that can protect and defend the population who live in public housing is essential. Clean Air makes it easier for these investments to be made through our financing solutions. Clean Air can finance 100% of the cost of these systems including installation.

How does UV Angel Air Work?

Designed directly into a traditional ceiling light fixture, UV Angel Air is an unobtrusive environmental treatment system that uses ultraviolet light to treat the air automatically and continuously.

- Using patented UV-C treatment technology, air is quietly drawn into a sealed UV-C air chamber with fans and filters
- Air is circulated through the UV-C air chamber where it is treated with an enclosed high-intensity UV-C light to inactivate bacteria, fungus, and viruses in the air
- Treated air is then returned to the room, creating a healthier environment
- UV Angel Air is unobtrusive, works continuously and with the in-ceiling design, maintains the valuable floor space



Isn't HEPA Filtration Good Enough?

A HEPA (High-Efficiency Particulate Air) filter can be an important part of common air purifier systems, promising to improve air quality. But there are a lot of misconceptions about the HEPA standard, whether an air purifier or filter truly meets the HEPA standard, and what a HEPA filter can and cannot do.

To understand how HEPA works, think of it as mesh of tangled fibers. The sheet is usually folded into pleats to increase the surface area and filter life. Air flows through the fibers and large enough particles get trapped when they hit the fibers. So, it is a size game which very clearly helps understand what HEPA can filter and cannot. HEPA works well and is effective at removing large enough particulate matter like pet dander, pollen, and dust mites.

At Clean Air USA, we like to say –
"We would rather KILL harmful pathogens than attempt to trap them!"

While HEPA filters remove particulates from the air, many harmful contaminants in the air are not particulate matter or particulate size.

Proven Results

Field trials were set up at three hospitals (Texas, Nevada, and Massachusetts) where we tested air and surface for bacteria, installed continuous UV-C products at the room level, and then tested air and surface again. In all cases, airborne bacteria were reduced between 79% and 91% over pre-installation values. Most surfaces also showed reductions in bacteria from 48% to 69%.Tests conclusively support that UV Angel Air treats bacteria, fungus and viruses in the air including: Gram negative and gram-positive bacteria, fungal pathogens, and viral surrogates. The UV Angel Air results showed laboratory elimination rates up to 99.99%. Our team is available around the clock to work with PHA's and other public agencies in developing engineered solutions for your assets. We are all in this fight together.

Watts Hot Newsletter® wants to recognize and thank Alan Watts with ***CleanAirUSA.com*** *for his article. Clean Air distributes and manufacturers state-of-the-art air purification systems. Originally developed for hospitals and healthcare facilities, Clean Air USA has developed products for all businesses. Scientifically peer-reviewed and proven to kill harmful pathogens. You can reach Alan for more information at 914-525-4444. Mention Watts Hot Newsletter®, Mike or Dick, or code: WATTSHOT for special pricing.*

Looking Beyond the Current Crisis - Smart Buildings on the Front Line Harnessing Pandemic Response

ID 142827967 © BiancoBlue | Dreamstime.com

Artificial intelligence (AI) supports infection detection, remote operations, and ongoing resilience

With the growing threat of infectious diseases, smart buildings will play an increasingly important role to help detect and control their spread, facilitate the remote operation of buildings in lockdown situations and interact with the grid to increase energy resiliency. Advanced applications, smart buildings and smart grids that offer transactive modes of generation and usage have the potential to increase safety and resiliency and increase the sustainable production and consumption of electricity. The World Economic Forum estimates that the projected value to society in terms of cost savings for consumers and reduced carbon emissions surpasses any other individual digital initiative.

Diagnostic and Identification Capabilities to Limit Spread of Infection

Temperature sensing and imaging equipment that integrates intelligent video and AI are becoming part of epidemic prevention and control. This has been deployed in some countries with applying proactive surveillance to detect fever and rapidly diagnose infection.

High-performance infrared thermal cameras, installed at the entrances of major train stations and airports, could capture thermal images of the commuter flow in real time to rapidly detect people with an abnormal temperature. This also reduces the cost and potential exposure to infection associated with manual temperature checks. AI can establish the identity of any passengers registering high temperatures within the measurement area, making it possible to separate people suspected to be infected and to identify who should be quarantined. However, such technologies would more likely be viewed an infringement on privacy in North America and Europe. That is already emerged in the United Kingdom with the Daily Telegraph's attempt to install desk monitoring sensors and Barclays' monitoring of the time employees spent at their desks. Both initiatives were scrapped due to pushback.

Many hospitals already use smart applications to monitor hygiene. They include white light disinfection LED technology and washroom sensors to track whether staff are washing their hands for a sufficient length of time. Humidity levels can also be programmed by building management systems (BMS) to create indoor conditions that will minimize the survival rate of viruses.

Facilitating Social Distancing and Remote Building Operations

Smart technology can facilitate work, education, and entertainment for people self-isolating in their homes. It should be possible to create a telemedicine internet feed that enables residents to submit daily health status reports to a community worker, who is designated for a building or a district. The assigned health worker could then respond with a message, a phone call, or even a home visit as needed.

An application with an "I need" feature for quarantined residents can provide daily necessities such as food and medications. As such technology becomes more commercially available, it could become a service that property managers could offer to tenants.

The analytic and diagnostics capabilities of smart building AI and building automation can enable self-supporting and remote operations, which can be valuable in a pandemic. With cloud-based information about the HVAC and lighting control systems, the building operator can monitor and control the building remotely for maximum impact on energy consumption maintain balanced thermal equilibrium in all seasons, no matter whether the building is occupied or almost empty.

Regardless of the current extraordinary conditions, this can optimize occupant comfort, save money, and reduce carbon emissions. A digital twin manifestation of the building can further extend the building operators capability to access all operational data remotely.

Aligning with Climate Change Concerns and Enhanced Resiliency

While climate change may have slipped somewhat from people's consciousness and priorities it is noteworthy that the pandemic and climate crises are both problems of exponential growth against a limited capacity to cope. With the virus, the danger is that the number of infected people could overwhelm health care systems. With climate change, the concern is that emissions growth will overwhelm our ability to manage consequences such as droughts, floods, wildfires, and other extreme events.

A brief interval of emissions reductions due to COVID-19 related pullbacks or shutdowns of emitters will not stop other extreme weather events already in motion. It will be critical to build resilience on all fronts — and the smart grid and building-centered transactive energy can be part of that effort.

A smart grid is an electricity supply network that uses digital communications technology to detect and react to local changes in production and demand. The capability to respond to the changing conditions and "talk to the grid" requires a smart platform capable of supporting a wide range of applications, including HVAC systems; electric vehicles; and distributed-energy and whole-building loads. Platforms are rapidly being developed and tested, providing the capacity to respond to occupants needs, produce, and store energy, and communicate with the utility, the grid, and other buildings.

The smart grid can support vital services including a means to aging in place, more efficient transmission of electricity; quicker restoration after power disturbances; reduced operations and management costs for utilities; and, ultimately, lower power costs for residents and owners. Combined with renewable power and storage, a smart grid also offers resiliency, which increases the grid's coping capacity in times of pandemic or other catastrophic events.

Watts Hot Newsletter® wants to recognize and thank Jiri Skopek, for his contribution to the article. Jiri an architect, planner and specialist in smart, green buildings and communities.

A Little Help from Our Friends

Some togethers happen at the get-go. Some togethers happen around a dining room table or an altar for marriage. Some togethers come with industry membership, with shared professional experiences, or with cheering for the same team.

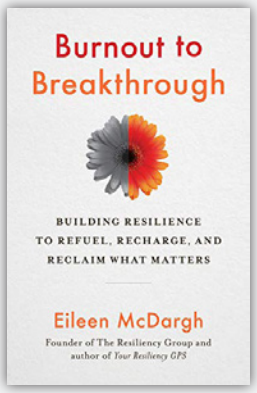
But this together—now in September—transcends all togethers we have even known. Around the globe, anxiety, fear, confusion, and conflicting stories pull us into a whirlpool that seems to suck us into a downward spiral. With physical distancing, we are together in losing freedom to move about our daily life. We are together in the loss of education, of rituals like weddings and funerals, of patterns for work and play, and with the political divide, we're together in the loss of a government structure that allowed room for difference, debate, and compromise to benefit the many versus a privileged few.

So, what can we do—together?

- Practice intelligent optimism—together. State the obvious and then—with family friends or colleagues, ask for ideas about how many ways you can find a positive spin on the negative.
- For example, we are all learning new ways to offer friendship, connect with family and friends, working with colleagues, servicing our clients. Colleagues I did not know well have stepped up to teach me.
- Find what fills your heart. Although we all have our morning routines for starting our day, look for the ordinary joys of life that touch your heart, even if only for the short term of a morning stroll.
- Seek ways to help others. We are in this together. Even when feeling depleted, helping others is a win-win strategy that increases the levels of oxytocin–the "feel good hormone".

Watts Hot Newsletter® sends this message to you from Eileen McDargh, CEO (chief energy officer) at the Resiliency Group. Eileen is an internationally recognized facilitator, author, speaker & coach. Since 1980, Eileen McDargh has helped organizations and individuals transform the life of their business and the business of their life through conversations that matter and connections that count. She believes that resiliency is a critical life skill and one that requires the energy of connections. Her programs are content rich, interactive, provocative, and playful--even downright hilarious.

You can hear Eileen discuss her latest book, *Burnout To Breakthrough with Allison Dunn*, Founder of the Deliberate Leaders. **https://deliberatedirections.com/eileen-mcdargh**.



Eileen offers this advice: read this book and think of what you need in your life now. Where are your points of control? How might your imagination pivot to seek opportunities? Because everything appears upside down, it is a great time to create and reclaim what matters most!

Here is how you get the book

- **Amazon:** **https://www.amazon.com/dp/B082MRSVW1**
- **Penguin Random House:** **https://www.penguinrandomhouse.com/books/635117/burnout-to-breakthrough-by-eileen-mcdargh**
- **Barnes & Noble:** **https://www.barnesandnoble.com/w/burnout-to-breakthrough-eileen-mcdargh/1134850326**

What Should We Come to Expect from Corporate Sustainability?

While at *Watts Hot Newsletter*® we strive to focus directly on Housing issues and technology, we cannot help and step back to observe the world in which we live. 2020 was another year in which natural disasters occurred with unnatural (or at least unprecedented) force and frequency. We find ourselves in the middle of an intense hurricane season, uncontrollable wildfires in CA, OR, CO, WA and the Amazon.

Natural disasters like these have wreaked havoc over the past decade, but what stands out about this moment in time is the stark contrast in how society has responded. Clear and daunting science, devastating fires and storms have ignited powerful marches and activism — an unprecedented 7.6 million people took to the streets to strike for climate action last year, and Time Person of the Year was youth climate activist Greta Thunberg. For the first time ever, climate crisis filled the top five places of the World Economic Forum's risks report.

Climate change is front and center in a way it is never been, which should give us hope. A new form of capitalism will be one of the most powerful levers to fight it. Blackrock CEO Larry Fink warned in his most recent letter to CEOs there will be a significant reallocation of capital — and sooner than we think.

With public pressure for climate action at an all-time high and the breadth, scale and speed with which transformation must happen, it is imperative that companies prioritize climate change mitigation and fast when building their corporate sustainability strategy.

What is corporate sustainability?

Corporate sustainability has evolved. Previously, corporate sustainability was an approach to business that prioritized a neutral or positive environmental impact, where businesses focused getting their house in order while trying leave the Planet better than when they found This aligns with the definition of sustainability put forward by the UN: "development that meets the needs the present without compromising the ability future generations to meet their own needs."

But given the emergency of the climate crisis, corporations must go beyond the methodical, one-foot-in-front-of-the-other approach: corporate sustainability leadership is now reserved only for those that pull every possible lever to meet the urgent needs of the Planet.

Corporate America is thinking big. From suppliers and customers, to technology and their brand, what are the biggest levers of influence, and how can they become the change agents in the greatest and most high-stakes challenge ever — the climate emergency. As you select your vendors: think about sustainability.

Stakeholder expectations are changing.

For years, the primary role of business was generating long-term value for shareholders, but this is no longer the case. In August, one of America's largest business groups, the Business Roundtable, updated its Statement of Purpose, dropping its "shareholder primacy" creed that has driven U.S. capitalism for decades, urging companies to consider the environment and workers' well-being alongside their pursuit of profits. Customers, employees, suppliers, communities, and shareholders are all mentioned as key stakeholders and considerations in a company's strategy in the updated statement.

Investors too are looking beyond tangible assets to determine a company's success. The Sustainability Accounting Standards Board (SASB) finds intangibles such as intellectual capital, brand loyalty, and customer loyalty today comprise the majority of corporate valuations, a complete reversal from the 1970's, when many of today's corporate leaders were in business school. Environmental, social and governance (ESG) performance enhance and protect intangible value.

Investors seek trusted and transparent environmental data.

The investor community has been pressuring companies to increase transparency and action on environmental, social, and governance initiatives. How will a company's facilities, operations, supply chains, customers, and employees fare in a world of increasing extreme weather events? In asking these questions, investors are pushing companies to report on, and consider these risks.

Investors need higher quality data to make strategic decisions. Typically, a company's environmental data is gathered and held by a few employees and the process is typically the responsibility of one of a junior environmental employee, or even the side project of someone with a different day job. Imagine if financial data was gathered this way! Trusted environmental data is needed for stakeholders inside and outside the company to make strategic decisions.

Customers want to purchase from values-driven organizations.

Customers, too, have been increasingly vocal, pushing companies to look beyond profit to foster positive social change. More and more, consumers are actively seeking to buy from environmentally sustainable companies, and we see this well-understood business-to-customer (B2C) trend quickly entering business-to-business (B2B) relationships too.

Employees want to work for values-driven organizations. That same individual making a values-based purchasing decision is also making values-based employment decisions. To succeed, corporations must instill and live by strong values to attract and retain today's top talent. This pressure from business stakeholders to embrace sustainability makes the case there is not only a moral but business imperative to act.

What are the benefits of corporate sustainability?

Embedding a corporate sustainability strategy ensures the success and longevity of a business.

- **Employee retention.** Today's workforce, especially millennial employees, want to work for a values-driven organization that offers opportunities for employees to tap into their passions and make an impact.
- **Improved operational efficiencies.** Significant cost reductions can result from improving operational efficiency through better management of natural resources like water and energy, and minimizing waste. One study estimated that companies experience an average internal rate of return of 27% to 80% on their low carbon investments.
- **Full accounting of risk.** Sustainability increasingly is tied to a variety of risk factors for companies: financial risk, reputational risk, business continuity risk, and the risk that a company's social license to operate may be jeopardized.
- **Strategic decision making.** Wherever there are risks there are opportunities. Companies that prioritize sustainability have the advantage of seeing ahead, seizing opportunities, and avoiding hazards better than those who look shorter term and in a more siloed fashion.

What are some effective corporate sustainability strategies?

1. **Align your sustainability decision making with your company's mindset.** Businesses should ensure that their sustainability goals align with long-term growth strategies and financial and operational priorities. An integrated strategy pays off. Putting sustainability at the heart of a business model helps us to stay relevant to customers and consumers, but it also helps to strengthen the relationships with key stakeholders and partners hoping everyone can work together toward a more sustainable future.

2. **Engage your stakeholders, particularly your employee base.** Tapping into your employees to champion environmental values is one strategy incredibly successful. Every employee is a part of new initiatives, by offering in-office events and out of the office volunteer opportunities to make everyone empowered to make an impact. Leverage your company's superpower.

3. **Participate in partnerships to amplify impact.** Every individual, institution, government, community, and corporation have an essential role to play in advancing climate change solutions. Businesses particularly can glean ideas and gain support for their journey by teaming up with other initiatives that share similar goals. Cross-sector partnerships are also vital to curbing climate change at scale. Environmental action requires the participation of the private sector along with governments, universities, and civil society organizations, but organizations need to obtain a better understanding of each other to build powerful cross-sector partnerships.

What does the future of corporate sustainability look like?

Corporate sustainability is charging into the realm of innovation. Sustainability practitioners in the corporate space are challenging the status quo — flipping traditional business models on their heads and thinking differently to find the competitive advantage in a more sustainable solution.
There is a lot at stake. Without an integrated corporate sustainability strategy, companies can lose their customers, their license to operate, and over time — the most fundamental risk of all — the environment we all share. Fortunately, we already have the ideas, systems, and solutions. The challenge is to accelerate the knowledge and growth of what is possible, leveraging innovation and technology to drive climate action. The greatest challenge is the clock and delivering impact at global scale fast enough.

Climate change needs you! You are just in time. You are not late. You are not on the outside. You are not underprepared. Just the opposite. You are just in time. You are a stakeholder. To quote Paul Hawken, "You are brilliant, and the Earth is hiring." Step into the adventure and bring your designs with you.

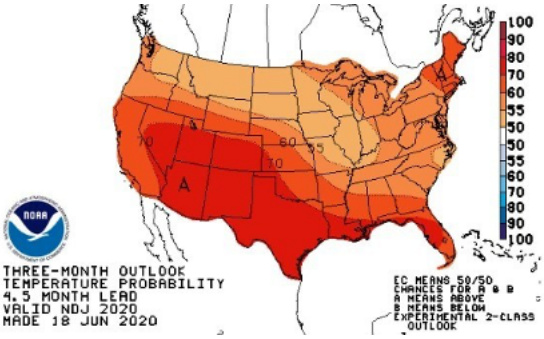
Watts Hot Newsletter® wants to recognize and thank Patrick Flynn, Senior Director of Sustainability for Salesforce, for his contribution to the article. Patrick led sustainability strategy and built and led a San Francisco-based R&D team. He has experience working as a building engineer (he has a P.E. in HVAC) and as an investor in a cleantech venture capital firm, where he focused on green building technologies and software-driven energy efficiency.

NOAA Temperature Outlook – Winter 2020-2021

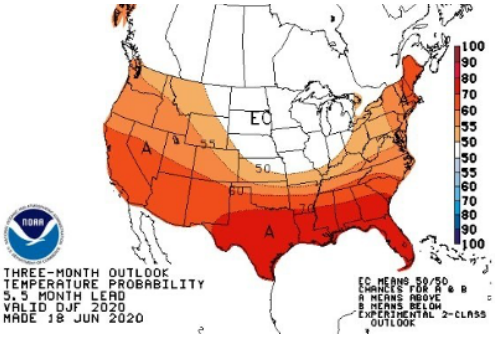
NOAA is projecting above average temperatures for most of the United States throughout the winter of 2020-2021. However, a chance for colder than normal temperatures could show up in the spring according to Climate Prediction Center models. Also, if La Niña shows up in force, expect these temperature 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.

Contact Us

For further follow-up information on the *Watts Hot Newsletter®* articles or questions about the newsletter you can call or email:

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