WATTS HOT Newsletter®

YOUR SOURCE FOR ENERGY, TECHNOLOGY, SUSTAINABILITY & RESILIENCY

APOLLO Engineering Solutions®

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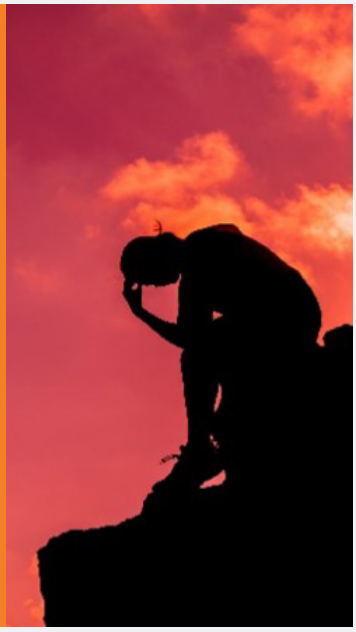
Editor's Message – Toughing It Out

As a nation, we continue to be challenge, individually and nationally. Extreme weather has thrashed parts of the U.S. during the past months. Meanwhile, a severe drought has fueled California's largest wildfire of the year so far – the McKinney Fire – which burned so hot that massive pyrocumulus clouds erupted into the atmosphere. The heat from the fire is hot enough to produce rare mushroom-cloud like formations known as pyrocumulus clouds. They tower above the ash and smoke from raging wildfires and are often seen for miles. Climate scientists say more of these extremes are expected as the planet continues to warm. The biggest single contributor to the climate crisis is fossil fuels, but many countries are delaying their phaseout plans in response to the energy crunch caused by Russia's invasion of Ukraine.

The simple truth is as humans we suffer from news burnout, making it more difficult to lead others e.g., families, colleagues, staff through challenging times. As leaders (parents, managers, executives), we push through it. We work endless hours, always accessible via meetings on demand, phone, email, and text messaging. Burnout has been around for a while. But the long-term pandemic, high employee turnover, and roller coaster economic conditions has made leading while exhausted a reality for many leaders today.

"Toughing it out" may seem heroic, however, it has its serious implications. Outcomes of leading while exhausted includes lost focus, missed judgement calls, overlooking crucial details that can lead to disastrous results. Further, studies on healthcare workers during the pandemic have findings alarming. Unaddressed burnout can advance to peritraumatic distress, substance abuse, post-traumatic stress disorder.



UPCOMING EVENTS

- **PHADA 2022 Legislative Forum**
  September 11-13, 2022
  Washington, DC

- **Net Zero Conference**
  September 14-15, 2022
  Los Angeles, CA

- **NAHRO 2022 National Conference & Exhibition**
  September 22-24, 2022
  San Diego, CA

- **NAESCO 2022 Annual Conference**
  November 7-10, 2022
  Orlando, FL

- **PHADA 2023 Commissioners' Conference**
  January 8-11, 2023
  Orlando, FL

- **NAHRO 2023 Washington Conference**
  March 6-8, 2023
  Washington, DC

"Toughing it out" may seem heroic, however, it has its serious implications. Outcomes of leading while exhausted includes lost focus, missed judgement calls, overlooking crucial details that can lead to disastrous results. Further, studies on healthcare workers during the pandemic have findings alarming. Unaddressed burnout can advance to peritraumatic distress, substance abuse, post-traumatic stress disorder.

Recognizing and treating exhaustion as important as those "to-do" items on the endless work list should become a priority. This should not be a "one and done" checklist item but built as a normal routine.

Techniques such as scheduling meeting-free days, turning off digital devices or at least the constant alerts, and stepping away from the virtual or on-site office should become a normal part of the day. Another good move is to intentionally adopt a balanced perspective on all the 'crisis' that come in. Put a simple mechanism in place that will help separate issues as a "paper clip" item versus an "all hands-on deck" crisis response. Scrutiny will show that most 'crisis situations' are opportunities to advance or stay where you are. As we watched the events unfold on television, we witnessed the fantastic opportunity to advance by coming together. We felt the pain, the frustration of unanswered questions and the need to help each other out as a nation and globally. We watched with considerable pride those who leapt in to help strangers without a thought.

Finally, leading effectively includes modeling ideal behaviors authentically and consistently. By taking these steps to reign in exhaustion, we can also encourage those around us to do the same. Ultimately this is how leaders shape a healthy and resilient organizational culture, where it is within the office or the family unit, regardless of whatever the crisis. The truth is any organizational culture will form and exist on its own, good, bad, or ugly. But with leadership intervention, an organization's culture can shift and become effective towards achieving overall success.

Each organization is different. Every culture has its own history. There are many books, methods, and experts on shaping organizational culture. So how do you shape culture? Start by being aware what needs change. Know the strengths, weakness, and capability. Know what will motivate change, improvements. Follow through on implementation. Monitor progress.

Our hearts go out to those experiencing shock, tragedy, and uncertainty during challenging times. We pray for our many readers up who are from or have friends or family in areas or those affected by the unthinkable events. In remembering events in the U.S, we cannot forget about the tragedy in Ukraine and the ongoing fight for freedom.

Apollo Engineering Solutions and WattsHotNewsletter will contribute proceeds to the World Central Kitchen (WCK) **https://wck.org**. Jose` Andres` WCK has served tens of millions of nourishing meals to people affected by disasters across the world—from hurricanes to wildfires to a global pandemic. We chose the WCK to use the power of food to heal communities and strengthen economies while serving as a beacon of hope for people in times of crisis. We encourage you to help those in disaster areas, anyway you can.

"The test of our progress is not whether we add more to the abundance of those who have much; it is whether we provide enough for those who have too little."

- FDR

Recognition to Tresha Moreland, a 30-year experienced HR leader that has worked in retail, hospitality, manufacturing, and healthcare industries. She is leadership consultant and founder of HR C-Suite, LLC who helps leaders improve their ability to execute on business strategy through creative and forward-thinking workforce solutions.

Hot Briefs

DC City Council moves to require net-zero construction by 2026

The Washington, D.C. City Council unanimously passed legislation that would require all new buildings and substantial renovations in D.C. to be net-zero construction by 2026. The legislation also bans most natural gas use in new buildings. Net-zero building codes would cover all commercial buildings, condominium, and apartment buildings, as well as single-family homes taller than three stories.

The Council also passed separate climate legislation that commits the entire city to carbon neutrality by 2045. Influencing this lawmaking, a study released earlier this year found that natural gas leaks around the D.C. are significant contributors to climate change. The bill requires audits every three years, starting in 2029, to report the percentage of new buildings in compliance with net-zero requirements. Shorter term goals in the legislation include a 60% cut in carbon emissions by 2030, and District government-owned buildings going carbon neutral by 2040.

Shoutout to NYCHA - New York's public housing on the verge of a climate breakthrough

The housing authority announced this week it would move ahead with plans to develop and buy efficient, sleek new heat pumps for a pilot program. Heat pumps are essentially two-way air conditioners and are widely seen as the most efficient and practical way to heat buildings without fossil fuels. As hardware improvements make heat pumps more versatile and dependable than ever before, policymakers are scrambling to roll them out as quickly as possible, especially as high fuel prices threaten to make keeping warm this winter expensive.

Before putting out a bid last year, NYCHA spoke with other public housing authorities across the state and country, and got letters of support expressing an interest in buying whatever heat pumps came out of NYCHA's proposal.

On Tuesday, NYCHA and other state and city officials awarded $70 million through two seven-year contracts to two heat pump manufacturers, New Jersey-based Midea America and Gradien in California. Midea will make about 20,000 appliances; Gradien will produce the other 10,000. The devices are compact and saddle the windowsill, meaning they will not block half the window, as traditional air conditioners normally do. NYCHA plans to run a pilot program for a year before placing the full order for all 30,000. Assuming there are no major problems, installations should begin in 2025.

NYCHA wants to make sure their residents are comfortable and like them, and make sure they work with their window configurations and space constraints in the apartments. NYCHA wants to get through at least one heating season before they can assure all the boxes were checked.
According to NYCHA officials, the plan, would be to start buying and deploying more, and phasing out the gas and oil-fired boiler systems that heat most NYCHA buildings. That will be a bigger step. NYCHA is going through a transformation, and officials want to get it right. As a part of the process, NYCHA wants to bring their residents the opportunities that ultimately will be created through that transformation, whether it is training or job-career placement. Energy, sustainability, and resident quality of life issues are parts to a total solution.

More than 5 GW of wind came online in the year's first half, EIA says

Wind generation made up one-third of the 15.1 GW of generating capacity that came online in the United States during the first half of 2022, followed by natural gas, solar, and battery storage. Over 40 percent of the wind capacity was in Texas: fully 2.2 GW of the 5.2 GW wind total. The largest renewable projects included the 999 MW Traverse Wind Project in Oklahoma, the 492 MW Maverick Creek Wind in Texas, and the 440 MW solar and battery storage project at Slate Hybrid in California.

The year's second half could see developers add another 29 GW of generating capacity. Those highlights were reported by the Energy Department's Energy Information Administration (EIA). It said that developers report plans to add 29.4 GW of new capacity during the second half of the year. Nearly half of that planned capacity is from solar (13.6 GW), followed by wind (6.0 GW). As in previous years, many projects are slated to come online in December because of tax incentives. EIA said that respondents to its project survey now plan to add 3.7 GW less solar capacity in 2022 than what they had expected at the beginning of the year. Pandemic-related challenges in supply chains and a U.S. Department of Commerce tariff investigation are likely causes for this decrease, EIA said.

Impact of climate change on wildfires

The average wildfire season is not only three and a half months longer than it was a few decades back, but the number of annual large fires in the West has tripled — burning twice as many acres. Severe heat and drought fuel wildfires, conditions scientists have linked to climate change. A continuing warming cycle will generate more and worse wildfires in the years ahead.

What is causing this devastating cycle?

Human careless activities — such as lighting campfires and discarding lit cigarettes — contribute to the fires, however, hotter weather makes forests drier and more susceptible to burning. Rising temperatures, a key indicator of climate change, evaporate more moisture from the ground, drying out the soil, and making vegetation more flammable. Winter snowpacks are melting about a month earlier, meaning that the forests are drier for longer periods of time. Meanwhile, shifting meteorological patterns can drive rain away from wildfire-prone regions, a phenomenon scientists discovered in California and have linked to human-made climate change.

As drought and heat rise greenhouse gas emissions, we expect more wildfires in years ahead, especially with the fire seasons getting longer. The cycle is within our power to break, to get on track toward a more sustainable future. Spending an ever-rising amount of money to address devastating fires and other weather disasters that climate change is not the answer alone. Slowing and eventually stopping the greenhouse gas emissions warming of the plant is the long-term solution.

View this CBS Saturday Morning clip from 8/13/22 to get an appreciation of the latest initiatives under way to break the cycle of climate change. Tree farming alone will not get us there.

https://www.cbsnews.com/video/western-wildfires-threaten-carbon-offsets

Opportunities for Tribes as Clean Energy and Climate Move Front and Center

Tribes Can Apply for Direct Loans for Energy Projects Under Updated Tribal Energy Loan Guarantee Program Solicitation. **Do not Wait—Direct Loan Authority Set to Expire September 30.**

On July 29, the U.S. Department of Energy (DOE) Loan Programs Office (LPO) issued an **updated solicitation** for the Tribal Energy Loan Guarantee Program (TELGP) to implement direct lending authority. The update enables eligible tribes to apply for direct loans for eligible energy projects through the U.S. Treasury's Federal Financing Bank, as authorized under The Consolidated Appropriations Act. This direct loan authority will expire at the end of this fiscal year (Sept. 30) unless extended by Congress.

TELGP was originally established to provide partial guarantees of commercial or other qualified loans made to a federally recognized Indian tribe, Alaska Native corporation, or tribal energy development organization for energy development. This part of the TELGP program is not affected by the update. Given recent updates and improvements to TELGP, LPO also rolled out a new **lending reference guide** to provide potential applicants with a better understanding of the program and facilitate engagement with LPO staff about projects that could benefit from either direct loans or loan guarantees.

Inflation Reduction Act - High-Efficiency Electric Home Rebate Program

Administering Agency: U.S. Department of Energy via State Energy Offices

Eligible Recipients: Low- or moderate-income (LMI) homeowners and multifamily building owners undertaking a qualified electrification project and entities carrying out qualified electrification projects on behalf of LMI homeowners and multifamily building owners. LMI households have incomes less than 150% of AMI. LMI multifamily buildings have more than 50% of dwelling units occupied by households with incomes below 150% AMI.

Funding Amounts and Purposes: $4.5B available through September 30, 2031, for grants to States ($4.3B) and Tribes ($225M) to provide rebates for qualified home electrification projects.

Eligible Uses:

- Rebates to cover the costs of building electrification upgrades
- Up to $500 to entities carrying out qualified electrification projects on behalf of LMI homeowners and multifamily building owners
- Up to 3% of the funds may be used by DOE for administrative purposes and providing technical assistance
- Up to 20% of a state's grant allocation may be used for planning, administration, or technical assistance related to implementing a rebate program

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How will the Inflation Reduction Act Impact Green Energy?

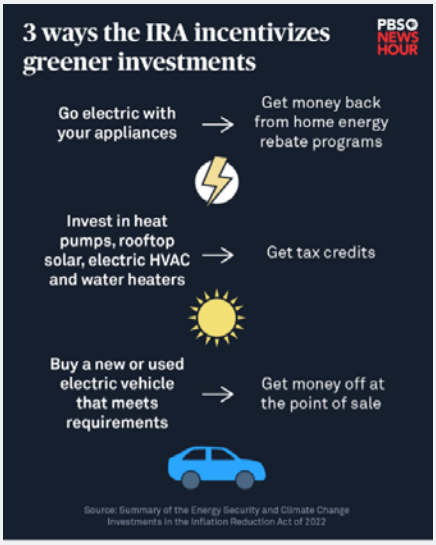
The sweeping Inflation Reduction Act (IRA) will reshape the American energy industry by putting non-fossil fuel alternatives in reach of more people. While not a panacea for the climate crisis, the spending bill is predicted to get the United States much closer to its emissions goals.

The legislation tackles deficit reduction, health care access and prescription drug pricing, and addresses the energy industry and climate change in a significant way. The bill offers improved capacity in the nation's projected ability to reduce our greenhouse gas emissions.

The bill is intended to put the country on a path to reduce greenhouse gasses by 40 percent below 2005 levels by 2030 – a meaningful increase compared to our current path, which is projected to reach a 25-percent reduction. (The U.S. has pledged to lower emissions by 50 to 52 percent under that same framework as part of the Paris Agreement.) That is an important breakthrough for every living thing on Earth, but there also are more mundane benefits, including for anyone who drives a car or pays utility bills and has felt fuel costs rise this year. Every part of the economy has energy running through it — it powers everything in our lives. How we transition to more renewable sources of that energy is the basis of the IRA.

The use and production of energy, which includes fuels that power vehicles and buildings, makes up the largest contribution of greenhouse gas emissions across the globe, according to the EPA. In the U.S., the transportation, electric power and industry sectors each make up around 25 percent of national emissions, the EPA says.

To win West Virginia Sen. Joe Manchin's approval, wins for oil and gas production were also added to the Inflation Reduction Act – a fact that environmental advocates are not keen on. Here is a look at why the bill emphasizes energy, what that means for consumers and how these changes aim to bolster the U.S.'s fight against climate change.



Graphic by Megan McGrew/PBS NewsHour

Building up the U.S. capacity to build renewable technology, like solar panels or electric vehicle components, and then ensuring people can use those things more easily by shoring up energy infrastructure is a key facet of the Inflation Reduction Act. Meanwhile, consumer-oriented provisions meant to make it more affordable for those with lower to middle incomes to access electric-powered options, from cars to heat pump systems and more.

When we are talking about energy, we are talking about the biggest climate problem and opportunity we have. The IRA provides a whole new set of tools to counter the entrenched influence of fossil fuels.

How will you, the consumer benefit from the Inflation Reduction Act?

The bill includes several tax credits and other financial incentives aimed at making clean energy options more accessible for consumers, particularly focusing on those who are lower- to middle-income. Those benefits include bolstering increasing the affordability of heat pumps and other home infrastructure that revolves around electric power. Individuals can be part of a trend that is collectively driving a catalytic change in major emissions reductions.

Summarizing the funding benefits (summary) include:

- Production tax credits to help U.S. manufacturers accelerate production of solar panels, wind turbines, batteries, and process key minerals.
- $10 billion investment tax credit for new manufacturing facilities that make clean tech like EVs, wind turbines and solar panels.
- $500 million to use the Defense Production Act to speed manufacturing of things like heat pumps and processing critical minerals.
- $2 billion in grants to help automaker facilities transition to clean vehicle production.
- Up to $20 billion in loans to construct new manufacturing facilities for clean vehicles.

Here's how the Inflation Reduction Act, energy component, impacts Americans by the numbers:

- Families that take advantage of clean energy and electric vehicle tax credits will save more than $1,000 per year.
- $14,000 in direct consumer rebates for families to buy heat pumps or other energy efficient home appliances, saving families at least $350 per year.
- 7.5 million more families will be able install solar on their roofs with a 30% tax credit, saving families $9,000 over the life of the system or at least $300 per year.
- Up to $7,500 in tax credits for new electric vehicles and $4,000 for used electric vehicles, helping families save $950 per year.
- Putting America on track to meet President Biden's climate goals, which will save every family an average of $500 per year on their energy costs.

Building a Clean Energy Economy

- Power homes, businesses, and communities with much more clean energy by 2030, including:
  - 950 million solar panels.
  - 120,000 wind turbines.
  - 2,300 grid-scale battery plants.
- Advance cost-saving clean energy projects at rural electric cooperatives serving 42 million people.
- Strengthen climate resilience and protect nearly 2 million acres of national forests.
- Creating millions of good-paying jobs making clean energy in America.

Reducing Harmful Pollution

- Reduce greenhouse gas emissions by about 1 gigaton in 2030, or a billion metric tons – 10 times more climate impact than any other single piece of legislation ever enacted.
- Deploy clean energy and reduce particle pollution from fossil fuels to avoid up to 3,900 premature deaths and up to 100,000 asthma attacks annually by 2030.

The national conversation around reducing greenhouse gas emissions and pollution from energy sources historically has focused on retiring fossil fuel plants and otherwise moving away from oil and gas, i.e., tackling the supply side of the energy equation. Multiple elements of this bill aim to help reduce fossil fuel generation by also targeting the demand side of things. If we just do not have as much demand for fossil fuels because we have electrified our vehicles and more people are using heat pumps, then that will also lessen the demand on fossil fuel. The economics of the market will crowd out fossil fuel from the energy space. While there is funding in the bill aimed at supporting lower-income households and efforts to make affordable housing more efficient, many of the consumer incentives benefit homeowners.

Will the energy industry be hurt?

A key facet of the bill locks in tax credits for the next decade for solar and wind energy, which were limited to one to three years. It is a move that will also help spur new jobs and economic development within sectors tied to clean energy. Provisions are also included for domestic mining of materials needed to make solar panels and batteries, as well as for the offshore wind development industry. Bolstering domestic production of clean energy has national security implications. The package includes more than $60 billion to support "on-shore clean energy manufacturing in the U.S.," to ease inflation and making future price shocks less likely by reducing the costs associated with clean energy options.

The U.S. has historically been a top emitter of greenhouse gasses, but experts say it is also uniquely positioned to be a global leader in what an effective fight against climate change looks like. The bill offers a chance to "have climate action on a scale to bring others along and to be demonstrating in real time the technologies that can be deployed not only in the U.S., but everywhere else.

Drawbacks of the Inflation Reduction Act?

This bill still includes measures that benefit the U.S. oil and gas industry, and a separate side deal between senators could pave the way for the construction of a natural gas pipeline in Manchin's home state. One vexing detail for environmental advocates is that some funding measures can support carbon capture and storage. That process involves fossil fuel power plants capturing the carbon dioxide normally emitted into the atmosphere and storing it below ground instead. But it is not clear how that storage could affect the environment long-term. Carbon capture and storage does not address the pollution generated by the burning of fossil fuels, including soot and toxic wastewater. Those byproducts can have a negative impact on the health of people who live close to those facilities, which are often in or near communities of color and low-income communities.

That is why incentivizing carbon capture and storage, experts say, can extend the life of the fossil fuel industry in ways that are not conducive to sustainability or for public health. While the bill allows the leasing of federal lands and waters for renewable energy, it also ties in leases for fossil fuel as part of the bargain. That means for solar and wind projects to access new acreage, a certain amount of oil and gas projects must also get the go ahead for new leasing. If the oil and gas companies determine that they want to bid on those [leases], they feel like they can make money on them, [then] they can do so. However, just because a company acquires acres through a lease does not mean it will follow through with development.

Summary

Many have said that though the bill is a massive step in the right direction on climate, however, the U.S. still has far to go for eliminating its reliance on fossil fuels. That oil and gas benefit from the bill is a source of frustration. The IRA includes billions of dollars aimed at funding community-led efforts to address the effects of climate change and pollution, with an emphasis on marginalized communities. That is significant because those impacts are different depending on where you are in the country, and even where you are in a community. Climate change is a global systems problem, but the solutions happen at the level of the community, city, state, and the country. Many people will be eager to put this unprecedented influx of money to beneficial use, but that it will take a lot of work to make it all go.

Recognition to Isabella Isaacs-Thomas, PBS News Hour for her significant contribution to this article.

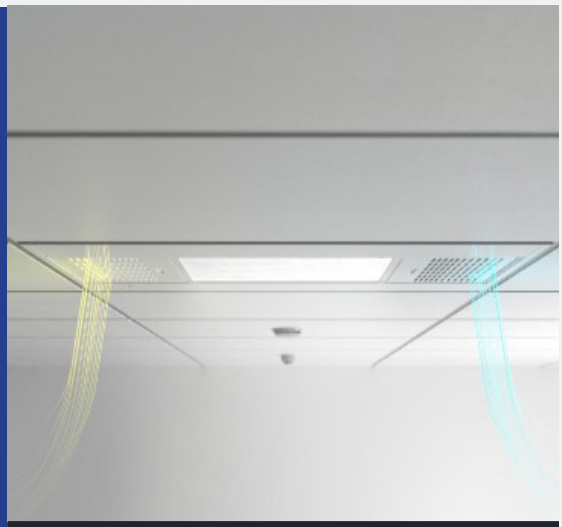
Watts Hot Marketplace: UV Angel

You care about people! That is why you do what you do!

For residents and staff, UV Angel technology is providing a safer environment where people gather (community centers, offices, child-care centers, clinics, event venues, recreation rooms, etc.). UV Angel has a singular focus: make the world a healthier and safer place for everyone. UV Angel Clean Air™ units automatically neutralize up to 99.99 percent of all pathogens in the air, 24/7 with no user interaction needed, and are completely safe, even when the spaces are occupied.

We can better prepare for and prevent the events we experienced in 2021 by using this patented ultraviolet (UV-C) light technology. The UV Angel platform provides users with the tools they need to provide measurably safer and healthier environments. Bringing peace of mind to residents and staff. In the arsenal of infection prevention, ultraviolet lights are used throughout health care and other environments to neutralize microorganisms on surfaces, in water and in the air.

Installed into existing and/or new construction and designed directly into a traditional ceiling light fixture, UV Angel Clean Air™ is a quiet, unobtrusive environmental disinfection system that uses ultraviolet light to kill viruses, bacteria, and fungi in the air 24/7, 365 days a year. The UV Angel Clean Air™ products operate independent of the central HVAC systems and pulls room air into a sealed high-intensity UV-C light chamber where the air is continuously treated. The clean treated air is then returned to the room. Independent studies have shown it safely neutralizes pathogens in occupied spaces with up to 99.99 percent effectiveness.



Air Series -
https://vimeo.com/432275535

The approach effectively targets pathogens at room level, where disease transmission begins as people are present and gathering. The units also wirelessly connected to UV Angel's data cloud, providing real-time information on system use to building administrators. Designed and manufactured in the USA, the UV Angel platform is a proven system backed by years of scientific data and peer-reviewed studies.

Surface Series -
https://vimeo.com/511270725

Frequently touched surfaces are being interacted with faster than they can be manually cleaned. UV Angel Adapt Series™ is an intelligent, automated ultraviolet light treatment system for high-touch surfaces that provides an extra layer of safety. The units can automatically detect surface interaction, safely treat the area, and reduce potential threats.

Using the latest in advanced UV-C technology, peer-reviewed studies have shown how effective the system is at treating air and surfaces and **we can prove it!**

Watts Hot Marketplace: UV Angel *(continued)*

*A recent article **https://www.tandfonline.com/doi/full/10.1080/15459624.2021.1991581** from the Journal of Occupational and Environmental Hygiene concluded UV light air cleaning systems like UV Angel are a safe, highly effective option to decrease the risk of infections for staff and residents - especially important as COVID-19 continues to spike.*

UV Angel Clean Air™ and **Adapt Series™** are compliant with CDC guidelines and provide additional peace of mind for management, staff, and clients. Look for **UV Angel Clean Air™** at the New Bedford Housing Authority, New Bedford-MA, and many other commercial buildings, medical practices, schools, V.A. Hospitals, restaurants, and other facilities. Join the New Bedford Housing Authority and other PHAs in keeping residents and staff safe from COVID.

https://www.businesswire.com/news/home/20220516005030/en/UV-Angel-Clean-Air%E2%84%A2-Purification-Systems-Enable-Higher-Quality-of-Life-for-Senior-Residents-at-New-Bedford-Housing-Authority-Facility

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Lease/finance, rent, as-a-service, or buy UV Angel Air Indoor Air Disinfection technology. FEMA Public Assistance Funds may also be available to pay for your UV Angel systems. FEMA urges officials to, without delay, take actions that are necessary to protect public health and safety under public health guidance and conditions and capabilities in their jurisdictions. FEMA provides the following guidance (**https://www.fema.gov/fact-sheet/eligible-emergency-protective-measures**) on the emergency protective measures that may be eligible under FEMA's Public Assistance Program under the COVID-19 Emergency Declaration to ensure that resource constraints do not inhibit efforts to respond to this unprecedented disaster.

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*Contact Dick Santangelo, P.E. for information 703-627-7161 or **rsantangelo@apolloengsol.com** or Mike Nail 301-639-3767 or **enlightened1on1@gmail.com**.*

APOLLO Engineering Solutions®

UVANGEL

Enlightened ENTERPRISES

Generating Additional Revenue Through 179D Rebate and Carbon Credits

Overview

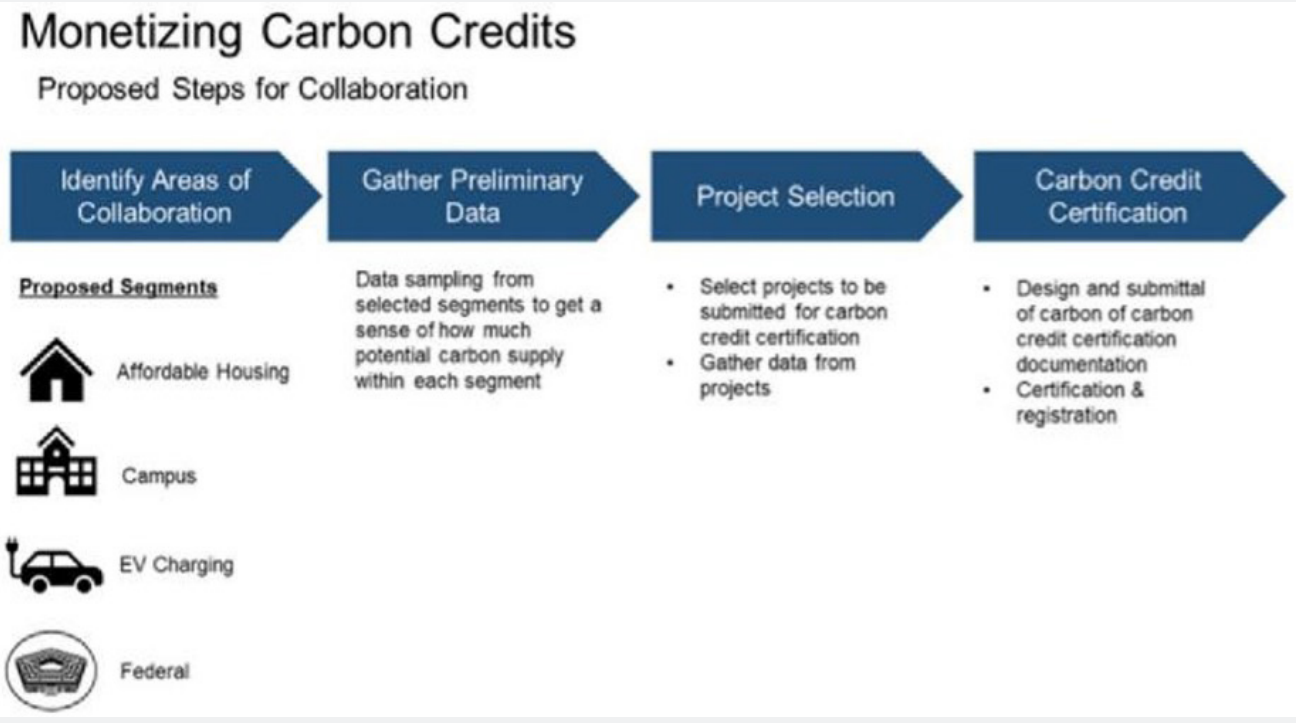
An opportunity exists to monetize carbon credits earned from energy efficiency savings, transition to solar power and other renewables. Through a streamlined digitized process those reduced CO2 emissions can be monetized into carbon credits or offsets and sold to investors worldwide generating a significant and ongoing revenue stream for your organization. Real change in Green House Gas (GHG) reduction will only occur from corporate behavior changes. You may be ahead of many others in GHG reduction, initiated by your commitment to energy performance contracting, redevelopment, or repositioning years ago to reduce utility costs and GHG.

What are Carbon Credits?

A carbon credit represents one ton of carbon dioxide removed from the atmosphere. They can be purchased by an individual or, more commonly, a company to make up for carbon dioxide emissions that come from industrial production, delivery vehicles or travel. Buyers, purchasers of carbon credits often are driven to offset their GHG production by locality, state, or country's GHG reduction goals. Ignoring the mandates to reduce GHG can cause significant monetary penalties to a violating party.

How Does It Work?

Sequestra has sourced un-monetized carbon credits from various sustainability projects from various market segments including low-income housing, energy efficiency projects, biogas projects, EV charging projects, corporate renewable energy projects, and industrial carbon sequestration projects. Sequestra has partnered with various technology companies, such as IBM, to build this platform. Flow process for securing carbon credits below:



What Is the Cost to Get My Payment?

There is no-upfront-cost as Efficiency Energy's fee is paid upon successful delivery of your payment, which varies by project but is agreed in advance by you.

Why is Sequestra's Carbon Credit Program Good for Your PHA?

The heavy lifting to undertake an energy redevelopment project has been completed by your organization. Your properties benefited by reducing utility expenses and in addition, can now monetize its GHG reduction, resulting from its past and future utility savings and solar project. Your organization's role going forward is to report savings as reported in its measure, verification, or energy performance reports. Sequesta carries the water to monetize the carbon credits, finding national or international buyers and sends the proceeds to you. In addition to the initial proceeds, the carbon credits can also result in an annuity if the project continues to generate carbon reductions.

Project	Amount	Elect Savings (kWh)	CO2 Tons/Year (kWh)	Gas Savings (therms)	CO2 Tons/Year (Therms)	CO2 Tons/Year	+@$100/ton
1	$14,000,000	1,699,397	1,205	563,805	2,988	4,193	$419,304
2	$10,014,373	3,948,205	2,799	345,909	1,833	4,633	$463,260
3	$7,376,625	2,005,213	1,422	65,975	350	1,771	$177,136
4	$7,337,953	427,960	303	257,054	1,362	1,666	$166,581
5	$11,959,870	1,662,711	1,179	76,244	404	1,583	$158,296
6	$8,990,773	3,279,902	2,325	1,168	6	2,332	$233,164
7	$7,494,029	1,726,251	1,224	178,979	949	2,173	$217,250
8	$3,105,506	292,167	207	4,963	26	233	$23,345
9	$2,957,063	160,674	114	0	0	114	$11,392
		15,202,480	10,779	1,494,097	7,919	18,697	$1,869,727

What are the Opportunities for Me?

We looked at the performance consumption savings for 9 Housing Authorities (HA).

179D Tax Rebate Program

The second opportunity is through 179D of the US Tax Code. Through a special rule, public and private agencies can be compensated $2.50 - $5.00/sf for energy conservation work (lighting, HVAC, hot water and building envelope) completed and put into service in 2019, 2020 and 2021 going forward. HAs have taken advantage of this including the Chicago Housing Authority, New York, and Boston.

How Does 179D Work?

The statute is blind as to the source of funds; therefore, HAs who have used Capital funds, IRA monies, State or DOE grants or have gone through an energy performance contract can count those monies toward the 179D benefit. The IRS guidance states that governments may allocate their 179D deduction to ESCos, architects or engineers who designed energy efficient elements of their buildings and like other governmental assets, the governments can receive in exchange for a negotiated payment from the ESCO, architect or engineer a portion of the tax benefit of the 179D deduction. A negotiated payment is confirmed in a transfer agreement accounting for the processing costs including certification, legal, accounting, data gathering fees, etc. that Efficiency Energy LLC. processes. The deduction can be taken by designers on building projects completed for not-for-profit entities, and Tribal Governments. 179D commercial buildings energy-efficiency tax deduction also enables building owners to claim a tax deduction for installing qualifying systems.

What is the Process?

Efficiency Energy LLC. manages and processes these steps to success: 1. Feasibility study to determine eligible amount & verify with participating suppliers; 2. Third party energy modeling with DOE-approved software; 3. Qualified verifier site visit; 4. 179D Allocation Agreement; 5. 179D Certification by PE or Architect. 6. Closing statement & documentation with legal, accounting, governmental entity & suppliers.

What Is the Cost to Get My PHA Payment?

There is no-upfront-cost as Efficiency Energy's fee is paid upon successful delivery of your payment, which varies by project but is agreed in advance by you.

To learn more, contact Dick Santangelo, P.E. at 703-627-7161 or **rsantangelo@apolloengsol.com**.

Watts Hot Marketplace: 2rs

Combining Your Energy Audit With a 179D Rebate and Carbon Credits Can Generate Revenue for Your Property

In need of an energy audit for HUD compliance or repositioning of your property? Through 179D of the US Tax Code and the recently passed Inflation Reduction Act, public and private agencies can be compensated $2.50 - $5.00/sf for energy conservation work (lighting, HVAC, hot water and building envelope) completed and put into service in 2019, 2020 and 2021 going forward.

The Energy Audit is an excellent opportunity to identify the 179D opportunities related to lighting, HVAC, hot water and building envelope. 179D adds value to your energy audit in the form of a potential rebate.

Through a partnership between 2rs Consulting (formerly 2rw), one of the nation's top energy engineering firms, Apollo Engineering Solutions and Enlightened Enterprises, a new energy audit product has become available. Besides providing an audit that meets HUD's current energy audit guidelines, the new product will quantify the revenue opportunity for PHAs to capture the monetized benefit from both the 179D program (see the article on 179D in this edition of the Watts Hot Newsletter) and carbon credits.

In announcing this new partnership, Mike Nail, Enlightened's CEO, said, "This is particularly timely as the newly signed Inflation Reduction Act extends the 179D program to all PHA units (the previous program only applied to PHA developments 4 stories or greater) that have been retrofitted with significant, recent energy improvements in lighting, HVAC and building envelope."

Dick Santangelo P.E., Apollo Engineering Solution's President, added, "In addition to the good news related to 179D, the energy savings information from the energy audit will reveal what can be a source of recurring rebate income for the property owner through the monetization of carbon credits based upon past energy conservation and decarbonization efforts, a true win-win for property owners."

In ending the announcement, Bob Somers, Ph.D., and Principal of 2rs, closed by saying, "We are very excited to bring this new, comprehensive energy audit product to our PHAs and property owners and to be working again with long time and respected colleagues, Mike Nail and Dick Santangelo."

Contract piggyback opportunities may be available to procure these energy audit services. For more information, contact Laurie Johnson at 2rs at 434-500-9600, ***Lauriej@2rsconsulting.com*** *or Mike Nail at Enlightened at 301-639-3767,* ***enlightened1on1@gmail.com****.*

What You Do Not Know about Building Performance Standards, Can Cost You!

Building performance standards are the latest tool being used by state and local governments to reduce energy use and greenhouse gas emissions in existing buildings.

For the last decade, benchmarking ordinances have been one of the best tools to ensure existing buildings reduce energy use. Based on the theory you cannot manage what you do not measure, states all over country passed these measures to ensure that large commercial buildings were measuring and reporting energy use.

Common among Benchmarking tools is ENERGYSTAR® Portfolio Manager®, a free, web-based software tool for utility benchmarking. Portfolio Manager® is used to benchmark over 450,000 properties across the U.S. The idea was that if facility managers and building owners had to disclose energy use, often in the form of a 1-100 Energy Star score, they would also immediately find ways to reduce usage. One EPA study showed that simply measuring energy use resulted in operational changes that saved 7 percent and improved Energy Star score by 6 points. That is before any equipment was upgraded or any money was spent. Simply knowing how much energy a building used resulted in strategies to reduce.

As climate change is speeding up, however, some states and cities are taking these benchmarking ordinances to the next level. Building performance standards are the next evolution because they require reduction targets for energy use, greenhouse emissions, or even water use. For example, Washington, which, in 2019, was one of the first to pass a building performance standard, requires all buildings over 50,000 square feet to meet a 15 percent reduction in Energy Use Intensity by 2026. There is more to it than that, and there are caveats depending on building type, but the gist is that all buildings must both measure energy use, and then reduce it. Even if a building is not subject to a building performance standard, the requirement could well change soon. So now is the time to get up to speed.

There is a difference between benchmarking ordinances and building performance standards. Benchmarking ordinances simply require building owners to disclose their energy use, but not make any changes. While collection and disclosure of information may get an owner to make upgrades or changes based on comparison to similar buildings in their own portfolio or locally, these laws do not require that owners do anything to their buildings. Benchmarking ordinances typically have annual compliance for this reporting.

Building performance standards take that benchmarking data and draw a line in the sand, requiring building owners that fall below a certain threshold to improve their buildings to achieve better energy or carbon performance. Building performance standards typically have 5-year compliance cycles to improve over the set threshold. Building performance standards are a policy mechanism that ensures there is reduction of energy use in commercial buildings.

Benchmarking a building informs building owners, managers, operators, and tenants about how the building is performing. Understanding how your building performs in relation to others can help identify opportunities for energy upgrades. Building performance standards go a step further and set requirements for improving the performance of buildings. While benchmarking tells you where your building stands today in terms of performance, a building performance standard requires improvements to achieve a standard at a future date. Combined, benchmarking and building performance standards are a key tool to identifying and improving building performance.

Building performance standards are a crucial step for cities and states to reduce emissions and meet their goals for mitigating climate change. Existing buildings make up most of the U.S. building stock: 5.9 million exist commercial buildings in the United States comprising 97 billion square feet and the replacement rate of buildings, demolition, and new construction is less than 2 percent per year, leaving a vast amount of outdated technologies in existing buildings. The U.S. spent over $1 trillion on construction in 2015, but only about $50 billion focused on energy retrofits of commercial buildings. According to Deutsche Bank, if $279 billion were invested in existing U.S. building retrofits, it would yield more than $1 trillion of energy savings over 10 years, the equivalent to 30 percent of the total annual electricity spending in the United States.

To date, energy codes have been the main tool to meet climate goals for buildings, and while energy codes are triggered when owners make changes, those decision points are rare to get that segment of the building population to perform better. To meet climate goals, U.S. cities and states must look at their existing buildings and direct policies that reduce emissions in that stock of buildings, in coordination with advancing their codes to address new construction. This can be through creating new decision points, like compliance cycles for building performance standards, mandatory retrofit policies, time of sale or lease policies, or updates to building codes specific for existing buildings, amongst other options. The power of building performance standards comes from setting the right targets that align with climate goals and drive actions at the right pace to ensure investments are focused on achieving long term compliance and emissions reductions.

Look around you, climate change is here, and the only way to meet critical climate goals is to reduce energy use in buildings. Benefits and outcomes of building performance standards could include:

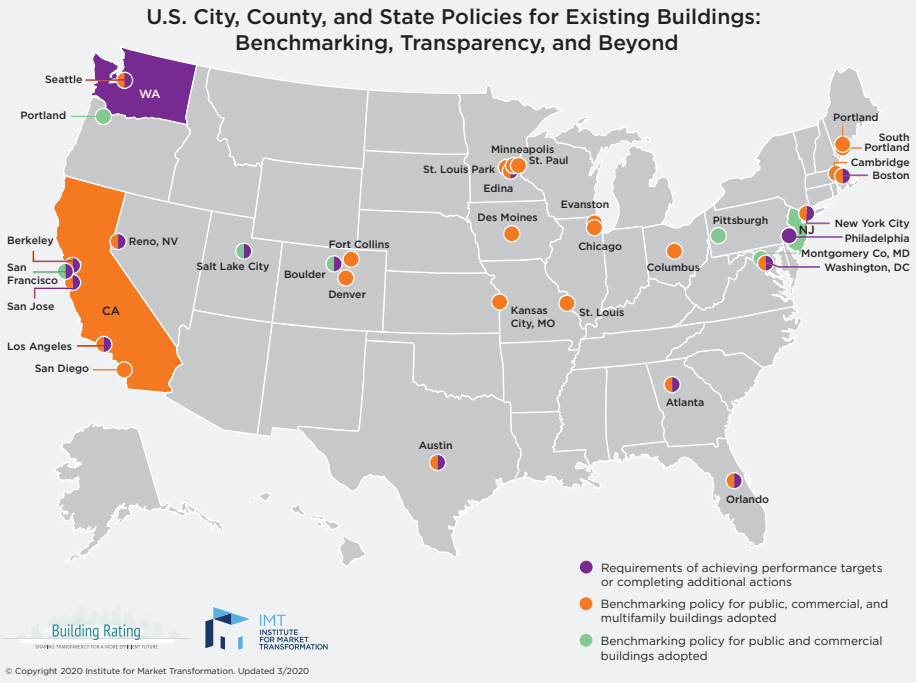
- **Finding a way to improve your PHA or multifamily properties and their workplaces faster** (renovation rate). This creates the opportunity for local careers, including residents. Doing this with a community-driven planning approach will ensure that the infrastructure — in terms of residents, staff, government working together locally to address climate resilience — is in place to make more improvements happen.
- **Increase community-driven climate policy** — including greater community ownership of building retrofit, design, and clean energy strategies.
- **Health benefits** — Finding a way to move capital more equitably and at scale for comprehensive renovations to buildings that can have community health benefits — indoor air quality for residents and staff, for example.
- **Community resilience** — At the very least, solutions like local resilience shelters that can support communities to withstand power outages, could be the benefit that comes into these communities.

Third-party rating systems like LEED complement building performance standards. LEED is considered a green or sustainable building standard, addressing many components of sustainability important like site selection, materials, and indoor air quality, both for new construction and their operation and maintenance certifications. This first generation of building performance standards are focused solely on direct energy consumption, so unless a building is hyper focused on the energy credits in LEED certification, pairing a LEED certification with building performance standard compliance may not be compatible. Additionally, rating systems like LEED have lagged the transition to building decarbonization, so a LEED building that uses fossil fuels will more likely perform poorly for a building performance standard with a carbon metric where building electrification is critical.

Building rating systems like LEED and Energy Star are great tools to help identify problems and opportunities in buildings. Many of these ratings systems are looking at locally adopted building performance standards and exploring ways to integrate building performance standard requirements into their rating systems.

Individual Californian cities, like Los Angeles and San Francisco, have gone even further and require certain buildings smaller than 50,000 square feet to track their usage. These city ordinances increase the number of buildings covered throughout the state.

Benchmarking policies require that certain building types of certain sizes track and submit their energy data to the city or state. These efforts allow jurisdictions to track progress on energy reduction goals and provide the public an opportunity to see the energy use of buildings in their area. California, for example, passed a law in 2015 that requires all buildings over 50,000 square feet to benchmark and report their energy use to the state.



After submitting their benchmarking data, some cities, like Chicago, now require that buildings display their energy rating somewhere visible so that the public can easily see how well a particular building is doing. These display efforts increase public awareness about building efficiency and can incentivize buildings to improve their energy use. Besides improved positive public sentiment, tracking and comparing energy scores can also increase market competition for building space, among other benefits.

Some jurisdictions are expanding on benchmarking ordinances and implementing building performance standards. These policies require buildings to reduce their energy use or carbon emissions. Many building performance standards are flexible, so building owners can choose how they meet the requirements, but there is usually a reduction target and a timeframe in which to meet that target. These targets are also typically adjusted every few years to make sure the building stock continues to become more efficient. Washington D.C., New York City, and St. Louis are three cities leading the way with these policies, and in 2019, Washington became the first state to require energy improvements.

Need to know more about benchmarking, start with HUD's Benchmarking 101 on the HUD website: **https://www.hudexchange.info/programs/utility-benchmarking**

Extensive benchmarking training resources are also available at: **https://www.energystar.gov/buildings/training**

Recognition to Greg Zimmerman, senior contributing editor for FacilitiesNet.com for his significant contribution to this article.

Watts Hot at HUD

HUD's ambitious plan to tackle the climate crisis will help communities across the nation build more resilient infrastructure, reduce greenhouse gas emissions, create well-paid jobs, and pursue environmental justice for disproportionately affected communities. **https://www.hud.gov/climate**.

Look for new green policy implementation over the next 12 months to comply with the recently passed legislation in the Inflation Reduction Act.

Federal Register Notices; Action Requested	
60-Day Notice of Proposed Information Collection: Operating Fund Energy Incentives: Energy Performance Contracting Program, Rate Reduction Incentive HUD is requesting comment from all interested parties on the proposed collection of information. This notice allows for 60 days of public comment.	**Publication Date:** 07/12/2022 **Agency:** Department of Housing and Urban Development **Dates:** Comments Due Date: September 12, 2022. **Comments Close:** 09/12/2022 **Document Type:** Notice **Document Citation:** 87 FR 41344 **Page:** 41344-41346 (3 pages) **Agency/Docket Number:** Docket No. FR-7061-N-08 **Document Number:** 2022-14821

Office of Housing issues guidance on the Treatment of Community Solar Credits on Tenant Utility Bills

This notice provides guidance to HUD Multifamily Housing (MFH) field staff, owners, and management agents on the treatment of on-bill virtual net energy metering credits that commonly result from a resident's participation in a community solar program. This only applies in tenant-paid electricity and where the solar credit appears as a negative amount on the electricity bill. This guidance does not apply to residents of master-metered multifamily buildings. In addition, this guidance does not change existing rules for utility allowance baseline analyses or income calculations; rather, it provides guidance for how to treat community solar credits within existing rules.

https://www.hud.gov/sites/dfiles/Housing/documents/MF_Memo_Community_Solar_Credits_signed.pdf

NOAA Climate Prediction

The August-September-October (ASO) 2022 temperature outlook predicts elevated probabilities of above-normal seasonal mean temperatures across most of the U.S. The largest probabilities of above-normal temperatures exceed 60 percent for New England and parts of the West.

The ASO precipitation outlook predicts elevated probabilities of above-normal precipitation for the East Coast, eastern Gulf Coast, and eastern Mainland Alaska, while below-normal precipitation is more likely across much of the Great Plains, the upper Mississippi Valley, western Great Lakes region, and the northern to central Rockies.

A La Niña advisory remains in effect and equatorial sea surface temperatures (SSTs) are below average across the central and eastern Pacific Ocean. The tropical Pacific atmosphere follows a La Niña, with enhanced low-level easterly winds and suppressed convection near the Date Line. La Niña is favored to continue through the Northern Hemisphere summer, with a 62 percent chance in ASO 2022, and probabilities from 56 to 66 percent chance through the Northern Hemisphere autumn and winter.

EIA Brief - Short-Term Energy Outlook - 2022

- The August *Short-Term Energy Outlook* (STEO) is subject to heightened uncertainty resulting from Russia's full-scale invasion of Ukraine, how sanctions affect Russia's oil production, the production decisions of OPEC+, the rate at which U.S. oil and natural gas production rises, and other contributing factors. Less robust economic activity in our forecast could result in lower-than-forecast energy consumption.

- The U.S. retail price for regular grade gasoline averaged $4.56 per gallon (gal) in July, and the average retail diesel price was $5.49/gal. We expect retail gasoline prices to average $4.29/gal in the third quarter of 2022 (3Q22) and fall to an average of $3.78/gal in 4Q22. Retail diesel prices in our forecast average $5.02/gal in 3Q22 and $4.39/gal in 4Q22.

- U.S. refineries average 93 percent utilization in 3Q22 in our forecast, because of high wholesale product margins. Elevated prices for gasoline and diesel reflect refining margins for those products at or near record highs amid low inventory levels.

Natural Gas

- We expect the Henry Hub price to average $7.54/MMBtu in the second half of 2022 and then fall to an average of $5.10/MMBtu in 2023 amid rising natural gas production.

- U.S. consumption of natural gas in our forecast averages 85.2 Bcf/d in 2022, up 3 percent from 2021. Consumption in the electric power sector continues to increase because of limited switching from natural gas-fired generators to coal-fired generators for power generation, despite elevated natural gas prices. In addition, rising U.S. natural gas consumption reflects increased consumption in the residential and commercial sectors because of colder temperatures on average in 2022 than in 2021. We forecast that natural gas consumption will average 83.8 Bcf/d in 2023, about 1.3 Bcf/d (2 percent) lower than in 2022.

Electricity, Renewables, and Emissions

- We expect U.S. sales of electricity to ultimate customers to increase in the forecast by 2.5 percent in 2022, mostly because of rising economic activity but also because of sweltering summer weather in much of the country. Forecast U.S. sales of electricity decline by 0.3 percent in 2023.

- The largest increases in U.S. electricity generation in our forecast come from renewable energy sources, mostly solar and wind. Renewable sources will probably provide 22 percent of U.S. generation in 2022 and 24 percent in 2023, up from 20 percent in 2021.

- We forecast the U.S. residential electricity price will average 14.6 cents per kilowatt hour (kWh) in 2022, up 6.1 percent from 2021. Higher retail electricity prices largely reflect an increase in wholesale power prices driven by rising natural gas prices. Annual average wholesale prices for 2022 range from an average of $62 per megawatt hour (MWh) in Florida to $95/MWh in the ISO New England and New York ISO markets.

- The U.S. electric power sector added 13 gigawatts (GW) of utility-scale solar photovoltaic (PV) capacity in 2021. Solar capacity additions in the forecast period total 20 GW for 2022 and 24 GW for 2023, and they represent an addition of 31 billion kWh of electric power generation in 2022 and 41 billion kWh in 2023.

Coal

- U.S. coal production is forecast to increase by 21 million short tons (MMst) to 599 MMst in 2022 and to 601 MMst in 2023. We expect coal consumption to be slightly lower in 2022 at 541 MMst, relative to 546 MMst in 2021. This forecast decline results from constraints on coal generation and mine shutdowns and coal transportation limitations.

- As coal plant shutdowns continue and natural gas prices fall, coal consumption is expected to decline by 9 percent to 493 MMst in 2023. Coal exports increase from 85 MMst in 2021 to 87 MMst in 2022 and to 98 MMst in 2023.

Contact Us

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

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