Fall - 2021

STAYING current

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MEAG Power Delivered Energy 60% Nuclear 8% Hydro 21% Natural Gas 7% Coal • 4% Net Purchases

68% Non-Emitting* *12-mo. rolling average, as of Sept. 2021

GA No. 1 for 8th Straight Year in Area Development's Top States for Doing Business Rankings

Georgia again achieved the overall top spot in the Top States for Doing Business rankings by Area Development. In individual categories in the rankings, Georgia also took the No. 1 ranking in Overall Cost of Doing Business, tied for No. 1 in Competitive Labor Market, and was No. 1 in Workforce Development Programs, Available Real Estate, and Cooperative and Responsive State Government. Georgia took second in several other categories, including Energy Availability and Costs.

Vogtle Update

On July 29 Georgia Power announced a revised schedule and cost forecast for the Vogtle 3 & 4 nuclear expansion project, resulting from productivity challenges and additional time for testing and quality assurance. The company currently projects a Unit 3 inservice date in the second quarter of 2022 and a Unit 4 in-service date in the first quarter of 2023, representing a three- to four-month shift for each unit. The company has also revised the total project capital cost forecast to reflect this updated schedule - resulting in a \$228 million increase to MEAG Power.

Jim Thornton New GMA President

At the GMA Annual Convention, held in August in Savannah, LaGrange Mayor Jim Thornton was elected President, and Marietta Councilwoman Michelle Cooper Kelly was elected 2nd Vice President.

GMA has been fortunate to benefit from Mayor Thornton's wisdom for several key functions, and all of our member cities are fortunate to have him leading our association," said GMA Executive Director Larry Hanson.

Risk Management a Key Factor in Participant Cryptomining Success

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Cryptocurrency mining operations are becoming a new source of significant load growth and economic development in MEAG Power Participant communities. Beyond the primary revenue stream from serving these loads – some of which are contemplated to reach as much as 300 MWs - communities stand to benefit from the real estate and infrastructure development required for large-scale cryptomining, as well as the relocation and high-paying jobs of the technicians who run these operations.

However, from the perspective of a Participant considering serving the mega-load required to power a cryptomining operation, especially one with a load that requires a new substation to handle it, risk-management is the key to success.

What is Cryptomining?

Understanding cryptomining begins with understanding blockchain. A blockchain is a type of database where information is stored in groups known as blocks. When a block is filled, it is then "chained" to the previous block. Each block has an exact timestamp of when it was added to the chain, creating an immutable, irreversible data timeline. A blockchain is stored on a decentralized collection of thousands of computers spread across geographic locations.

Each group, or node, of computers has a full record of the data stored on the blockchain since its inception. An individual node can correct an error in its data by referencing the data on the other nodes, effectively making the entire transaction history of the blockchain unchangeable and thus less prone to tampering. In the event that someone tries to alter a transaction record, all the other nodes on the blockchain would crossreference each other to zero in on the source of incorrect information.

All of the transactions that result in data being added to a block must be validated. That's where "mining" comes in. Individual machines, or groups of computers around the world, including full-scale cryptomining operations like those in Participant communities, utilize immense computational power to solve complex equations in order to validate the transactions and confirm their legitimacy. Purpose-built mega-computers used in these operations are known as "miners." When a miner fills up a block in a blockchain with data, the payment is a unit of whatever cryptocurrency underpins that specific blockchain.

Risk-Mitigation Required to Reap Benefits

Bitcoin is by far the best-known and most prevalent cryptocurrency. Bitcoin mining verifies transactions on Bitcoin's blockchain (now with more than 700,000 blocks mined). One Bitcoin is currently valued at more than \$62,000, so it's clear to see that cryptomining can be quite lucrative. But the risk inherent in handling cryptomining loads must not be overlooked.

The nature of the industry and its recent history have heightened its risk profile. Fluctuations in the value of cryptocurrencies, which are unregulated, present risk. So, too, does the "greener pastures" aspect of cryptomining's itinerancy. After a recent crackdown in China, crypto firms have increasingly settled in the U.S. Many industry watchers believe that if China backpedals on its policy change, crypto may again flock to China – or elsewhere in search of inexpensive power.

Requiring cryptomining operations to pay for their own substations – which can cost an estimated \$3 million to \$5 million – is one of a number of risk-mitigation steps available to utilities serving these companies. Well-structured long-term contracts and a mathematical implementation when with methodical implementation plan with a realistic, real-world timeline also help mitigate risk. Staying abreast of potential legislation such as the Clean Electricity Performance Program and developing plans to achieve success are likewise important.

The benefits, of course, lie in the multifaceted economic development aspects of crypto coming to town. Many of these companies desire clean energy to power their operations, and MEAG Power Participants have access to a diverse generation portfolio to fill those needs. In addition to the supersized loads served, cryptomining operations have significant space needs and create numerous tech jobs. The overall economic impact accrues to the community in numerous ways.

Note: The MEAG Power staff has written a white paper to address crypto risk in detail. Participants can contact their Regional Manager for a copy of the white paper or to schedule a meeting with staff to discuss any issues related to cryptomining.

DEVELOPMENT

Buford Catalyst Nutraceuticals, a dietary supplement manufacturer, announced it will relocate its headquarters from Alpharetta to Buford.

Griffin Rinnai America Corporation, a manufacturer of tankless water heaters in North America, is building and plans to occupy a 300,000-square-foot facility by Dec. 1, 2021.

Norcross Gwinnett County and the city of Norcross are collaborating to build a new Norcross branch of the Gwinnett County Public Library at Buford Highway (U.S. 23) and Britt Avenue. The new 22,000-square-foot facility will be about double the size of the current library branch in Norcross.

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ECG The annual ECG Economic Development Bus Tour visited six Participant communities in Middle Georgia on August 18 & 19. The tour, sponsored by MEAG Power, included stops and presentations in Jackson-Butts County, Fort Valley-Peach County, Forsyth-Monroe County, Thomaston-Upson County, Barnesville-Gordon County, Griffin-Spalding County and Hampton-Henry County.

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Gopher Tortoise Protected at Vogtle, Hatch

September is Environmental Awareness Month, and Georgia Power is promoting its work protecting sensitive species in Georgia, focusing on the Gopher Tortoise.

The gopher tortoise is a burrowing land turtle whose habitat covers much of Georgia's coastal plain. It has faced serious declines and continuing significant threats. Designated Georgia's state reptile in 1989, the gopher tortoise is one of the oldest living species native to Georgia.



The gopher tortoise belongs to a group of land tortoises that originated in North America 60 million years ago and is considered a keystone species of longleaf pine forests. Its burrows and presence support hundreds of species.

Georgia Power is a participant in the multi-state Candidate Conservation Agreement for the Gopher Tortoise – Eastern Population, as well as Georgia's Gopher Tortoise Conservation Initiative partnership.

Tortoises on land near Plants Hatch and Vogtle contribute to sustainable landscape population goals that include neighboring public conservation lands. The longleaf pine forests where the tortoises thrive today comprise tree plantations, development and other land uses. Because of this, beneficial management of the gopher tortoise habitat includes prescribed burning and longleaf pine planting.

Additionally, Plant Vogtle has served as a release site for several tortoises that the Georgia Department of Natural Resources (DNR) needed to relocate from sites that were to be destroyed.

2021 MAKE A NOTE

MEAG Power Board Meeting December 16 UGA Georgia Economic Outlook



December 13

1470 Riveredge Parkway, N.W. Atlanta, Georgia 30328-4640 www.MEAGPower.org

In 2020, Renewables Second Only to Gas as Leading Electricity Source



Source: U.S. Energy Information Administration (EIA), Monthly Energy Review Note: This graph shows electricity net generation in all sectors (electric power, industrial, commercial, and residential) and includes both utility-scale and small-scale (customer-sited, less than 1 megawatt) solar.

In 2020, renewable energy sources (including wind, hydroelectric, solar, biomass, and geothermal energy) generated a record 834 billion kilowatt hours (kWh) of electricity, or about 21% of all the electricity generated in the United States, according to the U.S. Energy Information Administration (EIA).

Only natural gas (1,617 billion kWh) produced more electricity than renewables in the United States in 2020. Renewables edged out both nuclear (790 billion kWh) and coal (774 billion kWh) for the first time on record.

This was due mostly to significantly less coal use in U.S. electricity generation and steadily increased use of wind and solar. In 2020, U.S. generation from coal in all sectors declined 20% from 2019 levels. Renewables, including small-scale solar, increased 9%. Wind grew 14% from 2019 levels and currently is the most prevalent source of renewable electricity in the United States. Utility-scale solar generation (from projects greater than 1 megawatt) increased 26%, and small-scale solar, such as grid-connected rooftop solar panels, increased 19%.

Coal-fired electricity generation in the United States peaked at 2,016 billion kWh in 2007. Much of that capacity has been replaced by or converted to natural gas-fired generation. Coal was the largest source of electricity in the United States until 2016, and 2020 was the first year that more electricity was generated by renewables and by nuclear power than by coal (according to the EIA's data series that dates back to 1949).

Nuclear electric power declined 2% from 2019 to 2020 because several nuclear power plants retired and other nuclear plants experienced slightly more maintenancerelated outages.

Despite coal's decline relative to natural gas and other sources of energy, the EIA expects the share of output from coal-fired generation to increase in 2021 because rising natural gas prices make coal more economically attractive.

EIA's Short-Term Energy Outlook (STEO) forecasts an 18% increase in coal-fired generation in 2021, compared with 2020. The agency then sees coal generation falling again, by 2%, in 2022. Meanwhile, the EIA is forecasting a 7% rise in renewable generation in 2021 and a 10% increase in 2022. The agency forecasts nuclear power declining 2% in 2021 and 3% in 2022 as nuclear plant retirements continue.

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MEAG POWER

Special Feature: 2021 Annual Meeting



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All in attendance were happy to be able to meet again in person for MEAG Power's 2021 Annual Meeting in July.

Guest presenters included: Amy Zubaly, executive director of the Florida Municipal Electric Association, who delivered the Public Power Perspective; Chris Clark, president & CEO of the Georgia Chamber of Commerce, who addressed The Reimagined New Georgia Economy; Christopher Womack, president & CEO of Georgia Power, who presented An Update from Georgia Power; and (not pictured) Mike Allen, co-founder and executive editor of Axios, who virtually provided A Political Review and Dive into the Climate Legislation Outlook.

MEAG Power President & CEO Jim Fuller kicked off the General Session with his annual business review, highlighting both the challenges and successes of the past year, and looking ahead to what's in store for the remainder of 2021 and beyond.











Participants and family members enjoyed an evening of hospitality and entertainment after Tuesday's General Session.





