AI Data Means Power First

PENN VALLEY, PA, UNITED STATES, November 14, 2024 /EINPresswire.com/ -- AI (artificial intelligence) offers massive potential in education, industry, government and helping us in our day-to-day lives. AI data also means power first as the demands are staggering. The major dilemma for data center developers/users is AI can require more power, than a large city like Philadelphia.

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>
> *Mike Broeker, President, Bedford Management Partners*

That demand for power is immediate and at the cross roads of an electrical power grid that is coping with shutdowns of carbon emission heavy coal power plants, intermittent supply of renewables, and climate driven electrify everything such as EV cars.

This has led AI datacenter developers to a strategy of 'Power First' – solve the power question allows the datacenter to be built.

"The big issue with AI datacenters is power demand, in an era when the grid is struggling with coal power shutdowns and a massive demand uptick" said Tom Gellrich, President-Founder of the Hydrogen and Carbon Capture Network.

(Conference presenter) Gellrich and Shale Directories President-Founder Joe Barone were producers of last week's sixth Appalachian Hydrogen & Carbon Capture Conference.

Datacenter developers are being forced to look "behind the meter" to build dedicated power generation onsite with the datacenter – not connected to the electric grid.

Data centers are full of routers, storage devices and servers for one company, or numerous companies, which have transferred their information technology operations to a centralized location and into the hands of experts. A center can be more than one million square feet and can use more than 10 times the power needed by a steel mill.

In 2023, data centers utilized 4% of all power produced in the US. This percentage will more than double by 2030, to 9% -- more power than the total power used by the United Kingdom, said Mike Broeker, a conference presenter.

"Conservatively, by 2029, data centers will need between 35 and 85 GW (35,000 to 85,000

megawatts) – power the US grid can't provide," according to Broeker, President and Managing Director of Bedford Management Partners.

BMP is a clean energy advisory services firm, specializing in deploying sustainable energy generation solutions for infrastructure, backed by private capital.
Broeker said there was no shortage of private equity capital looking to invest in data center development for numerous reasons, as AI searches become the norm, the number of AI users grows faster than any consumer application ever, and centers will need increasingly more baseload power.

"Hyperscale (the largest centers) customers have super-strong balance sheets, companies such as Microsoft, Google and Apple," according to Broeker.
"And onsite baseload power is greener, quicker and competitively priced, with steady demand, long-terms EaaS (Environment as a Service), and private equity returns," Broeker said.

Within the past month Microsoft and BlackRock launched a $100 billion AI infrastructure fund, and KKR and Energy Capital Partners announced a $50 billion partnership to support AI growth through date center investment and onsite power generation. And the Appalachian Basin could be the major benefactor of the data center boom, conference speakers agreed.

"Our area (the basin) has the low cost abundant energy (natural gas), infrastructure already in place, is least prone to natural disasters risks like hurricanes, the availability of land, (government) incentives, and the overall regulatory environment," said Bryce Custer, a long-time commercial realtor in the Pennsylvania/Ohio/West Virginia region.

Experts believe natural gas converted to hydrogen will be a major provider of power for emissions free power for AI datacenter development. Other technologies will support future AI power demand as they mature. Renewables need to solve the intermittency issue. Small Nuclear Reactors need to clear regulatory issues and drive down costs with scale.

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