

Within eyesight of the Giga Pods is an apple-packing plant

POWER from Page 1

of having the baseline for the benefit of many," Bolz said. "Our philosophy at the PUD is to do the best for the most for the longest, and it (crypto-currency) certainly steps outside that definition."

Packer's concerns

Within eyesight of the Giga Pods is an apple-packing plant belonging to Columbia Fruit Packers. The company also has a controlled-atmosphere fruit storage warehouse farther east on Ward Street and other facilities in Wenatchee.

Mike Wade, general manager of the company, said in five years the company will need to double its Ward Street controlled-atmosphere storage and build another packing line near the airport.

"Right now there's good communication between the industry and the PUDs. I think they understand they need to reserve some power growth for the community in general. I've talked to Chelan and Douglas (PUDs) about my future needs," Wade said.

Owners of other area fruit packing-shipping-marketing companies have also voiced concerns.

Crypto costs

The PUDs have to be non-discriminatory and serve all local requests.

If crypto mining requires more power than what's available and forces the PUDs to buy more expensive power on the open market, it will drive up low local rates that are a key component of the region's agriculture-based economy and hurt it, Bolz said.

Crypto mining will also require costly improvements to electrical power distribution systems, and if it goes bust could leave the region's rate-payers with massive debt, he said.

For example, a crypto request for 100 megawatts in the town of Entiat would require three new substations at about \$2 million apiece, he said, and new transformers and transmission line are in such short supply that it takes two years to get them.

Some large crypto miners also say they will stop mining when bitcoin prices fall below \$8,000 apiece, creating power load imbalances at the expense of all users, Bolz said.

"People should be alarmed because rate increases could be quick and steep," Bolz said. "I'm not trying to say the British are coming, the British are coming, but they are if this process and demand is not managed."

The PUD can require new high-load users to pay infrastructure costs. That and a big fall in crypto prices might reduce power applications and resolve the situation, he said.

Miners are mostly "outside investors without much sense of return to the valley. The whole thing is like a cat chasing its tail. We get accused of being provincial and yes we are," Bolz said. "We're pretty comfortable with that."



Dan Wheat/Capital Press

Like its own village, 24 Giga Pods are under construction in an industrial park near East Wenatchee's Pangborn Memorial Airport. Each will house hundreds of high-speed computer servers that collectively could produce about 80 bitcoins per month.

About cryptocurrency

Cryptocurrency — also called digital currency, alternative currency and virtual currency — is a digital asset used as a medium of exchange that uses cryptography to secure transactions and control the creation of additional units. Decentralized control of cryptocurrency works through a so-called blockchain, which is a public transaction database that functions as a ledger.

Bitcoin, created in 2009, was the first decentralized cryptocurrency. Others now exist, and altcoin is a generic name for them.

Miners earn value by using specialized software to solve algorithmic puzzles to unlock more currency. Values have been volatile, swinging from a slump to a few hundred dollars for a single bitcoin in 2015 to a high of \$19,783 on Dec. 17. As of April 6, the value was \$6,599. The volatility contributes to the acceleration and slowing of the crypto craze.

Because it's unregulated, bitcoin early on was the currency of drug dealers and data-breach blackmailers. It's also a way to launder money. It has become more legitimate, but skepticism remains. Paul Krugman, a Nobel Prize-winning economist and New York Times columnist, in January likened it to a Ponzi scheme.

Giga Pods

The Giga Pods hum in the Port of Douglas County industrial park on the western edge of Pangborn Memorial Airport in East Wenatchee. A few hundred yards from the pods sits a huge white-and-blue building still prominently labeled "Executive Flight." It's the hangar and offices of an air ambulance and charter service that went out of business a decade ago. Now it's home to Giga Watt Inc., the company building the Giga Pods and owned by former Microsoft software developer David Carlson, a 2012 pioneer in the region's crypto craze.

Carlson doesn't mine using the Giga Pods directly.

His company leases its "pod space" to other miners. He apparently has his mine in the former Executive Flight building.

The pods are 12-by-48-foot structures. Each houses hundreds of high-speed computer servers that collectively could produce about 80 bitcoins or other forms of cryptocurrency per month, according to a recent Politico article. Together, they'll use slightly more than one megawatt of electricity — enough to power about 500 homes.

Carlson did not respond to emailed questions and a request for an interview.

Bitcoin mining is not without its legal difficulties. Giga Watt was sued March 19 in U.S. District Court by a California investor alleging mishandling of more than \$500,000 of his investment. A similar December lawsuit against Giga Watt by a New Orleans investor was settled out of court in January.

Big demand

Grant County PUD generates the most power of the three counties and has the highest local power use — and the highest cryptocurrency power use. The cities of Moses Lake, Ephrata, Quincy and Mattawa are all in its service area.

"There is much concern here in Grant County and also throughout the power industry on the unprecedented requests for large power loads from cryptocurrency mining," said Charles Allen, Grant County PUD spokesman.

As of early April, the PUD had 100 inquiries or requests for 1,600 megawatts of power from crypto miners and data centers. About 80 percent of that, or 1,100 to 1,300 megawatts, is from crypto miners, Allen said.

The total demand of 1,600 megawatts is more than the combined 1,036- to 1,450-megawatt production of the PUD's two dams, at Wanapum and Priest Rapids.

Currently, 10 crypto miners in the county use 16.4 megawatts. Total local service now averages 590 megawatts.

Grant County has more people, but the greater factors are the Yahoo and Microsoft server farms and other data centers, manufacturing, food processing, a lot of center-pivot irrigation and some tree fruit packing.

Not all agricultural power use is tracked separately from non-agricultural use, but food processing and irrigation alone use 118 megawatts, Allen said.

Grant County PUD has not imposed an official moratorium, but last November it began shelving all requests for new local service. It is studying power loads, rates and infrastructure and will draft policies this fall aimed at high power users paying to improve infrastructure to handle loads.

Grant has to serve local customers first. It ended a long-term contract with Cowlitz County to serve the Yahoo and Microsoft server farms. Cowlitz had to buy more expensive power elsewhere.

Chelan situation

Chelan County PUD — serving Wenatchee, Chelan and Leavenworth — took action similar to Grant County, imposing a moratorium on crypto mining power applications on March 19 while it develops new rates and policies.

Steve Wright, Chelan County PUD general manager, said the applications hampered other work and threatened grid capacity to meet planned growth of about 4 megawatts per year.

Commissioner President Bolz said the moratorium and a \$2,000 conservation fee for large power applicants to meet with PUD officials has "trimmed the herd" of applicants.

On April 16, PUD commissioners unanimously adopted fees of up to \$6,150 for unauthorized electrical use in residential areas and \$11,400 in commercial or light industrial areas after staff reported discovering an average of two to three small rogue crypto miners per day.

One was at a remote home in a woods off Highway 2 where "a bundle of extension

cords" was discovered leading to an outbuilding. Such a setup would pose a high fire risk during the warm weather ahead, said John Stoll, PUD customer utilities managing director.

The PUD is cutting the power and reporting the power theft.

Bolz said the PUD cut power to an apartment in Wenatchee when PUD employees discovered no one lived there, the doors and windows were left open for cooling and computers mining cryptocurrency were remotely controlled from California. The unit was using 11,000 kilowatt-hours of power a month, 22 times the normal load.

"There's no way wiring can handle that 24 hours a day, day after day after day," Bolz said. "At some point something has to give. It can be heat resulting in fire."

A transformer overloaded by a crypto miner caused a brush fire last year in the Entiat area, he said.

Chelan County PUD's annual production from the Rocky Reach and Rock Island dams averages 1,100 to 1,500 megawatts. Local load averages 200 megawatts. Of that, fruit storage and packing requires about 17 megawatts.

Twenty-two crypto miners use 9 megawatts of an approved 13.5 megawatts, PUD officials said. There were 19 crypto applications for 16.3 megawatts before the moratorium was imposed on March 19. Looking three years out, the PUD estimates 220 megawatts of crypto demand.

Douglas PUD

Douglas County PUD — serving East Wenatchee and Waterville — generates an average of 484 megawatts from Wells Dam and uses 108 megawatts locally. Of that, irrigators use about 40 megawatts. Crypto miners, mostly near Pangborn Memorial Airport, use 15 megawatts. There were 28 applications for 205 megawatts of power for crypto mines in 2017. PUD commissioners have approved eight of those

for 90 megawatts.

In 2014, shortly after the crypto power demand started to climb, the PUD imposed a three-month moratorium while it adjusted rates and policies. It split rates into two tiers, a lower rate for residential customers and a higher rate for large users. It also requires new large users to pay for system upgrades and impacts on substations.

Capacity is being reserved on substations for residential growth and planning occurs so that normal growth is not threatened by large power users, said Meaghan Vibbert, PUD spokeswoman.

The PUD recognizes "the vital role" of agriculture in the county and considers that as it develops new policies, said Ron Skagen, PUD commission president.

"The ag community should be confident that Douglas PUD has the ability to serve its needs," he said.

The Dalles

Crypto mining in The Dalles, Ore., now draws a couple megawatts but there are proposals for more, some in the 30- to 50-megawatt range, said Kurt Conger, assistant general manager of Northern Wasco County PUD.

The PUD doesn't have that available. It generates only 15 megawatts and buys power to provide 110 megawatts for the peak local load and sells about 5 megawatts elsewhere, Conger said.

Any request for more than 1 megawatt requires the applicant to pay for planning and upgrades, he said.

The PUD's substations are maxed at peak loads with a typical substation handling 10 to 20 megawatts, he said. It can take 12 to 18 months to design and build a new one, all at the customer's cost if all capacity is dedicated to them, he said.

A 50-megawatt load could cost \$1.5 million to \$2 million per month for power and infrastructure with some capital beyond that, he said.

Such a customer would be in its own class so the 5.5 cent per kilowatt-hour regular residential rate would not be affected, he said.

"Our job is to treat all customers fairly and offer service we provide without cutting any special deals," Conger said. "We look at credit worthiness, require service deposits and payment assurance in the near and long term."

Jeff Davis, general manager of Wasco Electric Co-op in The Dalles, said there are no crypto miners in the co-op's 5,000-square-mile area of Wasco and Sherman counties.

David Ortega, director of packing at Orchard View Farms, Oregon's largest cherry grower in The Dalles, said the company's power demand is seasonal, peaking during the three months of cherry packing.

"I don't think we're that concerned with it yet for the power they use affecting us," Ortega said, "but others are concerned."

'The science supports us increasing the harvest'

ELK from Page 1

that a year from now these same folks would come back and say, 'Nice job. You've done something,'" Commissioner Don McIsaac said.

Amy Windrope, acting deputy director, said there have never been so many elk in the valley and that the department has received more than 100 complaints this year.

"We are under a microscope, as well as a lot of pressure to resolve this issue in a way that works both for the agricultural community, as well as our co-managers, and I can't claim we've reached that sweet spot just yet," she said.

Windrope said seven of the tribes, led by the Stillaguamish tribe, asked the department to not approve more hunting. "The science supports us increasing the harvest this year," she said. "I think it's an important step to make

incremental progress toward dealing with the damage issues."

Efforts to reach the Stillaguamish tribe for comment were unsuccessful.

Skagit County Farm Bureau President Bill Schmidt told Fish and Wildlife commissioners that the elk have found life better in the valley than the hills — more grass and fewer predators. "The harvest is not keeping up with the population explosion," he said.

Skagit County Commissioner Ron Wesson, a dairy farmer, said elk broke down a fence and let loose about 100 of the dairy's cows. The cattle got on a highway and caused collisions.

"We were responsible for insurance claims on that, so we spent about \$12,000 on vehicle damage," he said. "The damage is just getting to such a point that it just can't go on."

Fish and Wildlife Commissioner Jay Kehne said the testimony was "excellent, compelling."

"The simple fact is, it's private land. You're at risk because of a state resource, wildlife. It's your livelihood. It's your reputation. Everything is tied up in this," he said.

Commissioner Jay Holzmueller, who raises livestock in southeast Washington, said that elk graze on his oats and crash through his fences, too. He said he didn't blame Skagit County farmers for being frustrated.

"If you had the local drug, meth-heads breaking into your house doing damage, stealing everyday and you called the cops and nothing got done, I think you would be a little upset," Holzmueller said. "They're not asking for a lot. They're hard-working people, trying to make a living."

ODFW recently reported there were at least 124 wolves statewide at the end of 2017, an 11 percent increase over 2016

WOLVES from Page 1

it could actually increase the risk of predation at neighboring farms up to three miles away.

In this case, ODFW authorized killing two wolves from the Pine Creek pack after back-to-back attacks on private land leased by rancher Chad DelCurto. Nine days later, the pack began preying on livestock again at Pine Creek Ranch, about 5 to 6 miles away.

Environmental groups are staunchly opposed to killing any wolves in Oregon, arguing the population is still too small and fragile. ODFW recently reported there were at least 124 wolves statewide at the end of 2017, an 11 percent increase over 2016.

Conservationists also point to four cases of wolves that were illegally killed in 2017. Out of 13 total wolf deaths throughout the year, 12 were human-caused.

Under Phase III of the Wolf Conservation and Management Plan, ODFW can authorize killing wolves that make a habit of preying on livestock in Eastern Oregon. The species remains federally protected west of highways 395, 78 and 95.

Local ranchers had been using non-lethal deterrents, according to ODFW, including burying bone piles, removing dead cows, patrolling cattle from daylight to darkness and moving the animals off of pastures where the latest wolf attacks occurred.

"It's really disrupting (ranchers') schedules, both for turning cattle out and getting spring work done," Rollins said.

Jerome Rosa, executive director for the OCA, said incremental take of wolves will not solve the problems ranchers face, and actually leads to packs becoming more aggressive.

"It's a no-win situation," Rosa said.

The Pine Creek pack now includes five known wolves — after the three that were shot — occupying territory mostly south of the Imnaha River and east of Halfway to the Idaho state line. In 2017, the pack produced at least five pups that survived to the end of the year.