

Cryptocurrency Mining in Missoula County

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March 14, 2019

What is a Cryptocurrency Mining Operation?



Blockchains and Cryptocurrency Mining



Not all blockchain applications require energy-intensive processing of the type carried out at cryptocurrency mining operations.

Cryptocurrency Mining Operations vs. Traditional Data Centers

Cryptocurrency Mining Operation
Wenatchee, Washington



Northwest News Network

Facebook Data Center
Prineville, Oregon



DPR Construction

Cryptocurrency Mining in Montana



Inc. INC. 5000 CONFERENCE

Why the Bitcoin Gold Rush Is Moving to Montana

With cheap electricity and vacant warehouses, former lumber mills and manufacturing plants in the Northwest are being transformed into server farms to mine bitcoin and other cryptocurrencies.

DAILY INTER LAKE

DIGITAL CURRENCY MINE OPENS NEAR COLUMBIA FALLS

September 06, 2018 at 5:00 am | By PEREGRINE FRISSELL Daily Inter Lake

B BILLINGS GAZETTE

Hardin coal-fired power plant sells to possible cryptocurrency company

By TOM LUTEY tlutey@billingsgazette.com Mar 1, 2019

Missoulian

Mining electricity: Montana bitcoin miners footing big bills

KIM BRIGGEMAN kbriggeman@missoulian.com Mar 26, 2018

MONTANA STANDARD

CryptoWatt bitcoin mining operation up and running south of Butte

SUSAN DUNLAP susan.dunlap@mtstandard.com Mar 16, 2018

Restrictions on Cryptocurrency Mining

Local Governments

- City of Wenatchee, Washington
- City of East Wenatchee, Washington
- City of Leavenworth, Washington
- City of Chelan, Washington
- City of Plattsburgh, New York
- Several municipalities in Quebec, Canada

Utilities

- Flathead Electric Cooperative, Montana
- Chelan County Public Utility District, Washington
- Douglas County Public Utility District, Washington
- Mason County Public Utility District 3, Washington

Missoula County's Cryptocurrency Mining Conversation

June 14, 2018

Public hearing on cryptocurrency mining: *No action taken, hearing continued*

September 27, 2018

Continuation of public hearing: *Options considered*

1. Interim zoning to place a temporary moratorium on new and expanded cryptocurrency mining operations
2. Direct staff to investigate the development of regulations to target impacts of concern such as **noise, e-waste, and energy** created by various types of commercial and industrial uses

Noise & Electronic Waste

From Bitcoin Market Journal:

“These specialized computers run fast, hot, and loud with high-powered cooling fans. The fans create a high-pitched jet engine white noise that is disturbing if not maniacal....”

<https://www.bitcoinmarketjournal.com/bitcoin-mining/>



Electronic waste contains a variety of toxic heavy metals

Most U.S. states regulate e-waste, but Montana does not



Cryptocurrency Mining Energy Use

Bitcoin Energy Consumption Index

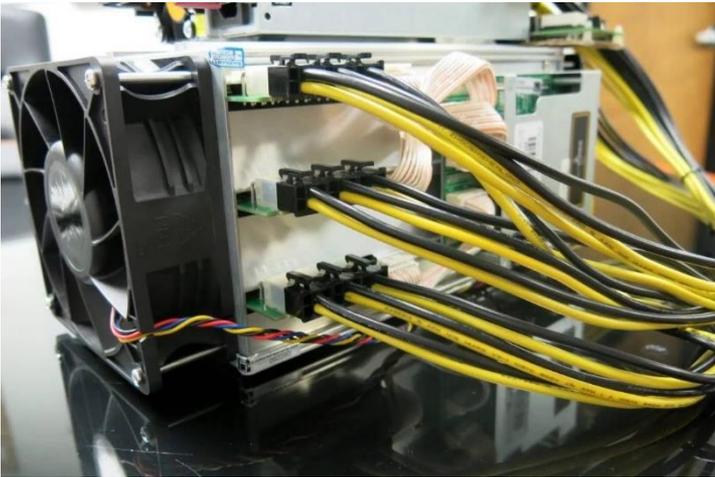


Cryptocurrency Mining Energy Use

Bitcoin network versus VISA network average consumption

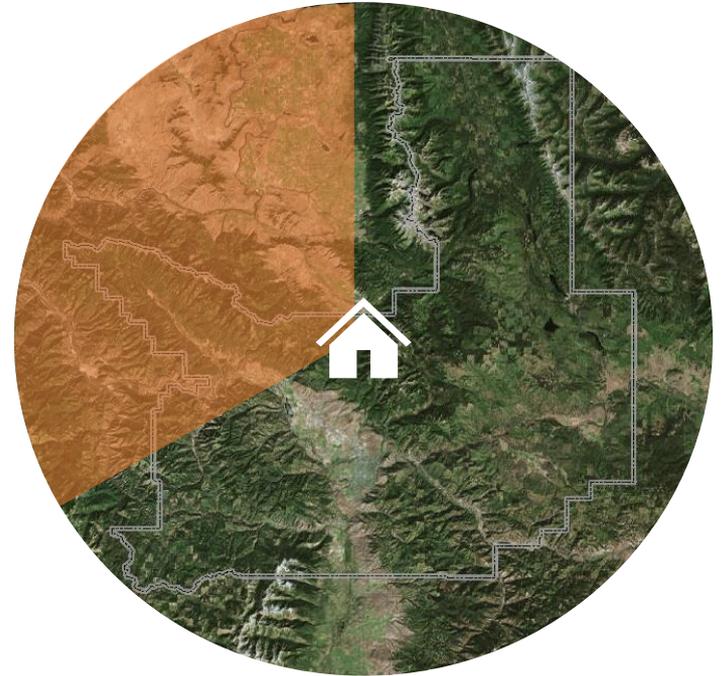


Missoula County Energy Use



**Cryptocurrency mining
operations in Missoula
County**

=
**Use as
much
electricity
as**



**1/3 of the households
in the county**

How have other local governments regulated energy consumption?

5 Examples

Method	Program	Implementation	Jurisdiction	Sector Regulated
Taxation	Climate Action Plan Tax	Voter-Approved Tax	Boulder, CO	All
Regulation	Carbon Fund Program	Building Code	Watsonville, CA	All
	Renewable Energy Mitigation Program	Building Code	City of Aspen and Pitkin County, CO	All
	Solar Requirement for New Homes	Zoning Code	Lancaster, CA	Residential only
	Marijuana Facility Energy Requirements	Health and Safety Code	City and County of Boulder, CO	Specific industry only

Options

1. Zoning regulations addressing cryptocurrency mining operations
 - Allow cryptocurrency mining operations that meet specified criteria relative to identified impacts
 - Options: Permanent Zoning, Interim Zoning
2. Investigate regulations requiring large energy consumers to use renewable energy
 - Zoning
 - Taxation
 - Others?