

Interim Zoning Regulations for Cryptocurrency Mining Operations

Missoula County Board of County Commissioners

Public Hearing on Interim Zoning Regulations

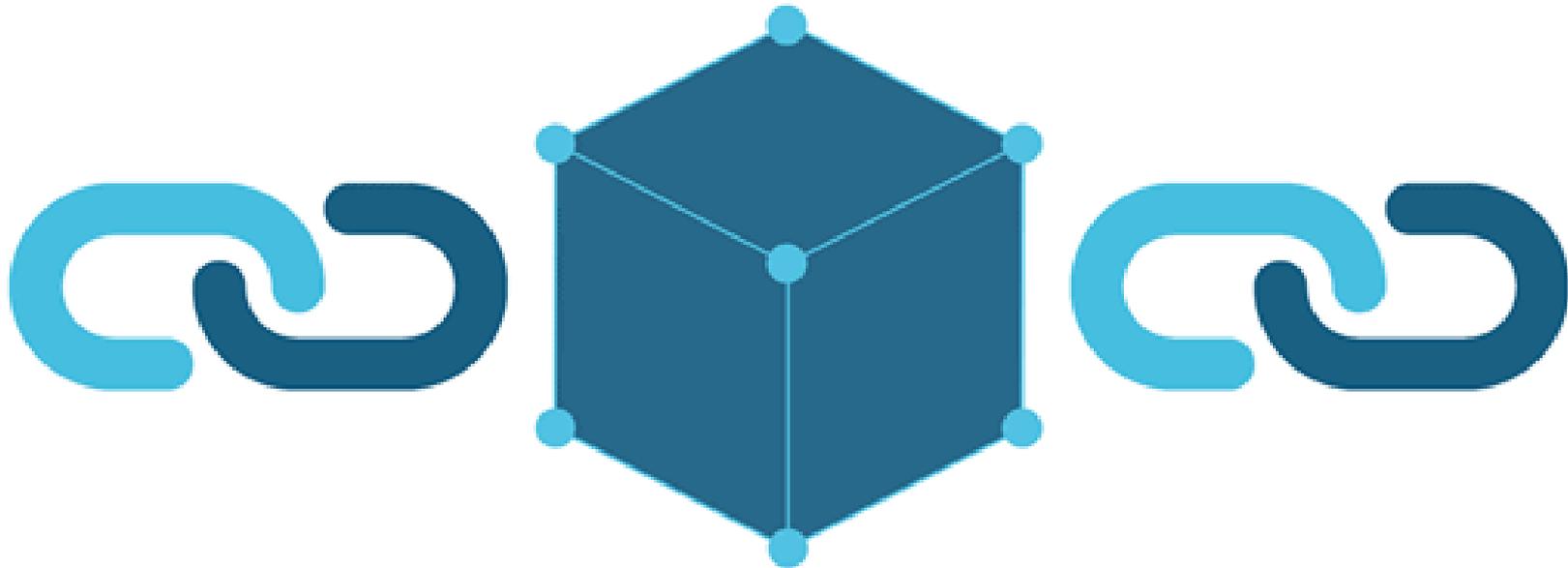
April 4, 2019

Presented by CAPS Staff: Diana Maneta and Jennie Dixon

What is Cryptocurrency Mining?



Blockchains and Cryptocurrency Mining



Cryptocurrency mining operations perform “proof of work” which is required to maintain certain types of blockchains.

Not all blockchains involve the “proof of work” process.

Cryptocurrency Mining vs. Traditional Data Centers

Cryptocurrency Mining Operation Wenatchee, Washington



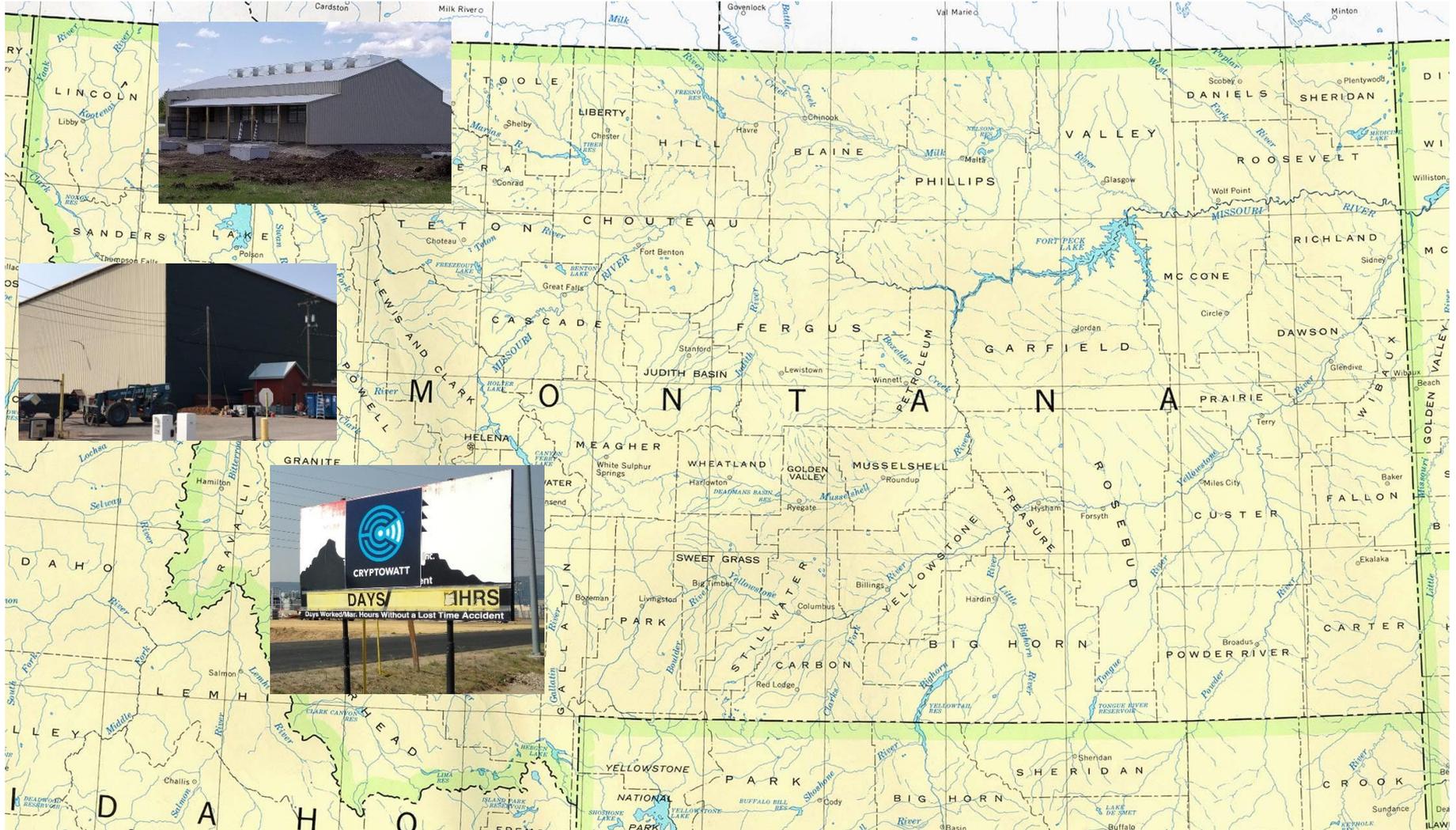
Northwest News Network

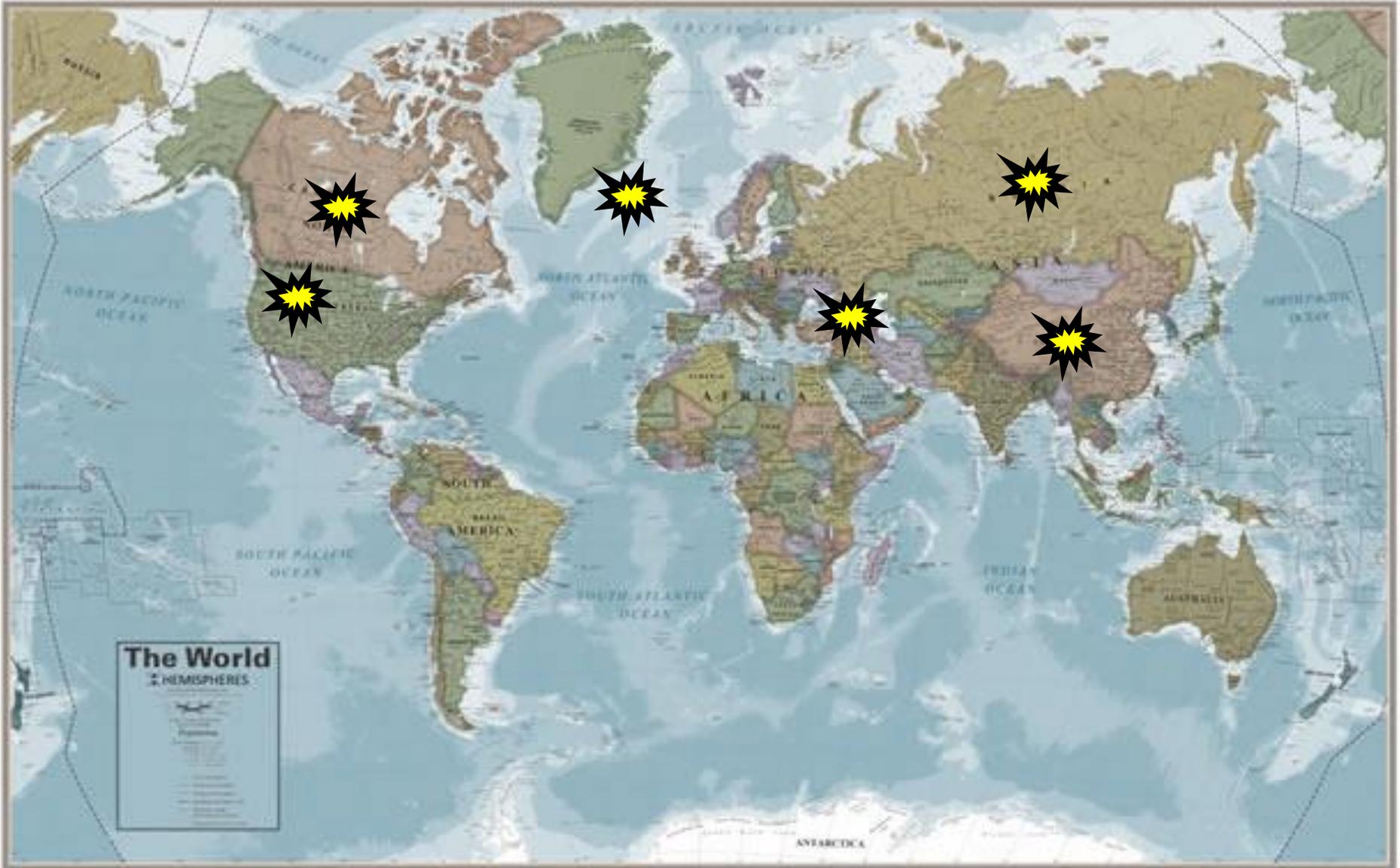
Facebook Data Center Prineville, Oregon



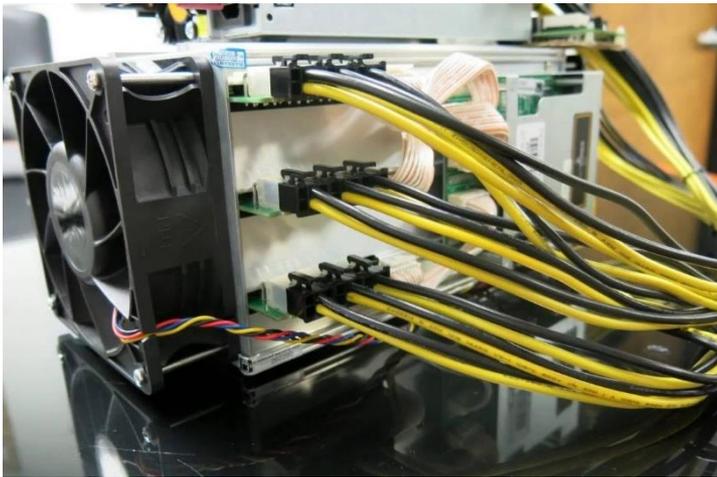
DPR Construction

Cryptocurrency Mining in Montana



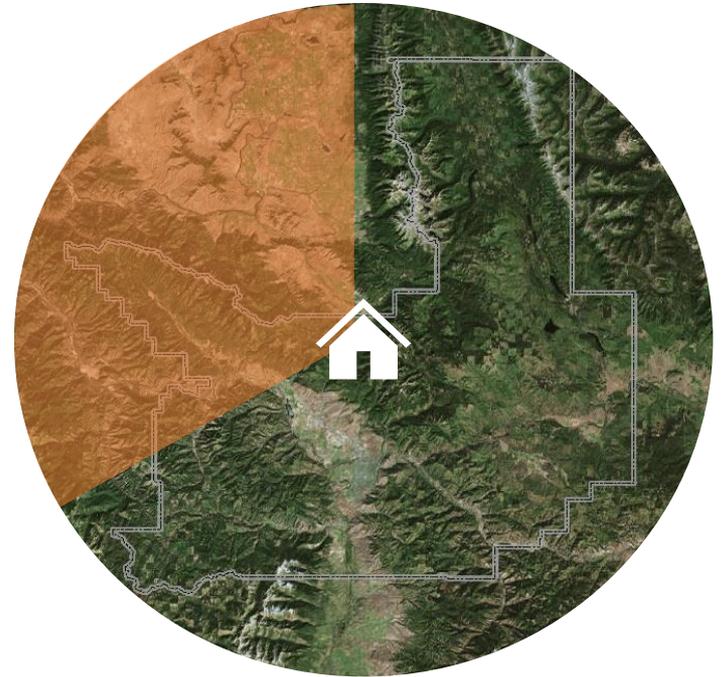


Missoula County Energy Use



**Cryptocurrency mining
operations in Missoula
County**

=
**Use as
much
electricity
as**



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

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

HISTORY:
Cryptocurrency
Mining
Conversation in
Missoula County

June 14, 2018 Public hearing
Testimony received, no action taken



September 27, 2018 Public hearing continued
Options considered by BCC

1. Interim zoning - temporary moratorium on new and expanded operations
2. Direct staff to investigate development of regulations to target impacts (e.g. noise, e-waste, and energy) created by commercial and industrial uses



March 14, 2019
BCC Directive

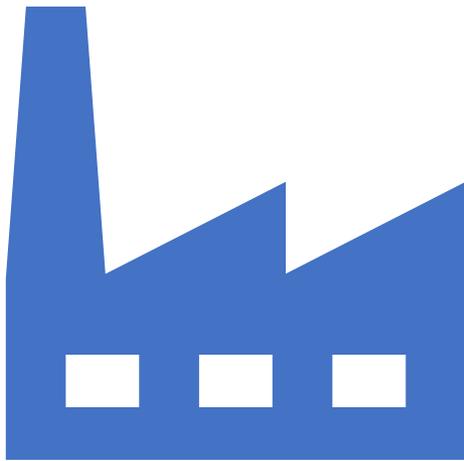
Develop interim zoning regulations to mitigate impacts



April 4, 2019 Public hearing
CAPS Staff Proposal

Interim county-wide zoning to authorize cryptocurrency mining operations under certain conditions

Proposed Zoning Regulations



- Allows commercial/industrial cryptocurrency mining under certain conditions
 1. Only in light or heavy industrial zoning districts
 2. Conditional use or special use (addresses noise impact)
 3. Dispose of e-waste with DEQ-licensed recycler
 4. Develop or purchase renewable energy to offset 100% electrical consumption
- Temporary (1 year)
- County-wide

Non-
conforming
cryptocurrency
mining
operations

A lawful cryptocurrency mining use existing on the effective adoption date of this interim zoning overlay may continue, subject to the conditions.

1. Existing structures may not be enlarged
2. May not be extend into unoccupied portions of existing structure

Must conform to zoning regulations if:

1. New operation replaces current operation
2. Current operation ceases for 180+ days
3. Current structure is removed or destroyed and cost of reconstruction amounts to more than fifty percent (50%) of total building replacement cost (exclusive of building foundation)

These regulations
do not apply to
existing permitted
operations.

Renewable Energy Condition

These facilities shall be required to develop or purchase sufficient new renewable energy to offset 100 percent of the electricity consumed by the cryptocurrency mining operation.



To meet this condition, the cryptocurrency mining operation must be able to establish that their actions will **introduce new renewable energy onto the electrical grid beyond what would have been developed otherwise.**

Renewable Energy: *New vs. Existing*

Missoulian



Great Falls Tribune



North Western Energy

CORPORATE RENEWABLE ENERGY BUYERS' PRINCIPLES

Buyers' Principles Signatories:



“To ensure that Google is the driver for bringing new clean energy onto the grid, we insist that all projects be ‘additional.’ This means that we seek to purchase energy from not yet constructed generation facilities.”



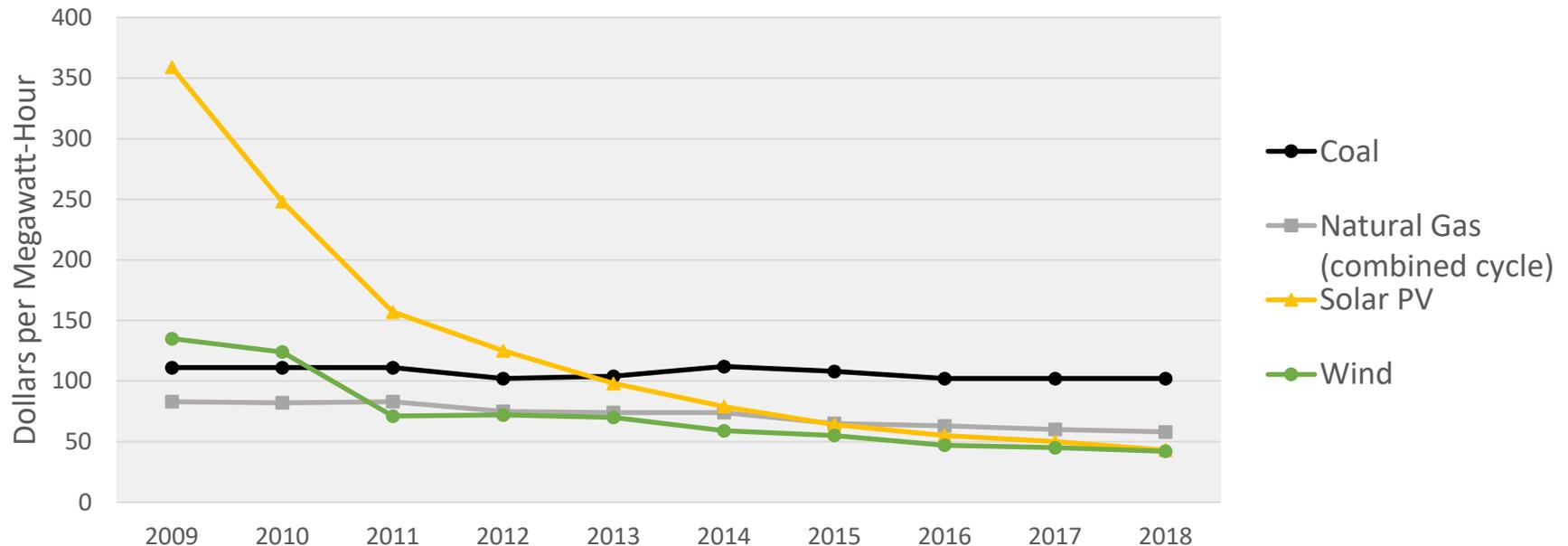
Is New Renewable Energy Cost-Prohibitive?

“Purchasing energy from renewable resources makes good business sense, for two key reasons:

- 1. Renewables are cost-effective.*
- 2. Renewable energy inputs like wind and sunlight are essentially free, which means buying energy from renewables gives us great financial certainty.”*



Levelized Cost of Energy (Lazard's)



Potential Pathways to Meet Renewable Energy Condition



ON-SITE RENEWABLE
ENERGY



POWER PURCHASE
AGREEMENT



VIRTUAL POWER
PURCHASE
AGREEMENT



GREEN TARIFF



RENEWABLE ENERGY
CERTIFICATES (IF
ADDITIONALITY CAN
BE DEMONSTRATED)



Cryptocurrency Mining Interim Zoning Regulations

Recommended Motion for Adoption:

THAT the zoning overlay regulations shown in Attachment 2 in the Commissioners' packet pertaining to cryptocurrency mining be approved and adopted as countywide interim zoning, effective immediately for a period of one year.