



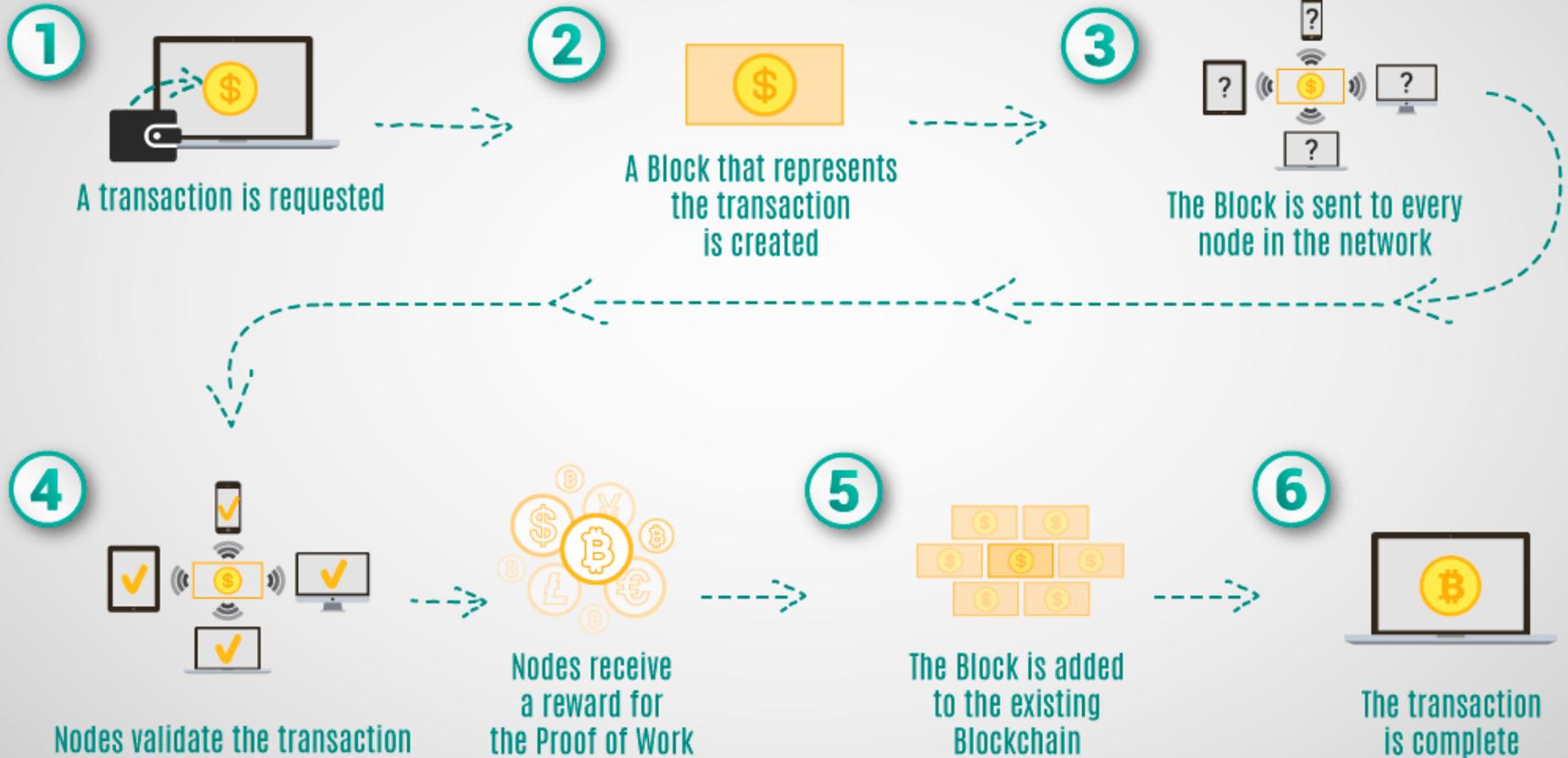
CRYPTOCURRENCY MINING IN MISSOULA COUNTY

MISSOULA BOARD OF COUNTY COMMISSIONERS

PUBLIC HEARING

JUNE 14, 2018

HOW BLOCKCHAIN WORKS



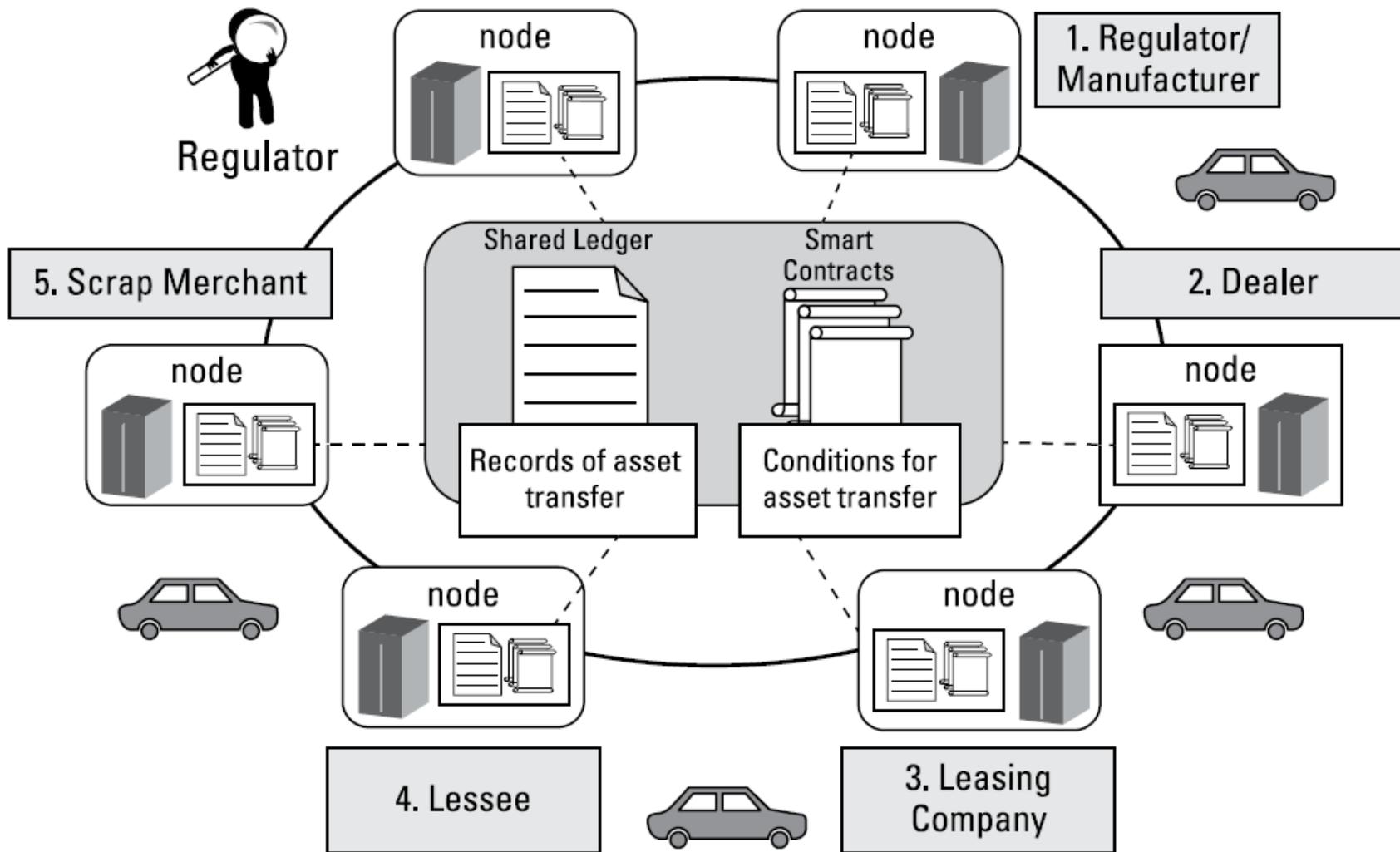
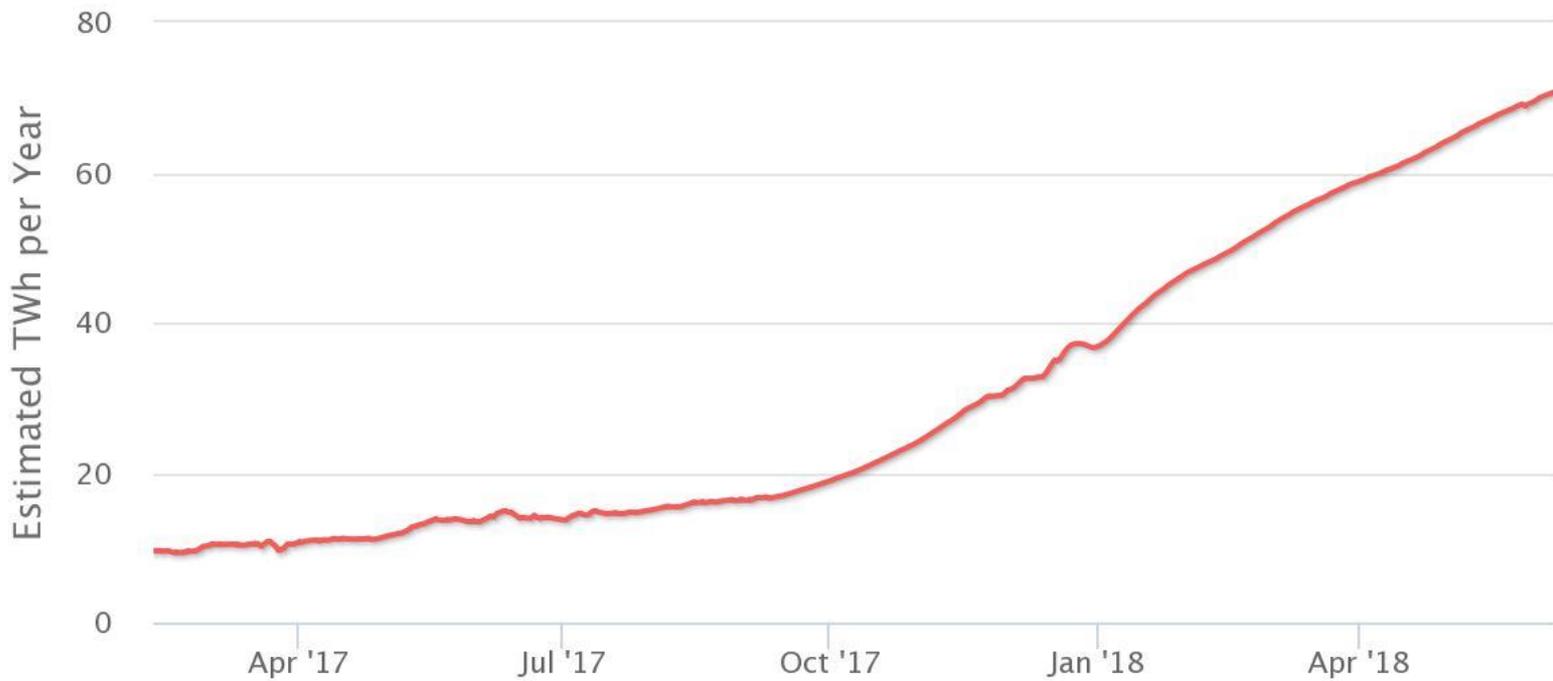


FIGURE 1-3: Tracking vehicle ownership with blockchain.

Cryptocurrency Mining Energy Use

Bitcoin Energy Consumption Index Chart



Zoom

From To

BitcoinEnergyConsumption.com

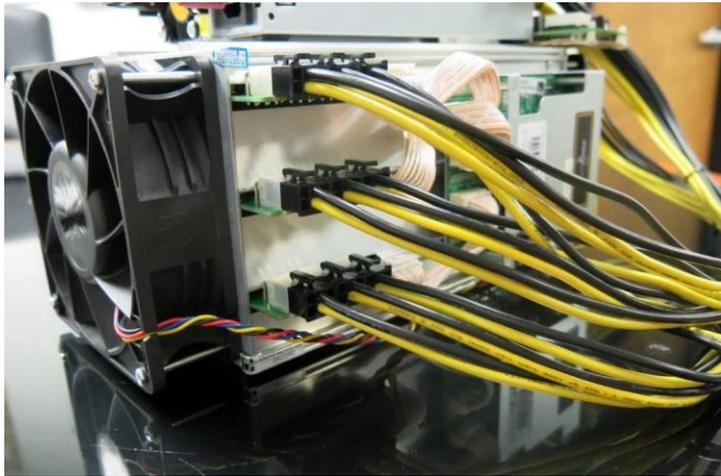
Cryptocurrency Mining Energy Use

Bitcoin network versus VISA network average consumption



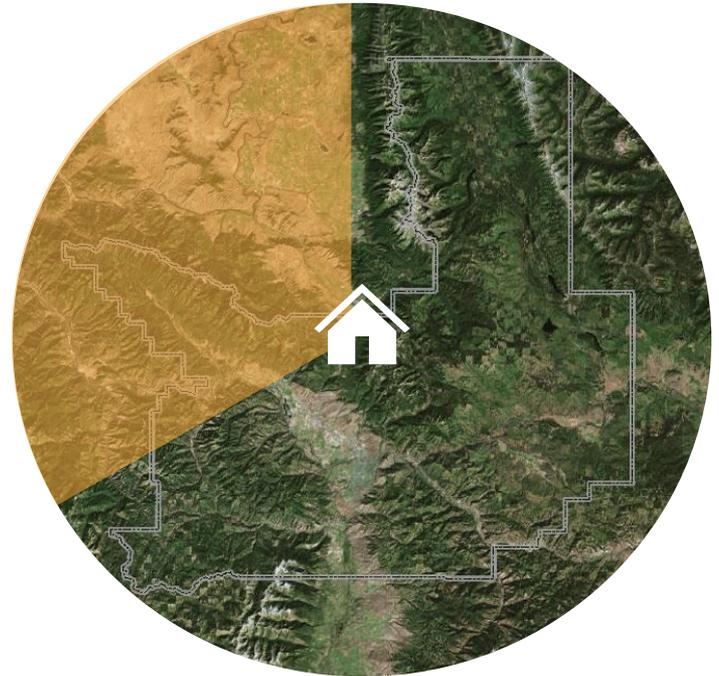
BitcoinEnergyConsumption.com

MISSOULA COUNTY ENERGY USE



**Cryptocurrency mining
operations in Missoula
County**

=
**Use as
much
electricity
as**



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

INTERIM ZONING: STATE LAW

- Authority (§76-2-206 MCA)
- Urgency: threat to public health, safety, general welfare
- Mitigate unknown or adverse land use impacts

“Within 30 working days [of interim zoning adoption] the county initiates a study or investigation to verify that an emergency exists, and identify the facts and circumstances that constitute the emergency, the potential options for mitigating such emergency, and the course of action that the governing body intends to take, if any, during the term of the interim zoning...regulation to mitigate the emergency.”

(§76-2-206(1)(b), MCA)

INTERIM ZONING

- County-wide
- Temporary – up to one year
- Effective immediately
- Will not apply to existing or vested operations; however, expansion of existing not allowed
- Study impacts and develop possible zoning regulations: standards for review, conditions
- No action

CURRENT AND POTENTIAL IMPACTS OF CRYPTOCURRENCY MINING IN MISSOULA COUNTY

1. Noise
2. Climate change
3. Electric distribution system
4. Fire safety
5. Electronic Waste

1. NOISE

From Bitcoin Market Journal:

“Now, the only way to profitably mine bitcoin is with ASICs (Application Specific Integrated Circuits). 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....”

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





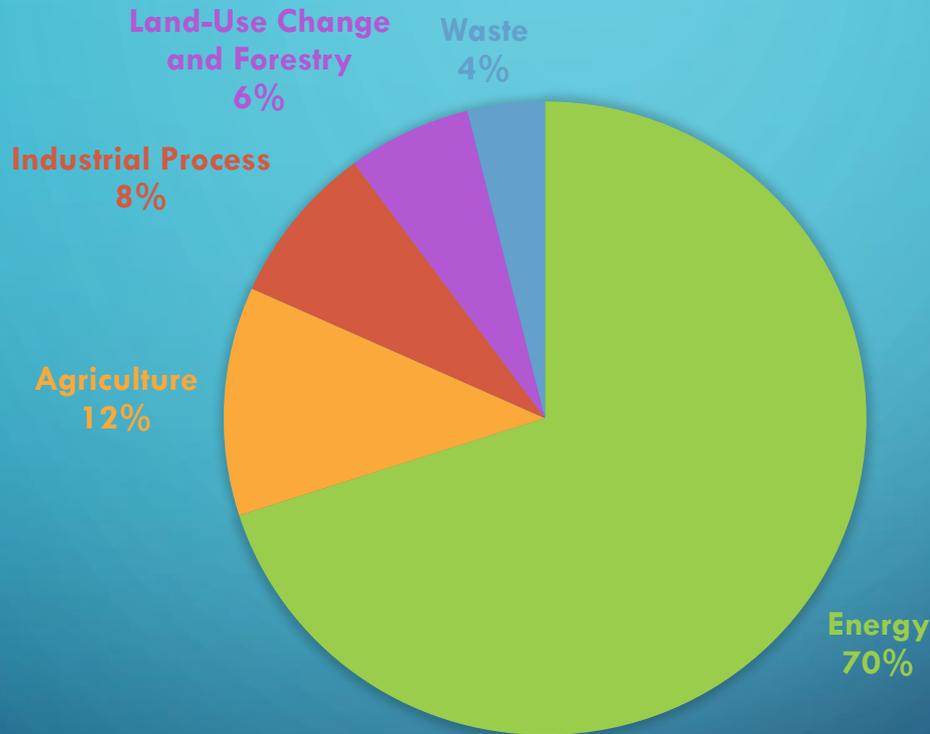
American Public Health Association Policy Number 20135: Environmental Noise Pollution Control

“Unwanted and disturbing sound increases the risk for a variety of negative health outcomes such as heart disease, diabetes, hypertension, hearing loss, and sleep disturbance.”

2. CLIMATE CHANGE

Global Greenhouse Gas Emissions (Gt CO₂e)

Source: World Resources Institute 2014



“The energy supply sector is the largest contributor to global greenhouse gas emissions.”

– Intergovernmental Panel on Climate Change,
Fifth Assessment Report

CLIMATE CHANGE IN MISSOULA COUNTY



Photo: MTN News



Photo: Missoulian

Impacts of climate change in Missoula County:

- Reduced snowpack
- Earlier spring snowmelt
- More frequent and intense droughts
- More frequent and intense wildfires
- Impacts on agriculture and recreation

“Missoula County seeks to reduce its contribution to climate change while promoting resiliency and adapting to its impact on the natural environment and communities.”

– Missoula County 2016 Growth Policy

OTHER POTENTIAL IMPACTS

3. Utility distribution system

4. Fire safety

5. Electronic waste



RESTRICTIONS ON CRYPTOCURRENCY MINING

Local Governments

- City of East Wenatchee, Washington
- City of Leavenworth, Washington
- City of Chelan, Washington
- City of Wenatchee, 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

POTENTIAL INTERIM ZONING REGULATIONS

- Proposal
 - Define cryptocurrency mining operation
 - Prohibit as primary use and accessory use throughout Missoula County
- Precedents for county-wide zoning
- Zoning regulates where business can locate