



Why the Blockchain at the CPUC

Karen Hsu, CEO BlockchainIntel

BlockchainIntel Background

About BlockchainIntel CEO, [Karen Hsu](#)

- 20+ years in data management, analytics/AI, startups, Informatica, Oracle
- 4+ years in blockchain space working with hundreds of companies in transportation, healthcare, energy, telecomm, financial services, government
- Co-founded Blockchain by Women (www.blockchainbywomen.com) and BASES (<http://bases.stanford.edu/>)
- Stanford B.S. Management Science and Engineering

About BlockchainIntel

- Blockchainintel provides blockchain alerts of opportunity, loss, or fraud related to entity
- Partners



AT&T



Problem and Opportunity



OIG estimated \$330M in Lifeline fraud in 2017 alone

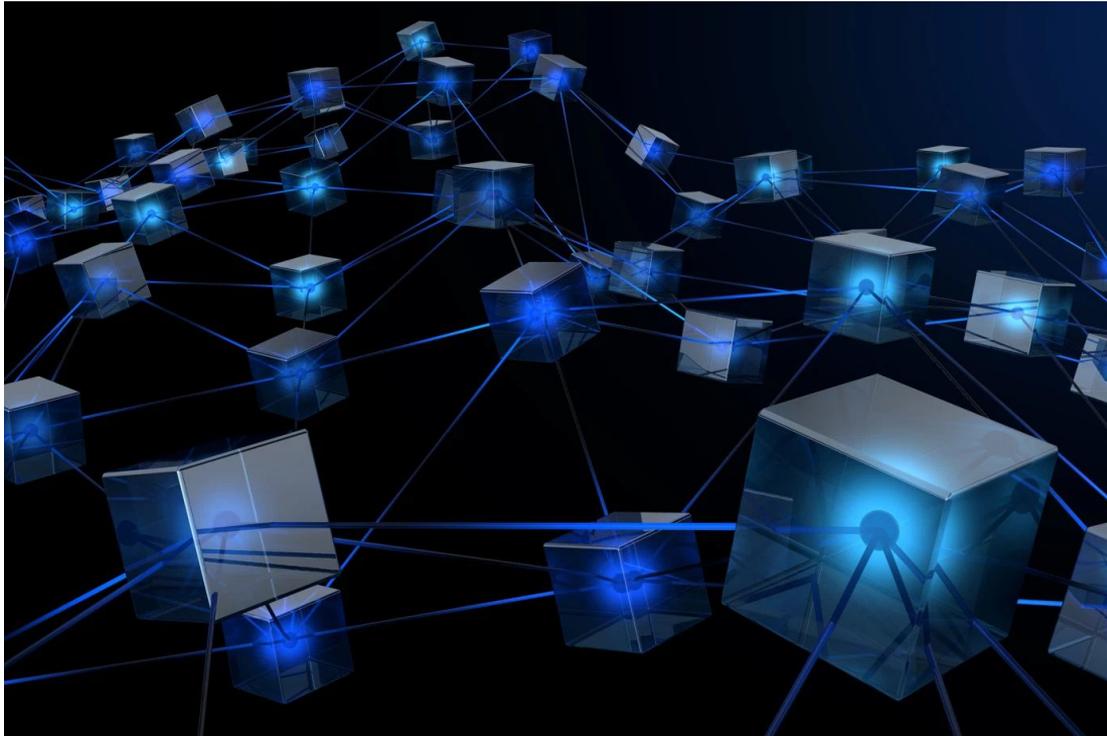


Southern California Gas spends \$1B as a result of gas pipe blowout



Estimated \$55M in savings in California

What is the Blockchain



How Blockchain Technology Can Help



Track and Trace

Increase Transparency

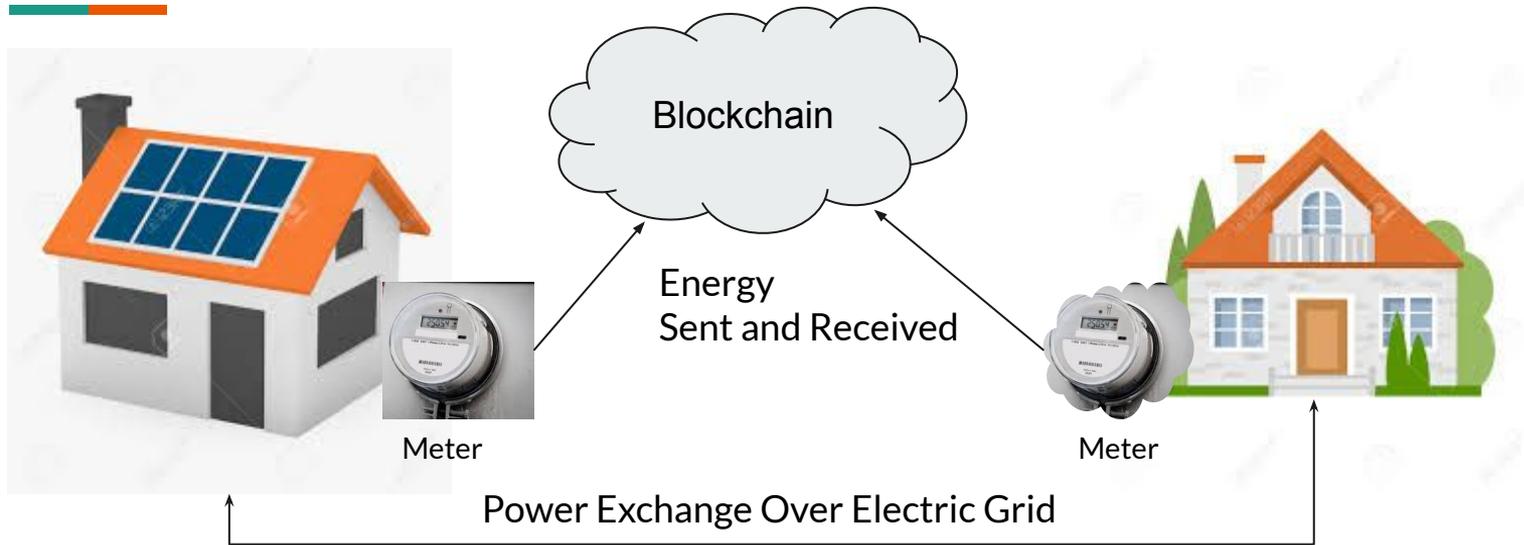
Settle
Transactions
Based on Rules

Increase Efficiency

Increase Security
and Identify
Fraud/Loss/Opp

Reduce Costs

Case Study



BlockchainIntel

- *Fraud, Usage patterns, Anomalies*
- *Device Failure/Malfunction*

How Blockchain Technology Can Help Lifeline

Track and Trace

Track devices and people from eligibility to enrollment to re-enrollment to payment

Settle Transactions Based on Rules

Record of roaming transactions for faster settlement, automate payment based on agreements

Increase Security and Identify Fraud/Loss/Opp

Much faster fraud detection, dispute free settlement; *Identify potential program participants*



Telefonica



Globe

How Blockchain Technology Can Help TOU Rollout

Track and Trace

Validate smart meter. Take energy reading from smart meter and track on blockchain

Settle Transactions Based on Rules

Provide credits based on time stamped, blockchain recorded energy transactions

Increase Security and Identify Fraud/Loss/Opp

Much faster fraud detection based on behavioral patterns



How Blockchain Technology Can Help Identify Leaks



Track and Trace

Validate water or gas meter.
Take reading from meter
and track on blockchain

Identify Leaks/Loss

Score level of risk for loss or
leak based on meter reading
data; alert of loss or leak based
on risk score

Increase Security

Blockchain removes
single point of failure in
IoT system, reducing
hacking or
manipulation of data

Next Steps



- Proceedings and/or Project with specific scope
 - Lifeline
 - Time of Use roll out
- Contact
 - karen@blockchainintel.com
 - @karenhsumar
 - <https://blockchainintel.com>
 - <https://blockchainbywomen.com>

Appendix



BlockchainIntel Background



BlockchainIntel CEO, Karen Hsu: Presentations and Publications

- BlockchainIntel [Work Identifying Theft on Blockchains with the FBI](#)
- [Building a Behavioral Analytics Platform for Forensics, Fraud, and Financial Growth](#)
- [Blockchain In Energy with PG&E, GE and Blockchain by Women](#)
- [Living in a Multiple Blockchain World](#), also published in [Journal of Digital Banking](#)
- [Blockchain Based Energy Transactions](#)

BlockchainIntel CTO, Chuck Lam

- Serial entrepreneur and experienced technologist in mobile, social networks and analytics.
- Co-founded and sold RollCall
- Managed teams to release new user acquisition solutions for mobile applications
- Big data pioneer: published [Hadoop in Action](#) in 2010
- Machine learning and analytics expertise on credit scoring for micro-financing and related projects
- Co-founded BASES
- PhD from Stanford in Electrical Engineering