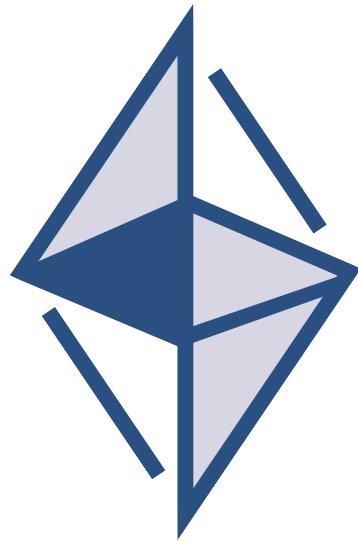


ethDenver
2/16-18, 2018

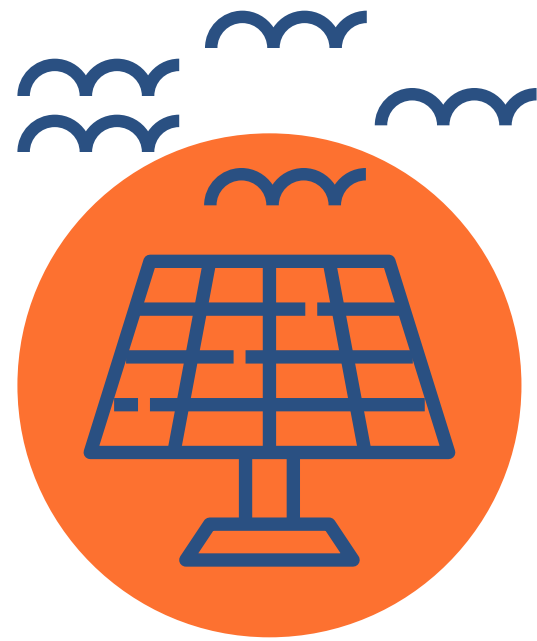


Pothier

Smart Power Grid Control
through Smart Contract

Soobin K
Thomas K
Qingyuan U

Renewable Energy Problem



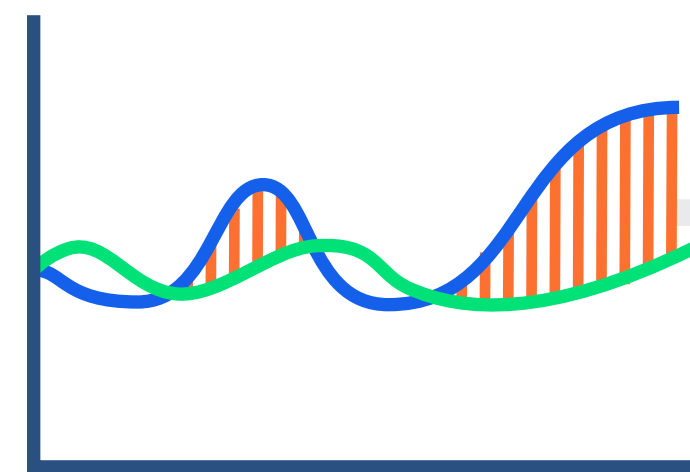
**Unpredictable
Power Generation**



**Requires
Ramping Generators
as Backup**

Power Grid Problem

Problem Created:
Peak Power Demand
Unpredictable Power Generation

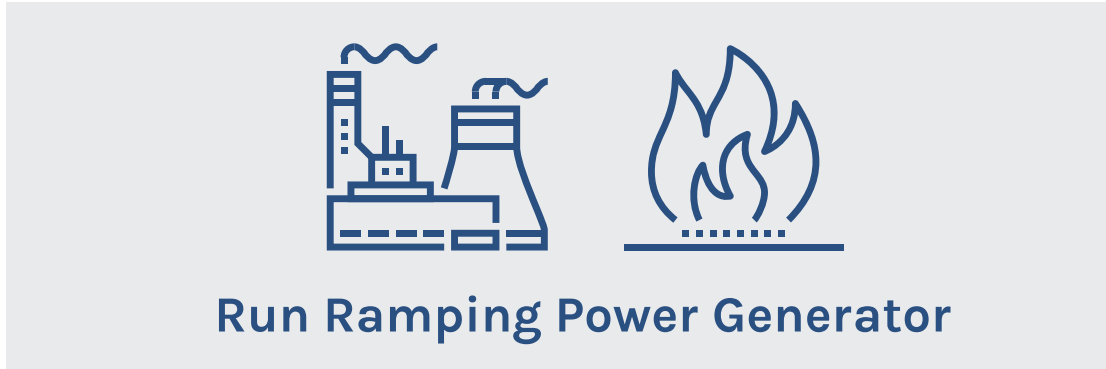


Power Generation \neq Power Demand



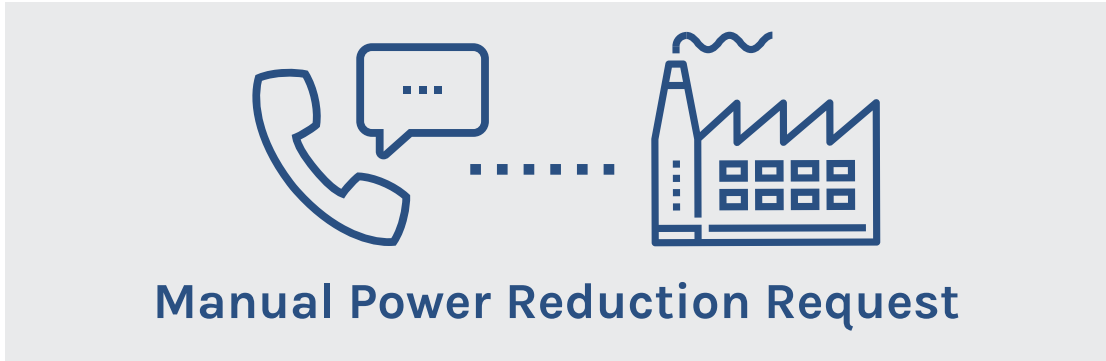
Problem Noticed

Generate Power



Expensive infra & operation cost
Pollution

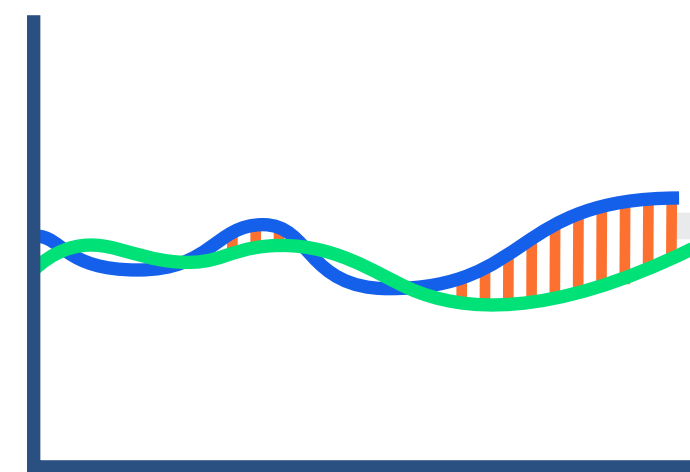
Adjust Power Demand



Slow respond
Labor-intensive
No feedback

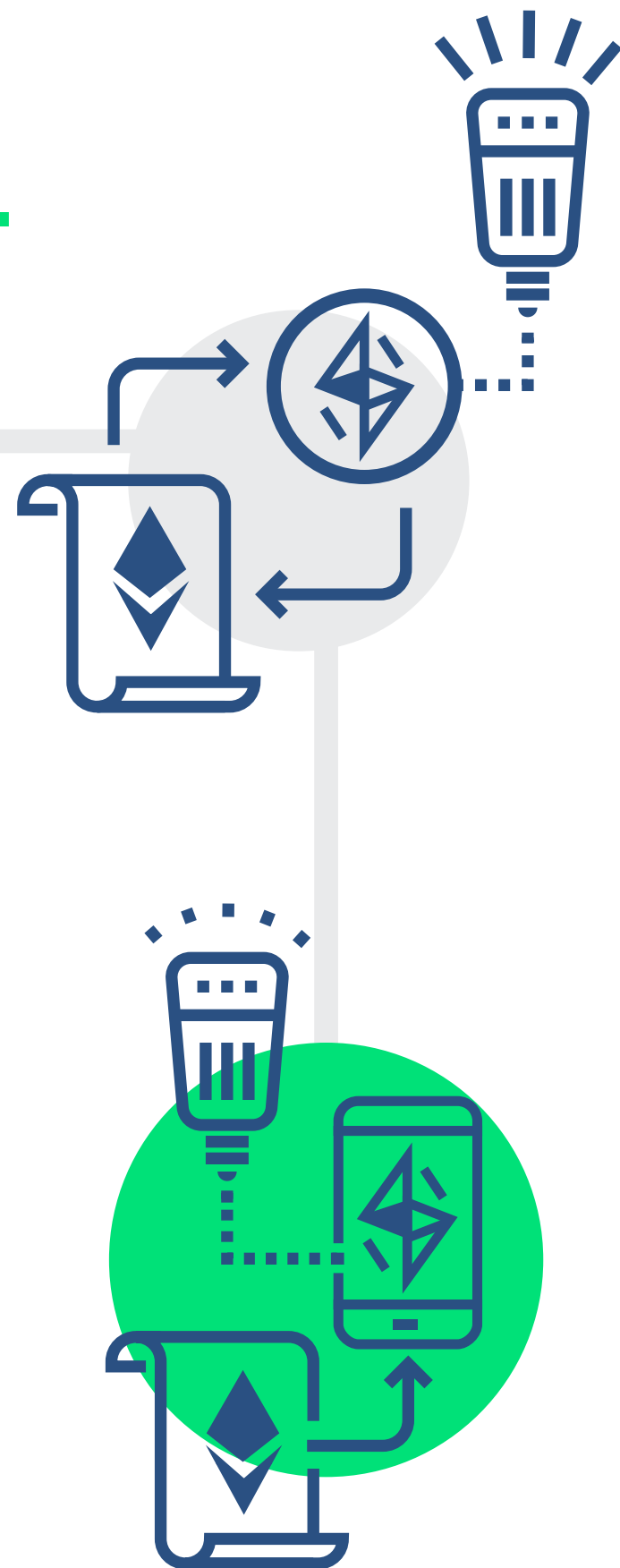
Solution : Pother

Problem Created:
Peak Power Demand
Unpredictable Power Generation



Power Generation \neq Power Demand

Request
Power Adjustment
through Smart Contract



Automated
consumption
Adjustment

Contract
Execution

Fast
Automated
Incentivized
Cost-effective
Verified

Power Grid + EVM

Why EVM/Smart Contract?



**Smooth / Defer
Power Demand**



**Minimize
Ramping Generator
Operation**



**Fast Response
& Complete
Feedback Loop**

Social Effect



**Encourage
Renewable Energy
Generation**



**Better
Power Grid
Management**



**Easy
Power Saving
with Incentives**