JOULE

A blockchain currency to real-world energy use by tokenizing the operating time of everyday appliances.

~Ayush Kakkar



All computation becomes heat. All heat is energy.

- All daily appliances consume energy continuously. A lot of which is converted in the form of heat as an output.
- Crypto mining consumes a lot energy and has a major output as heat which goes waste.
- Joule merges this energy producted (in the form of heat) with economic value creation.

The Problem - No value return

- **All present day appliances produce no economic return to the user.**
- **Crypto is detached from real world utility.**
- **Proof - of - work wastes both energy and heat.**
- **No system ties digital value to physical reality.**

This conventional way of consumer electronics needs to be changed!

What is Joule?

Joule is an economic layer embedded into appliances that mints value proportional to runtime.

- **No proof - of - work.**
- **No extra hardware for mining.**
- **Value issuance tied to time, not computation.**

How Joule works

Joule embeds a low power compute module

- **Runtime measurement:** Appliance operation time is measured directly from internal control signals.
- **Secure Verification:** Usage data is signed locally using hardware-secured keys.
- **Periodic settlement:** Signed runtime proofs are batched and committed on-chain at fixed intervals.

No Proof-of-Work · No continuous computation · Minimal bandwidth

Energy Overhead Is Minimal

Joule is an economic layer embedded into appliances that mints value proportional to runtime.

- **Refrigerators ~3–4% extra power**
- **ACs ~2–4% extra power**
- **No continuous hashing**
- **No waste heat recovery needed**

$$P_{extra} = p(1 + 1/C)$$

Where p: power consumed by the device joule
C: Coefficient of performance

*Using the standard thermodynamic definition of coefficient of performance (COP) for refrigeration systems as found in MIT's Advanced Thermodynamics and Unified Engineering course, we compute the additional electrical load required when internal heat sources are introduced.
https://ocw.mit.edu/courses/2-43-advanced-thermodynamics-spring-2024/mit2_43_s24_lec08.pdf?

Why Joule Is Fundamentally Different

Traditional Crypto

- Proof of work
- Dedicated hardware
- Very expensive
- Waste of energy

Joule

- Time based minting
- Embedded appliance
- Real utility backed
- Affordable (cheaper to make)
- Minimal energy waste

Joule reduces energy overhead while allowing users to earn from everyday device operation.

Roadmap

- **Initially we could start with appliances like refrigerator as**

1. Always on
2. Thermally stable
3. Stable issuance
4. Enabling a global, time-backed economic layer with under 4% energy overhead.

- **The energy (heat) produced as an output in appliances could be reused to powering the device, which might end up with no Pextra required.**
- **The simplest to do it is in Room Heaters.**
- **This could be done for many appliance like AC, TV etc. creating a bridge between physical systems and digital money.**

Why Me

- **Strong background in Physic, Math and Chemistry**
- **Deep interest in robotics and AI**
- **Always open to learn and study in hardcore detail**
- **Know coding in Python, Dart (Flutter), Javascript, HTML, CSS**
- **Good problem solver**

I WANT TO BUILD **JOULE** FULL-TIME!

THANK YOU



Empowering electronics to earn while they work with JOULE