L12: Controversies & Future

BSc Blockchain Course

Digital Finance

Outline

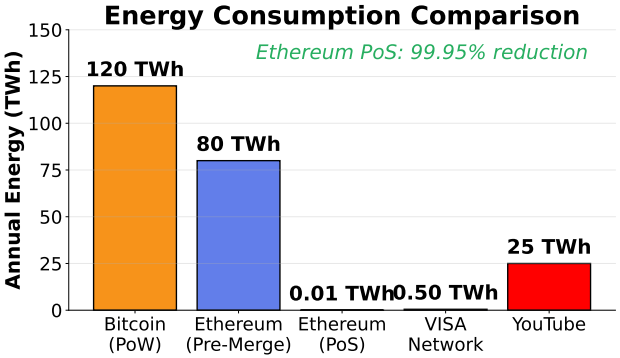
Learning Objectives

By the end of this lesson, you will be able to:

1. Evaluate blockchain energy consumption debates
2. Understand global regulatory landscape
3. Analyze technology adoption patterns
4. Consider future scenarios for blockchain
5. Form evidence-based opinions on controversies

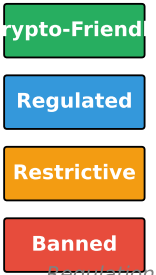
Critical thinking is essential for emerging technologies.

Energy Consumption



PoS reduces energy use by 99.95% compared to PoW.

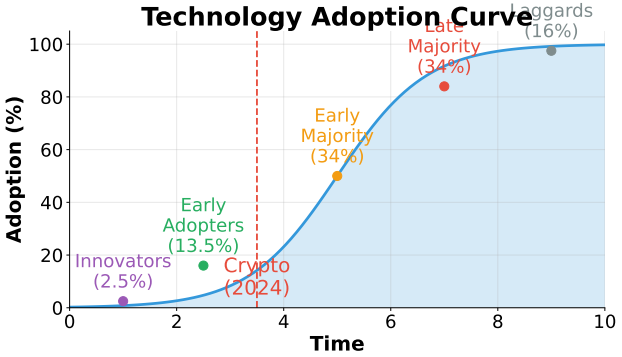
Global Crypto Regulatory Landscape



Regulation evolving rapidly - status as of 2024

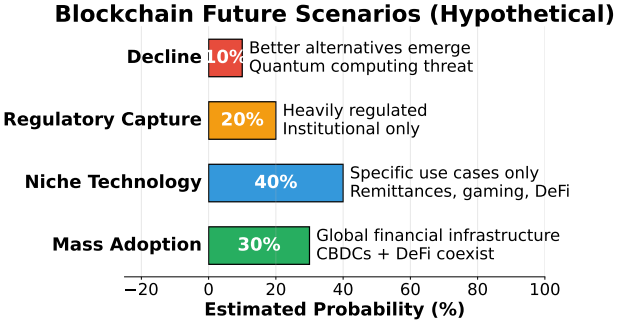
Regulation varies dramatically by jurisdiction.

Adoption Curve

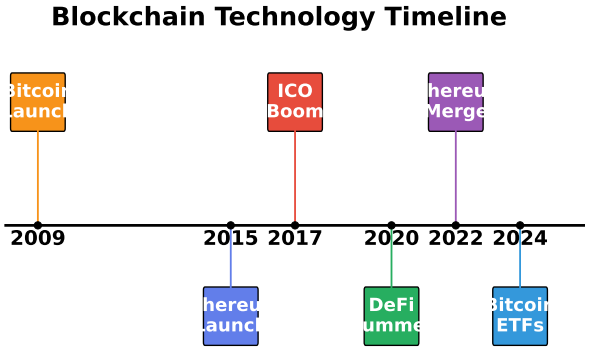


Crypto adoption is between early adopters and early majority.

Future Scenarios



Multiple futures are possible depending on regulation and adoption.



Blockchain has evolved significantly since Bitcoin's 2009 launch.

CBDC Design Tradeoffs

Two Architectural Models:

- **Account-based:** Central bank holds all balances; full surveillance capability
- **Token-based:** Cryptographic tokens hold value; more privacy possible

Key Design Tensions:

- Privacy vs. AML/CFT compliance
- Programmability (spending restrictions) vs. fungibility
- Financial inclusion vs. identity requirements
- Central bank disintermediation of commercial banks

Over 130 countries are exploring CBDCs; China's e-CNY has 260M+ wallets.

Stablecoin Reserve Transparency

Reserve Controversies:

- Tether (USDT) reserves disputed for years; partially commercial paper
- Terra/LUNA algorithmic stablecoin collapsed (May 2022; $40B lost)
- Circle (USDC) provides monthly reserve attestations

Transparency Spectrum:

- **Fiat-backed:** Reserves in bank accounts (audited or attested)
- **Crypto-backed:** On-chain collateral, publicly verifiable (e.g., DAI)
- **Algorithmic:** No reserves; supply adjusted by mechanism

Reserve transparency is now a regulatory requirement under MiCA for e-money tokens.

Key Takeaways

Remember These Points

1. PoW energy use is real but PoS offers solutions
2. Regulation ranges from friendly to complete bans
3. Adoption follows typical technology S-curves
4. Multiple future scenarios remain possible
5. Evidence-based thinking beats hype and FUD

Course Complete! Good luck with your projects.