

# Sustainability and Blockchain

The potential for blockchain to disrupt industries (and drive new growth) is high across traditional industries. But could it help purpose driven organizations make the world a better place?

## What is “blockchain”?

- Blockchain technology is a system of simultaneously updating ledgers where information is recorded in a chronologic and open fashion across a distributed network.

## What is the “block” in blockchain?

- The “block” is each unit of data that is added to the interconnecting ledger system.

## What is the “chain” in blockchain?

- The “chain” is the connection of ledgers within a given block chain system.

## Why is blockchain important?

- Although bitcoin is the most well known application of blockchain technology, the open encryption process of blockchain can be applied to any field where an instantaneous sharing of open information could be useful.

## What is “encryption”?

- A method of codifying information in a secure way.

## What is a “crypto currency”?

- A digital currency that uses encryption mechanisms to regulate the operations of the currency and can operate outside of the banking system.

## What is “Bitcoin”?

- Bitcoin is a digital crypto currency that uses block chain encryption technology to operate.

## What is Bitcoin “mining”?

- Bitcoin rewards those willing to use their computers to do the computations to verify transactions and update its block chain. In return for their processing work, they are given a small amount of Bitcoin and it is said that they “mine” for this Bitcoin.

## What are the social implications of blockchain technology?

- Blockchain technology can be used to create transparency in industries where the consumer may have little information, such as food cultivation like farming or fishing. This creates a documented series of “checks” that can insure that human rights and environmental integrity are upheld at every step of production.

## Why do some people say blockchain is bad for the environment?

- The processing necessary for Bitcoin (and other cryptocurrencies) encryption requires a significant amount of energy to power the machines that do the processing. Some estimates suggest that

Bitcoin mining consumes around 22 terawatt hours per year – as much as the entire country of Ireland<sup>1</sup>.

### **Can blockchain technology be used to benefit the environment?**

- Yes. Small-scale renewable electrical grids are being developed with blockchain technology, as well as programs to stop the over taxation on the world's fishing stocks, among many other applications.

### **How is blockchain being used to better the environment?**

- IBM is developing a blockchain-based platform to trade carbon assets for China's cap and trade system, providing more avenues of interactions with China's carbon pricing scheme.

### **Who is developing this beneficial blockchain technology?**

- The WWF, IBM and Microsoft have all created projects using block chain technology to promote social good.

### **What make blockchain unique in providing these social goods?**

- The immediate transfer of information and encryption process make it very difficult for block chain processes to be tampered with, creating a secure and open channel of information. Currently no other technology can provide this level of free and secure information to such a wide audience.

### **How is blockchain being used to end world hunger?**

- Akshaya Patra, the world's largest non-profit organization to cook lunches for schools, uses blockchain technology to improve efficiency in their organization thereby providing more food to more children in schools.

### **How is blockchain being used to help refugees?**

- Setting up banking information can be critical for refugees. Moni is a Finnish organization that uses blockchain technology to help refugees set up bank accounts outside of the traditional banking system.

### **How is blockchain being used in environmental management?**

- The WWF has teamed up with a handful of blockchain-focused businesses to stop illegal tuna fishing in order to help protect falling tuna populations.

### **What future application of blockchain might we see?**

- It is difficult to predict as the potential of what block chain can do is still being explored. Blockchain technology could benefit any industry where transparency is sought after and valued.

## **About the Lee-Chin Institute**

The Lee-Chin Institute helps business leaders integrate sustainability into business strategy and practices by actively developing and disseminating research, tools and curricula. Currently, our research focuses on three themes: sustainability strategy, social entrepreneurship, and responsible investment. For more information about the Institute and what we do, check out our [website](#) or follow us on [Twitter](#) and [LinkedIn](#).

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<sup>1</sup> <https://www.economist.com/the-economist-explains/2018/07/09/why-bitcoin-uses-so-much-energy>

