



# Paris Committee on Capacity–building (PCCB) side event at COP24, 5<sup>th</sup> December 2018

**A critical discussion on the required  
conditions and capacities to utilise  
blockchain/DLT for the speeding up of climate  
action and upscaling the energy transition**

**Zsolt Lengyel**



# Content of presentation

1. Introduction of speakers: verico SCE, Reneum and The Gold Standard & audience
2. The approach: problem focused solution seeking through examples and use cases from a rigorous auditor perspective
3. Mini course on blockchain and DLTs: the fundamentals for decision makers
4. Easy to answer questions to decide on the suitability of blockchain/DLTs for climate action and energy transition
5. Introduction of featured cases: renewable electricity & digitising MRV



MS 4631  
Bulla-envelope with 11 plain and complex tokens inside.  
Near East, ca. 3700-3200 BC



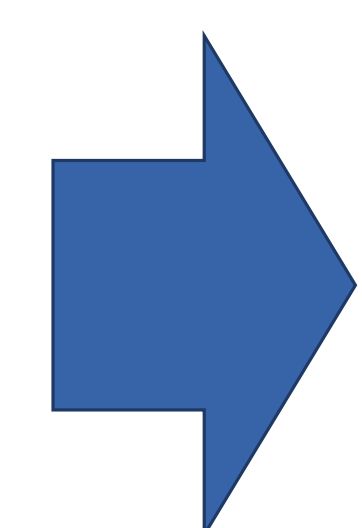
## 2. The approach – what we want to solve?

1. **The approach:** advocate a problem focused approach in which suitable solutions are sought

2. **The problems:** scale & speed of action

- Energy (electrical) – upfront finance, externalities (air quality, climate, other environmental & societal impacts)
- Climate action – same as energy, plus impact assessment/quantification; counterfactual baselines, double-counting, permanence, “a ton is a ton” etc.

- "I suppose it is tempting, if the only tool you have is a hammer, to treat everything as if it were a nail."  
– Abraham Maslow 1966
- "I call it *the law of the instrument*, and it may be formulated as follows: Give a small boy a hammer, and he will find that everything he encounters needs pounding."  
– Abraham Kaplan 1964



IMPACTS / TRANSACTIONS /  
TRANSPARENCY / DECENTRALISATION



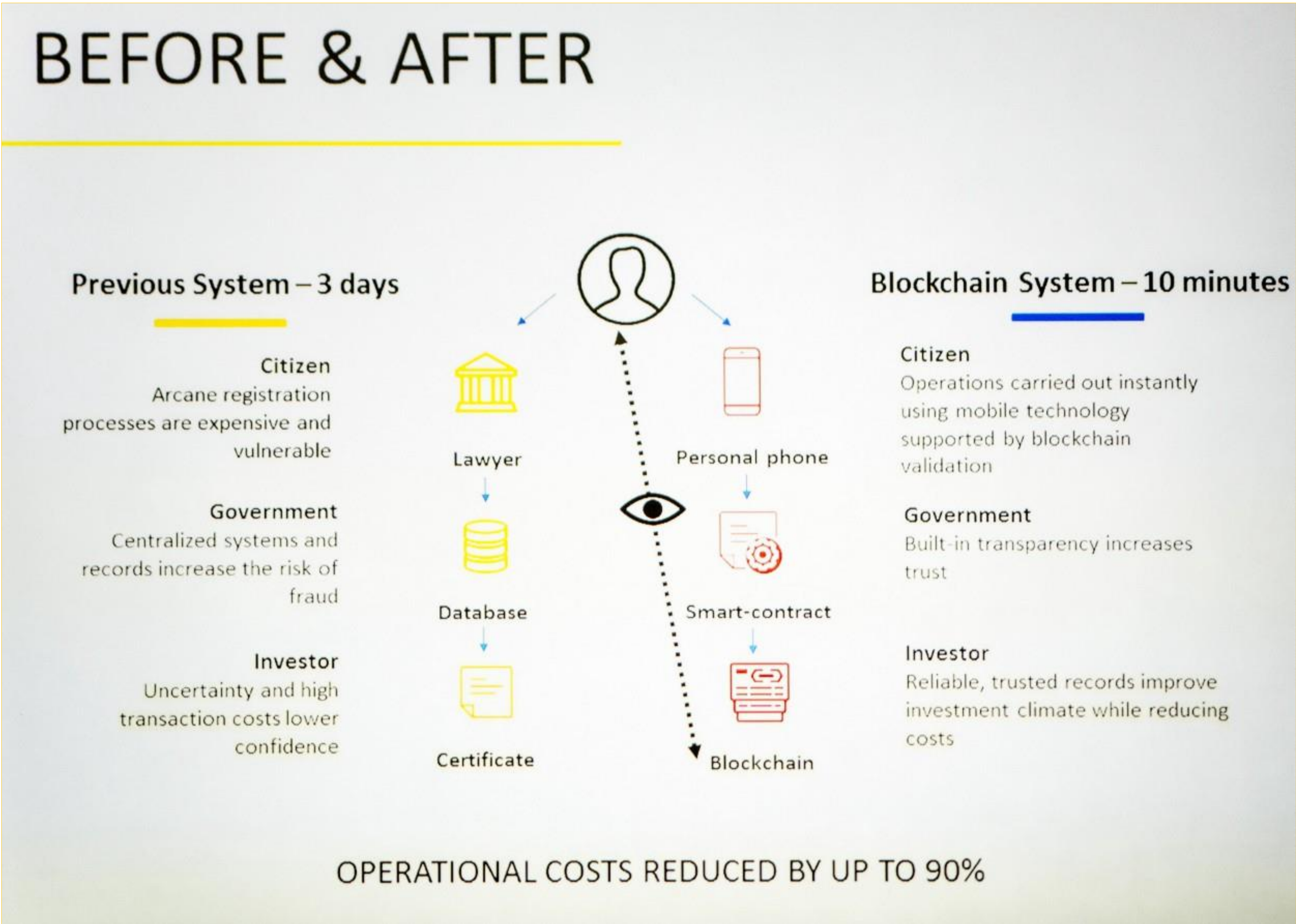
## 2. Examples and use cases: fighting hunger & emergency operations

Jordan's Azraq camp, 10,000 refugees are now able to **pay for their food by means of entitlements recorded on a blockchain-based platform**. The United Nations World Food Programme (WFP). WFP's system relies on biometric registration data from the United Nations High Commissioner for Refugees (UNHCR) and uses biometric technology for authentication purposes. Refugees **purchase food** from local supermarkets in the camp by **using a scan of their eye instead of cash, vouchers or e-cards**. WFP is investigating new applications, such as digital identity management and supply chain operations.





# 2. Examples and use cases: Georgia's land registry



Source: Bitfury; the system developer



## 2. Examples and use cases: conflict (blood) diamonds

### *Everledger.*

Will use of geolocation records and data collected directly from sensors. for diamond registration and tracking. Each diamond has its measures recorded in the Blockchain, being assigned to it a corresponding serial number. Once you have registered the information on the diamond in the Blockchain, you can carry out all diamond tracking to protect the end consumer against informational frauds about the product.

*De Beers:* running its own private blockchain for 30% of the worlds diamonds ( also addressing fake/synthetic diamonds)





## 2. Examples and use cases: Ukraine seized assets auctioning

Providing for:

- record of the property to be auctioned;
- secure registry of auction participants;
- A log of the auction (including stakes, winners and results).

*Ukraine will be the first country in the world to introduce blockchain-based electronic auctions. This innovative technology utilizes decentralized information storage and security while ensuring full transparency of state registries and services, which allows for public control of all actions.*

**Volodymyr Groysman**  
Prime Minister of Ukraine



*Source: Bitfury; the system developer*





“ A blockchain allows parties to co–create a permanent, unchangeable and transparent record of exchange and processing, without having to rely on a central authority. Where previous generations of digital technology have been about *data* and *information* and how to exchange it faster and more securely, blockchain is about the *exchange of value* and how to make it instant and decentralised.”

Cathy Mulligan, Co–Director, Imperial College Centre for Cryptocurrency Research





**Oleg Andreev**  
@oleganza

Following

Blockchain is not a database, it's a protocol for syncing the databases. The point of a blockchain is not to "store" or "distribute" data, it is to make sure mutually distrusting parties are all on the same page.

10:39 pm - 27 Aug 2018

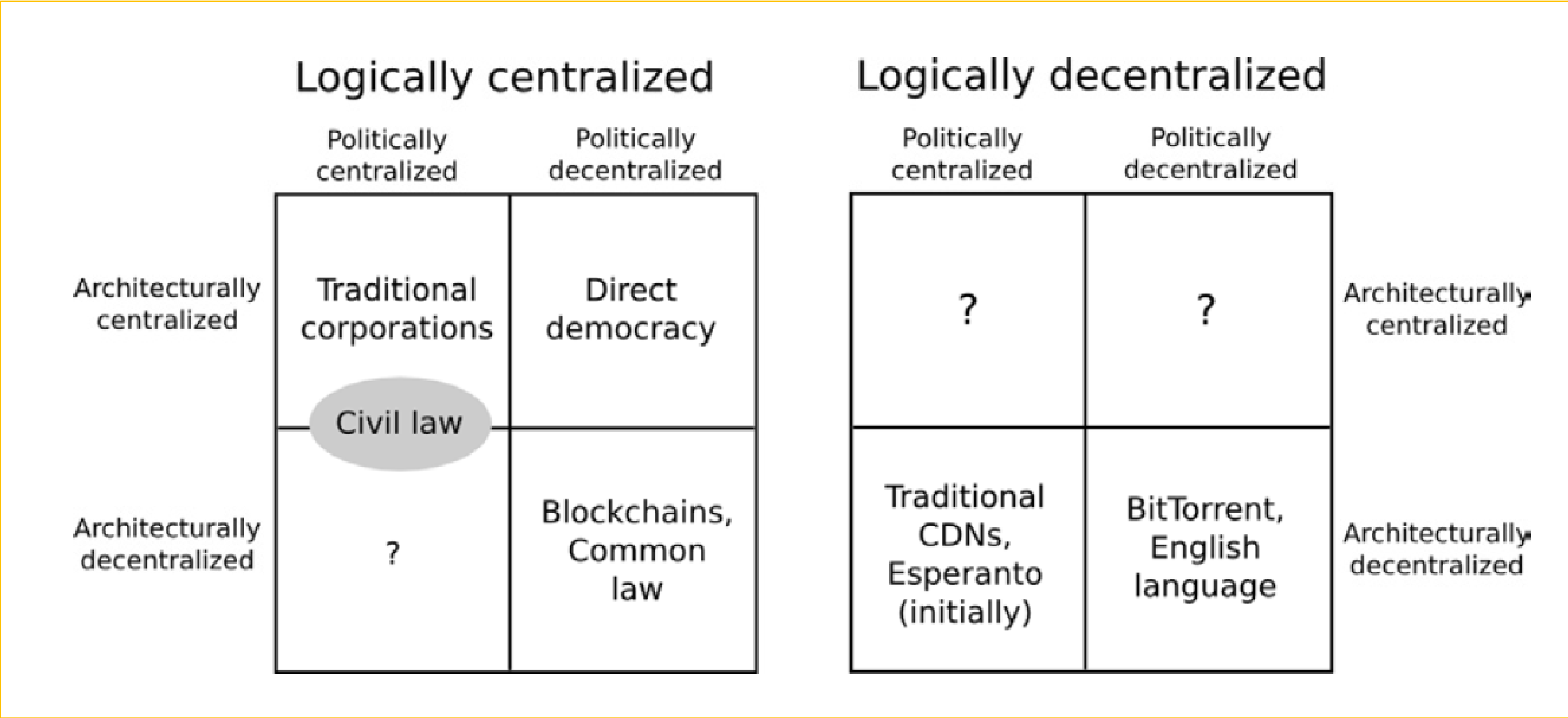
1,088 Retweets 2,978 Likes



A blockchain is therefore:

- a data structure that proves order of events (chronologically) and
- A protocol that allows users to synchronise their databases in a trust-minimised environment/way.





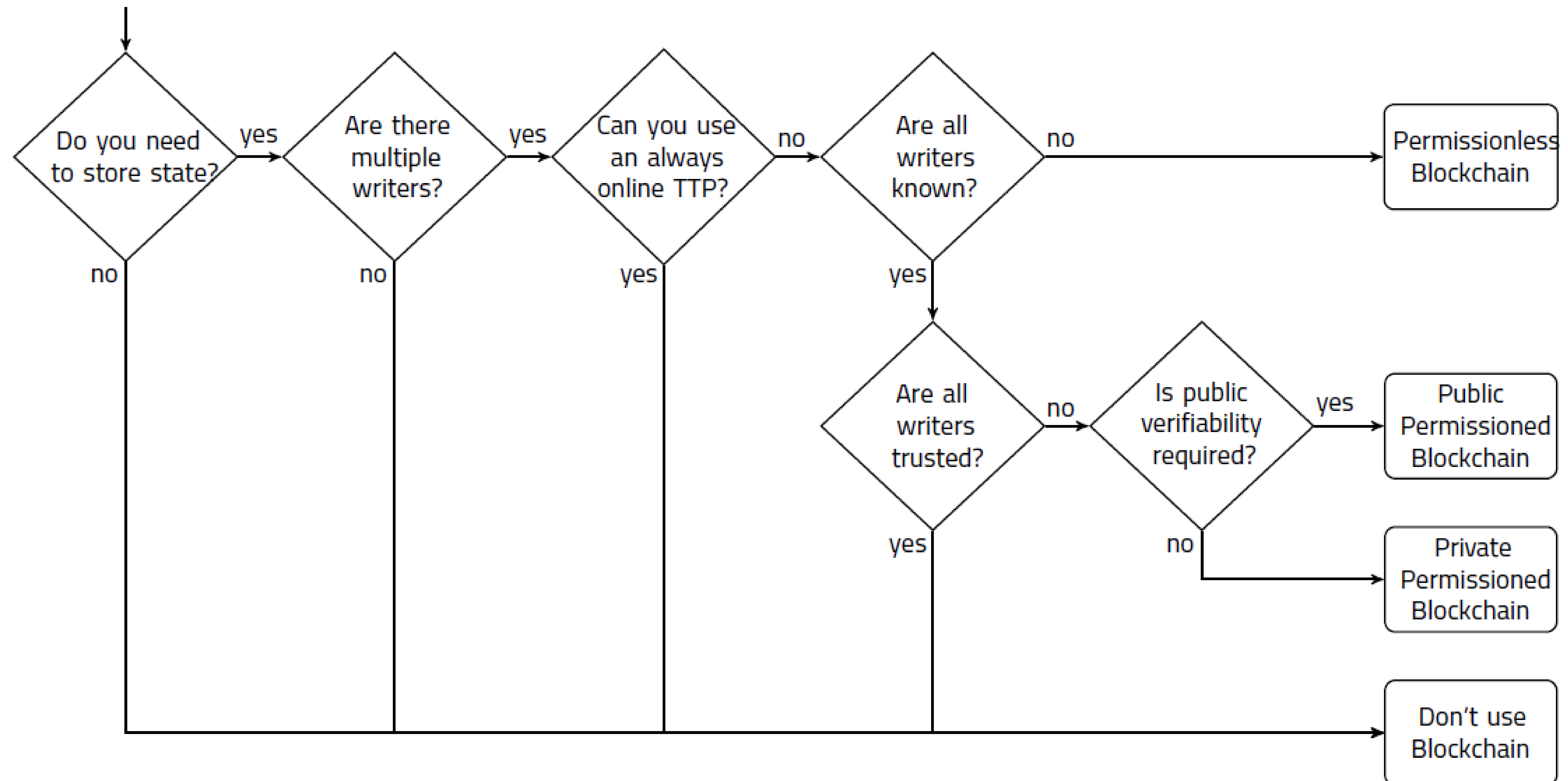
Source: Buterin, Vitalik. 2017. "The Meaning of Decentralization." Medium. Accessed July 21, 2018. <https://medium.com/@VitalikButerin/the-meaning-of-decentralizationa0c92b76a274>.



Essence/	Fundamentals	Elements	Implications
Order of events/transactions proven	Decentralised	Cryptography (asymmetrical)	Ownership of information
Database synchronisation protocol	Cannot be censored	Digital assets	Digital asset securing and transfers
	Consensus based	Transactions	Governance
	Immutable	Network	Quality assurance/judgement in digitalisation process is key ( “garbage in, garbage out”)
	Democratic (?)	Database	
		Algorithms for consensus	
		Incentives (for	

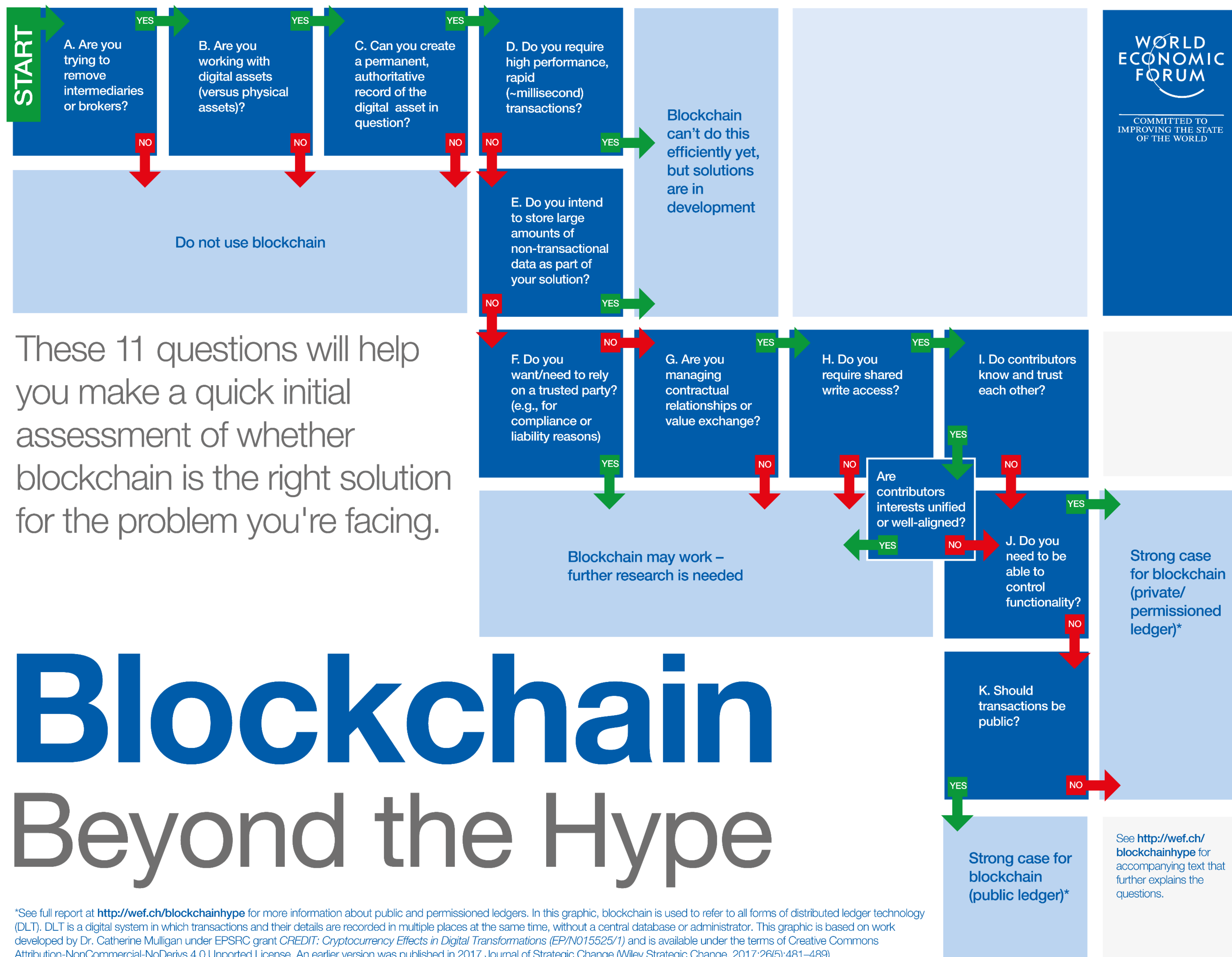


## 4. Suitability of blockchain/DLTs for climate action and energy transition



Source: Wüst, Karl, and Arthur Gervais. 2017. "Do you need a Blockchain?." International Association for Cryptologic Research. <https://eprint.iacr.org/2017/375.pdf>.





These 11 questions will help you make a quick initial assessment of whether blockchain is the right solution for the problem you're facing.

# Blockchain Beyond the Hype

\*See full report at <http://wef.ch/blockchainhype> for more information about public and permissioned ledgers. In this graphic, blockchain is used to refer to all forms of distributed ledger technology (DLT). DLT is a digital system in which transactions and their details are recorded in multiple places at the same time, without a central database or administrator. This graphic is based on work developed by Dr. Catherine Mulligan under EPSRC grant *CREDIT: Cryptocurrency Effects in Digital Transformations (EP/N015525/1)* and is available under the terms of Creative Commons Attribution-NonCommercial-NoDerivs 4.0 Unported License. An earlier version was published in 2017 Journal of Strategic Change (Wiley Strategic Change. 2017;26(5):481–489)

Source: World Economic Forum  
<https://www.weforum.org/agenda/2018/04/questions-blockchain-toolkit-right-for-business/>



## Contact information:

Zsolt Lengyel

T: +31 70 2500 642

M: +31 610 274 085

E-mail: [Zsolt.Lengyel@verico.eu](mailto:Zsolt.Lengyel@verico.eu)

Website: [www.verico.eu](http://www.verico.eu)

**verico SCE**

Hagenaustraße 7  
85416 Langenbach  
Germany