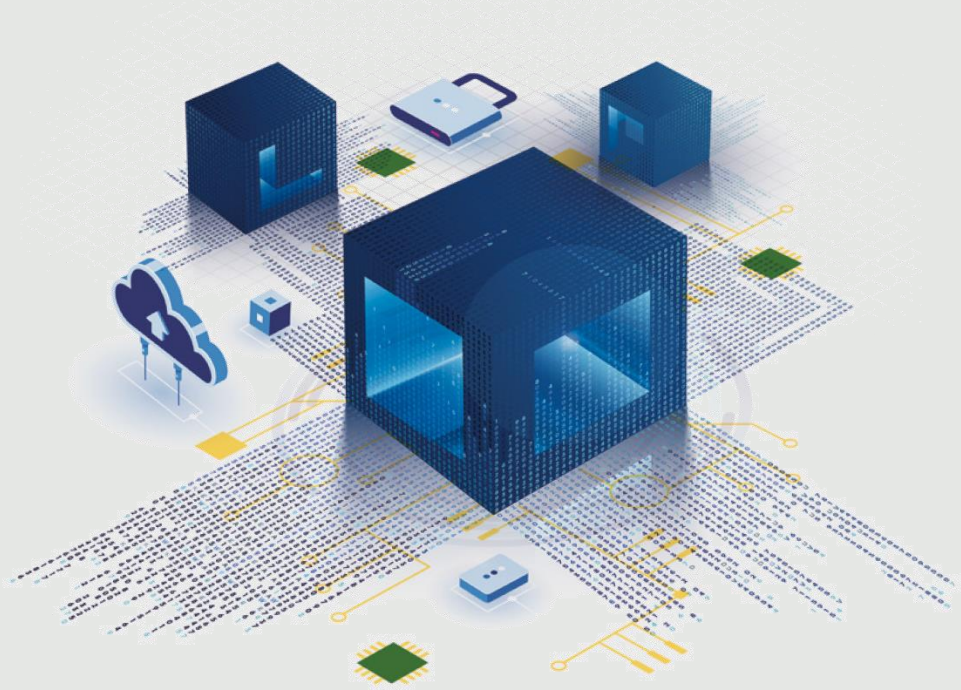
Alianza Energética
Energiepartnerschaft
MÉXICO - DEUTSCHLAND

Blockchain: innovative solution for the 3Ds World

German-Mexican Energy Partnership



September 2019

giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Where it all began

CRE
COMISIÓN REGULADORA DE ENERGÍA

Alianza Energética
Energiepartnerschaft
MÉXICO - DEUTSCHLAND

BLOCKCHAINLAB
giz

Leveraging digitalization – Blockchain meets Energy

Workshop on blockchains in the electricity sector

November, 14th & 15th
Hotel Barceló Reforma
Paseo de la Reforma 1, 06030 Mexico-City

Language: **English/Spanish**

Agenda

Why Blockchain?

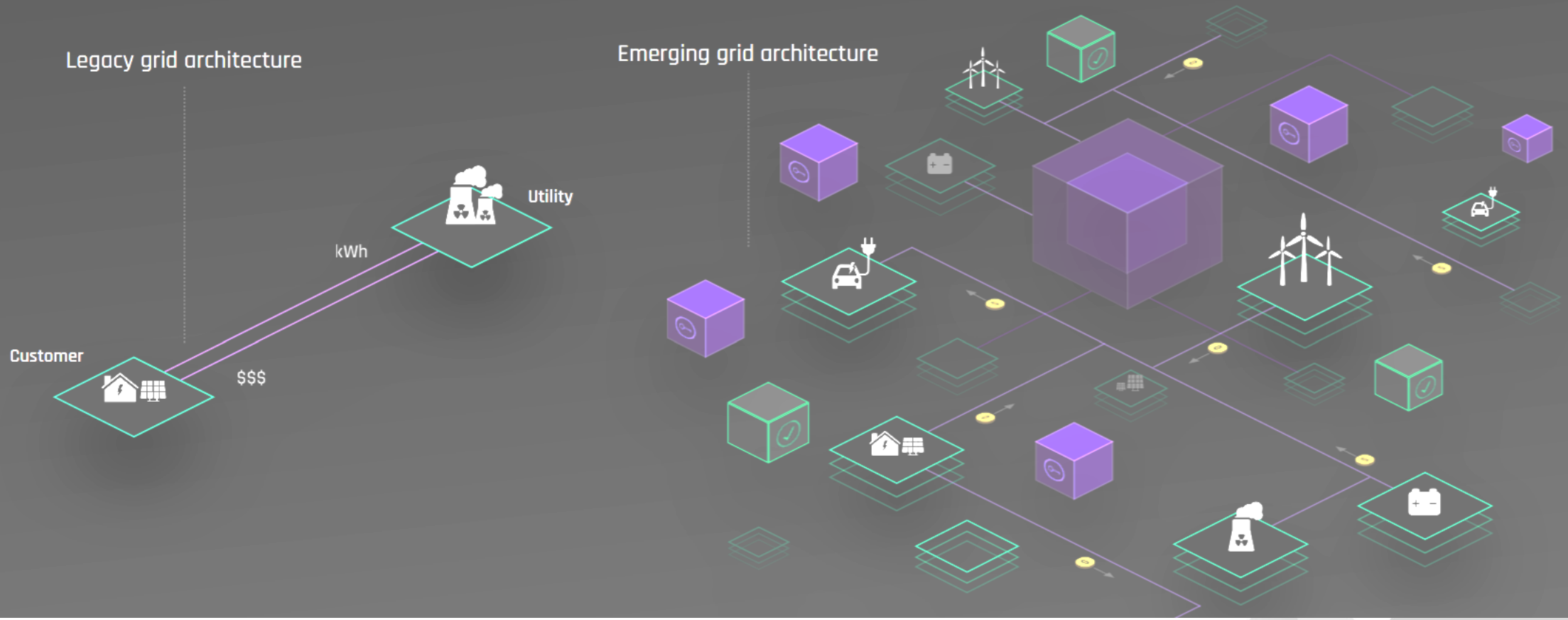
Growing market

Governments, Start-ups, Utilities, Civil Society Organizations

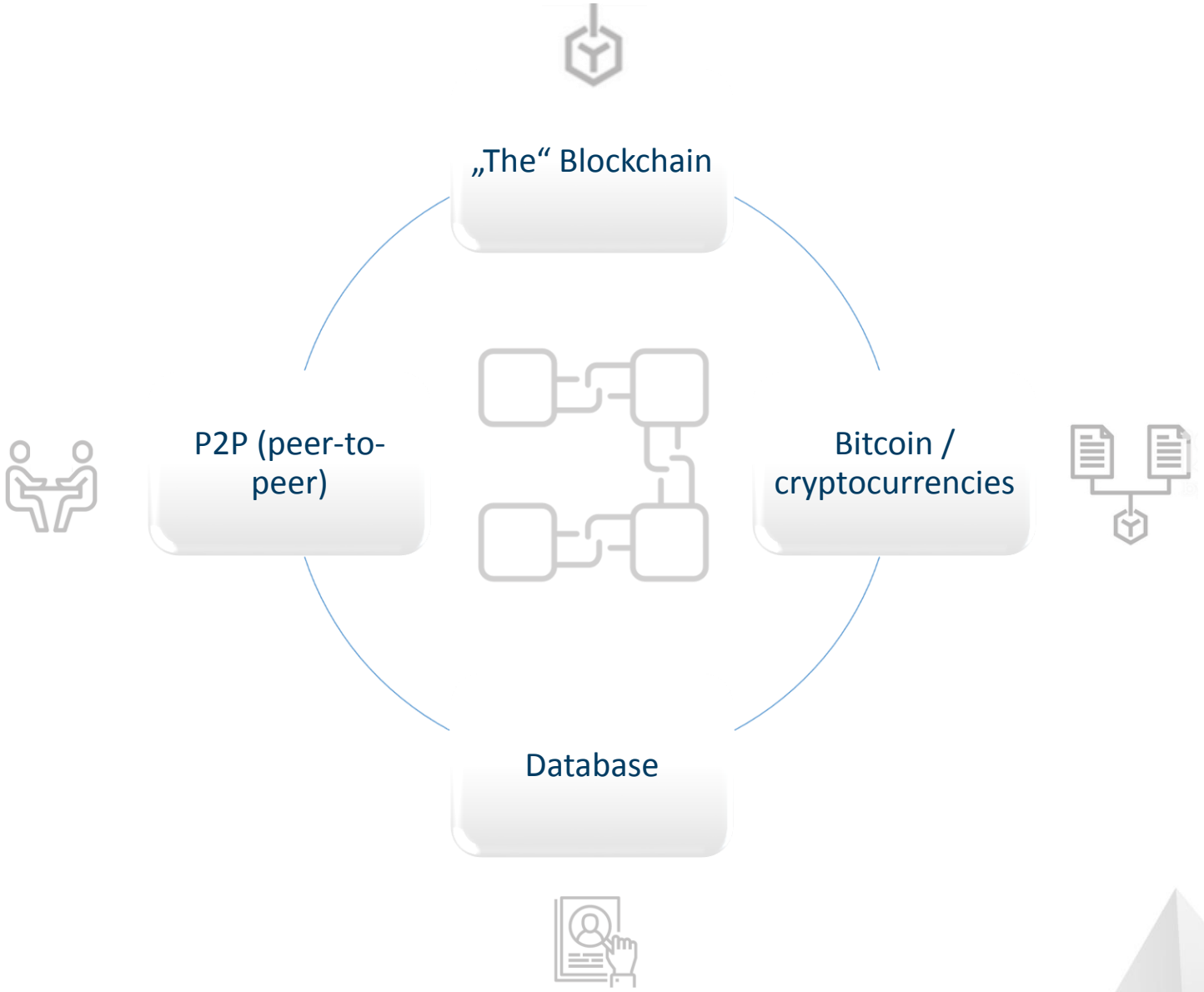
Transactions, taxation, supply chain management, Internet of Things (IoT), Demand-Side Response (DSR), carbon - offset trading

Why Blockchain?

A grid based on low-cost, renewable, intermittent power needs a new architecture capable of securely coordinating an increasingly distributed, decentralized electric system.



What the Blockchain is not?



What the Blockchain is?

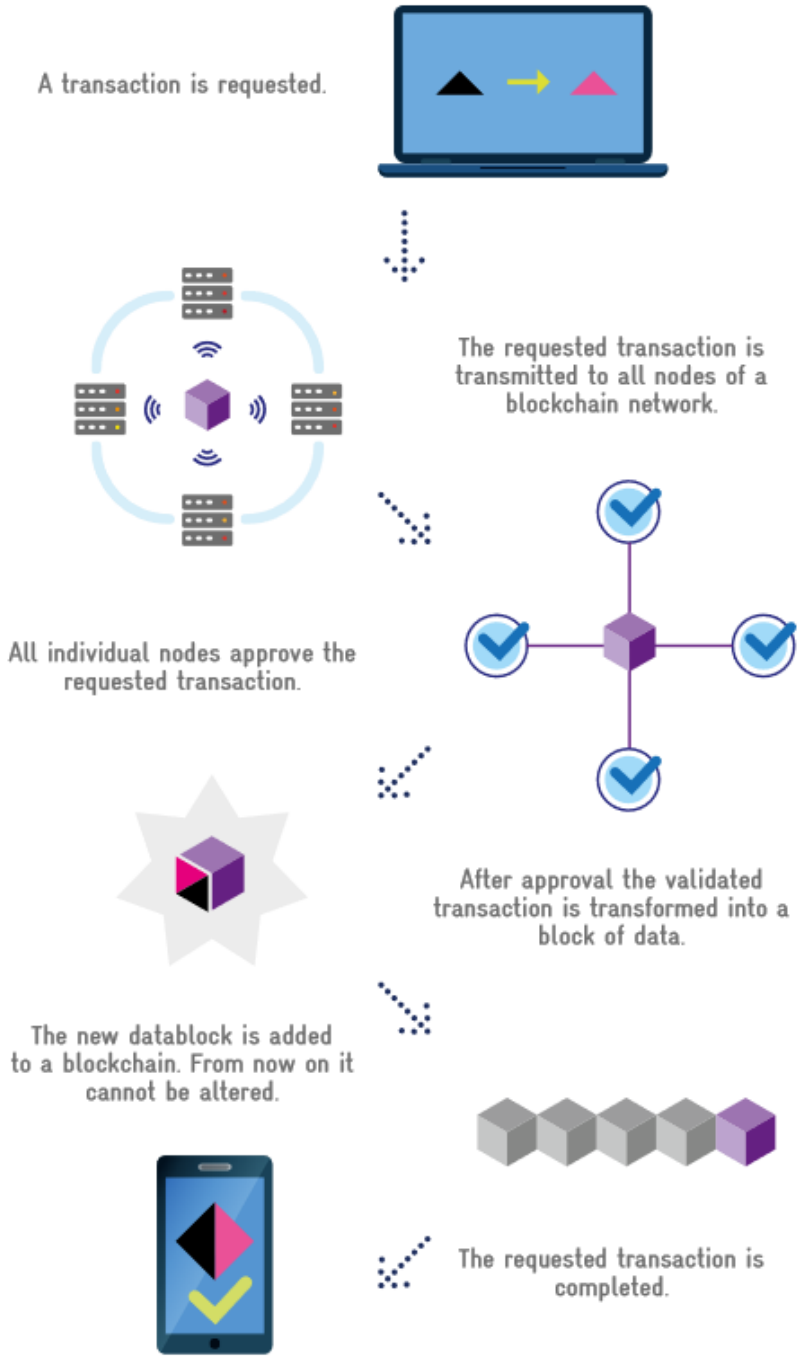
Digital record of transactions grouped in blocks.

Distributed ledger technologies

P2P Networks

Cryptography

How does it works?



Blockchain + Energy

Blockchain

IT Infrastructure | efficient and resilient

- Fast
- Secure
- Transparency
- Immutability
- Tamper resistant

REAL TIME

Transaction platform | Information exchange

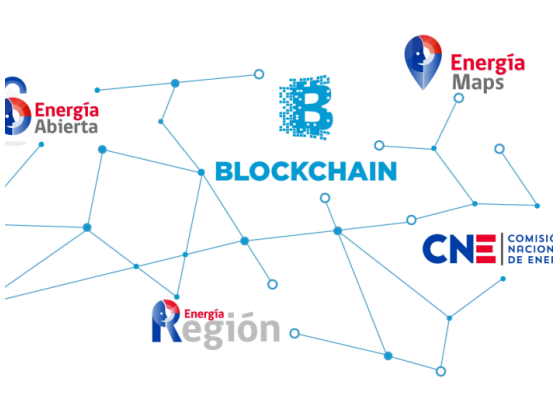
- Low transaction costs

Generation and demand are registered

- *Smart meters (3.0)*
- *Smart Contracts*

Blockchain + Energy

Examples



Blockchain + Energy

Examples

Deliver and consume energy where it is produced

Each region has its own (gas or power) market

Prosumers, consumers and suppliers directly trade with each other

Blockchain + Energy

Examples

Residents and business owners supporting local solar energy production and consumption

Prosumers and consumers access the local energy marketplace through the Brooklyn Microgrid mobile app

Supporting local economy and reduction in GHG emissions and air pollution

Blockchain + Energy

Examples

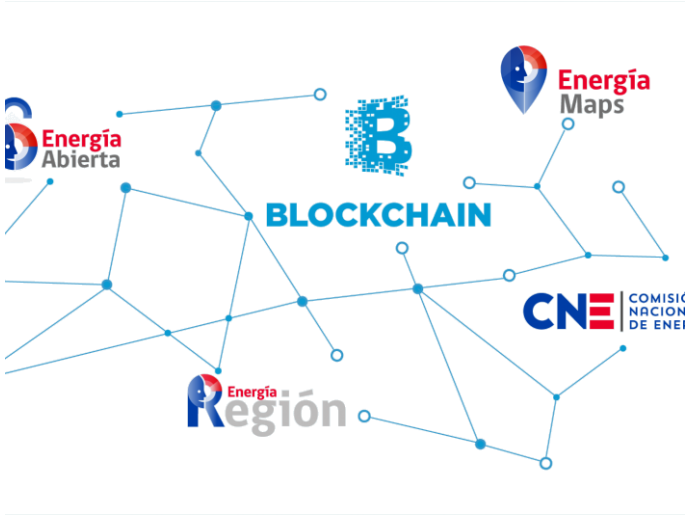
Open-source, customizable and decentralized toolkit for renewable energy markets

Investigate the potential benefits of blockchain technology to improve the security, transparency, and transaction costs

Clean Energy Certificates market (I-RECs)

Blockchain + Energy

Examples



National Energy Commission from Chile

„Open Energy“

Certifies: quality and accuracy of national energy system data

Authenticates prices, costs.

Blockchain + Energy

Examples

National Energy Commission from Chile

„Open Energy“

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Final User
Clients invests in solar solutions
Sello Sol validates the source of generate energy, connecting businesses and industries with their customers
Business & Industry
SELLO SOL
SELLO SOL
SELLO SOL

Blockchain + Energy

“[…] we can seize the possibilities blockchain offers: a way to make a decentralized electricity grid more secure against cyberattacks by eliminating vulnerable, centralized single points of failure; a way for millions—and eventually, billions—of DERs to connect, verify, and transact with one another; a way for the green attributes associated with renewable energy to be tracked and traded with unprecedented levels of transparency and automation, streamlining costs and enabling greater market participation; a way for electric vehicles (EVs) to become cooperative and interactive grid assets, rather than `dumb´ sources of spiking grid demand that exceed circuit capacities” (Bronski, 2019).

¡Muchas Gracias!

Danke!

Thank You!