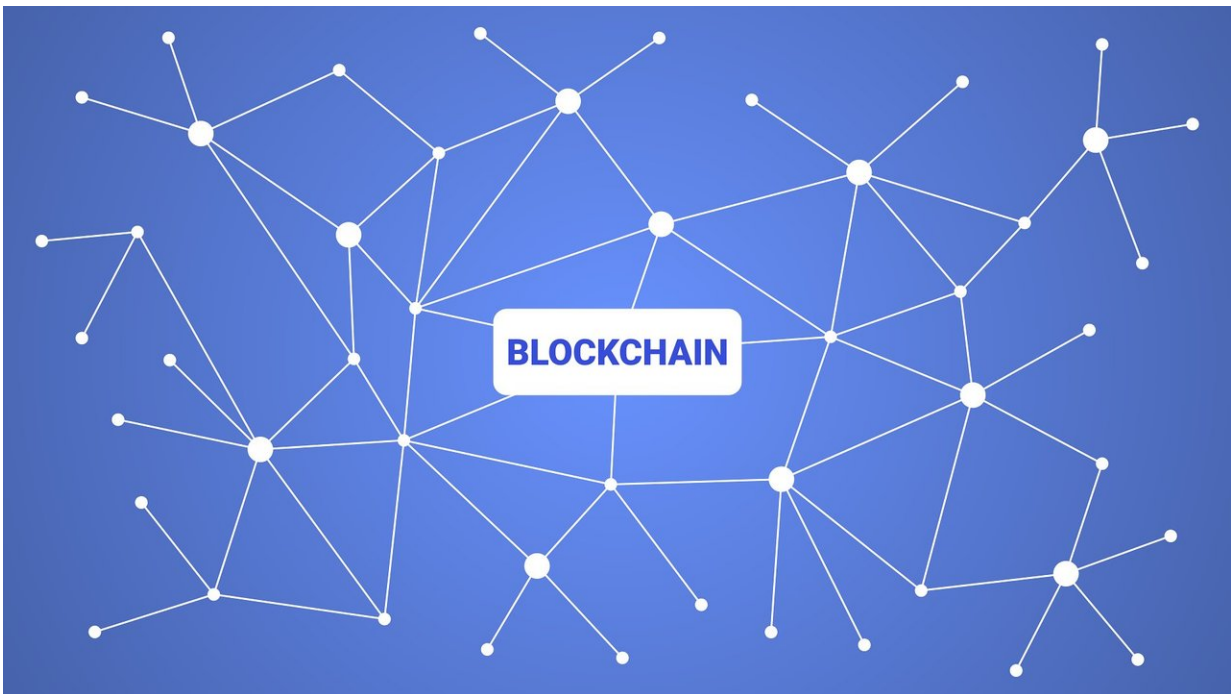


The flipside of the Bitcoin: How blockchain could underpin sustainable energy

September 28 2018, by Kerrie Douglass



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There's a lot of buzz about distributed ledger technology, commonly known as "blockchain", being the future of financial and legal transactions, but it also has the potential to help tackle a far trickier problem... climate change.

That's what [blockchain](#) expert Dr. Philippa Ryan from UTS Law has

been arguing this week at a special UN session in Geneva.

More than 600 people representing 160 countries attended this year's International Organization for Standardization (ISO) Week.

As part of this event, the United Nations was invited to hear a series of presentations about how standards are supporting innovation to address some of the UN's Sustainable Development Goals (SDGs).

Dr. Ryan presented on the possible uses of blockchain technology in sustainability and [climate action](#).

The session focused specifically on [Goal 13 – climate action](#). One of the challenges is to help developing countries meet their increasing demand for electricity without adopting high emission solutions. That's where blockchain comes in.

Dr. Ryan says industrialised and developed countries are heavily dependent on high emission electricity production.

"For example, disrupting Australia's way of producing electricity to reduce emissions is challenging because the incumbent industries, infrastructure, systems and processes are significant contributors to the economy."

By contrast, in the developing world, demand for electricity is increasing but there is little or no existing infrastructure.

Dr. Ryan says this presents the opportunity to adopt a cleaner more sustainable approach from the start.

"Using solar panels, communities and villages can generate, store and use their own energy and the whole system can be managed securely using

blockchain technology."

The idea is to think small – micro-transactive grids involve a limited number of participants with each dwelling or household producing solar powered energy which is bought and sold between the participants according to needs at different times.

For it to work effectively, there must be trust in the system.

"With no central controller or regulator of the system, everyone in the grid community must be able to trust the ledgers which record how much energy is generated, stored, bought and sold within and across the network."

And that, says Dr. Ryan, is the beauty of blockchain.

"The technology provides a transparent, auditable and automated market trading and clearing mechanism for the benefit of producers and consumers."

It can also support communities where not everyone has a bank account. Settlement of debits and credits can take place at an agreed time according to the local accepted traditions or trade conventions.

Dr. Ryan's presentation was well-received and prompted questions from the audience about the challenges and risks facing the implementation of blockchain technology.

While complexity, cost and reputation have been the main obstacles to adoption, standards can help to address all three of these barriers.

"At a time when global trust in government, banking, the media and other powerful institutions has slumped, blockchain can play a

significant role in democratising new more trustworthy business networks. These new economic models can be exemplars for how [blockchain technology](#) might help achieve some of the SDGs."

As well as the UN session, Dr. Ryan also addressed the ISO General Assembly with an update on the global work of the ISO Blockchain Technical Committee.

She is co-author of [Blockchain: Transforming your business and our world, which makes the case for how distributed ledger technology can help to solve 'wicked problems.'](#) It devotes an entire chapter to climate change.

Provided by University of Technology, Sydney

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