

The potential for buildings to become mini utilities

 By [Sindy Peters](#)

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The future of large public utilities, such as Eskom, is uncertain. Will they be able to ride through the tide of disruptive technologies in this space? Maybe, but they'll have to fundamentally change their outdated business models.



Dom Wills, CEO, Sola Energy Future

This is according to CEO of [Sola Energy Future Dom Wills](#) whose organisation is at the vanguard of making cheaper, cleaner solar energy more accessible to the commercial sector in South Africa. Wills was speaking at the [GBCSA 2017 Green Building Conference](#) highlighting the disruptive potential of off-grid systems, and the future of buildings as mini utilities.

Utilities vulnerable to disruption

The size of large utilities is where their vulnerability lies, said Wills, as they aren't able to react to disruptive technologies fast enough or they take the wrong approach to changing market conditions.

"Once you start to have a behaviour change at the consumer level, we see what effect that actually has on really big companies that have been operating in the same way over many years - in Eskom's case for 94 years. Essentially, that model is so big, but it's so sensitive because as soon as there stops being a growth in that utility model, the whole thing actually starts to break down because of the amount of fixed costs that they have," explained Wills.

"In 2007 Eskom sold 218TWh of electricity. Ten years later they sold 214TWh, and over that time their staff increased 50%, as did their overheads. As soon as you start to have people using less energy, the revenue falls and obviously fixed costs remain. Utilities respond by raising the rates, which is actually really not what they should do. They should probably be dropping their rates. As the rates go up, that actually makes the case stronger for people to use less energy from the grid, and that actually happens quite quickly, and a very big company can become a very unprofitable company in a very short space of time," he said.

The single stream Eskom model, implemented similarly by other large utilities around the world, is ripe for disruption, said Wills. Currently, all energy is generated by Eskom and either distributed to consumers through utilities or Eskom itself, with Nersa regulating rates. There is the assumption that utilities are the cheapest source of energy, said Wills, but, with solar PV, there is potential for the residential, commercial, industrial, and agriculture sectors to become independent mini-utilities. While solar PV uptake has been low, as the price of this technology continues to fall - along with storage options, people will begin to see the value in this alternative source of energy, he said.

Future of utilities

The future of municipal utilities actually lies in facilitating trade of energy, said Wills. "If they stay exactly the way they are now, then the utility death spiral will continue. But they if they have a strong, well-maintained grid and they have the various smart metering abilities, and they are able to facilitate multi-buyer-multi-seller modes, that's how the utility survives."

He recognised the property sector's standard of buildings as state-of-the-art facilities, but he emphasised that there are now opportunities to take their service offering further, particularly through their roof space, "one of the most neglected, understated parts of a building".

Deriving value from roof space

According to Wills, 100m² of roof space has the potential to provide 25,000KWh of electricity and between 60-100kL of water. In a three-storey commercial building, he explained, this accounts for 30% of water and 35% of electricity. In a single-storey retail building however, you get much closer to parity. "Electricity and water are fast becoming the most expensive things we are paying for going forward and, of course, becoming very scarce and not easy things to harvest, and you've got that opportunity right there, right at your building," he said.

"What you really need to know is that if you own the place, and you own the land, and you've got a lot of energy and water landing on your building every single day of every year, you've really got a huge opportunity."

ABOUT SINDY PETERS

Sindy Peters (@sindy_hullaba_lou) is a group editor at Bizcommunity.com on the Construction & Engineering, Energy & Mining, and Property portals. She can be reached at sindy@bizcommunity.com

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