



The hypothesised Environmental Kuznets Curve.

New technologies make it possible to truncate this curve. It becomes possible to transition to a circular economy, which decouples production from natural resource constraints. Nothing that is made in a circular economy becomes waste. The Internet of Things allows us to track material and energy flows to achieve new efficiencies along product value chains. Even the way energy itself is generated and distributed will change radically, relying less and less on fossil fuels.

Perhaps most importantly for African countries, then, renewable energy offers the possibility of devolved, deep and broad access to electricity. Many have still not enjoyed the benefits of the second industrial revolution. The fourth may finally deliver electricity because it no longer relies on centralised grid infrastructure. A smart grid can distribute power efficiently across a number of homes in very remote locations. Children will be able to study at night. Meals can be cooked on safe stoves. Indoor air pollution can basically be eradicated.

Beyond renewable energy, the

Internet of Things and blockchain technology cast a vision for financial inclusion that has long been elusive or subject to exploitative practices.

Risks

No revolution comes without risks. One in this case is rising joblessness.

Developing countries have moved away from manufacturing into services long before their more developed counterparts did, and at fractions of the income per capita. Dani Rodrik calls this process premature deindustrialisation.

The employment shares of manufacturing, along with its value addition to the economy, has long been declining in industrialised nations. But it's also been declining in developing countries. This is unexpected, because manufacturing is still the primary channel through which to modernise, create employment (especially by absorbing unskilled labour) and alleviate poverty. Manufacturing industries that were built up under a wall of post-independence protectionism are starting to decompose.