

Drought impacts hydroelectricity output

By Eric Holthaus, Slate

In the rush to decarbonize the world's economy, there's one simple, surprising technology that's more important than any other: water falling down a hill.

Huge dams fitted with hydroelectric power plants may seem very 20th century. Their basic technology – falling water turning a paddle wheel – hasn't changed much in thousands of years. But hydropower is by far the world's No. 1 renewable energy resource, and it's going to stay that way for quite some time, despite growing questions surrounding its reliability.

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Over the next 25 years, the vast majority of the world's newly installed renewable energy will come via hydroelectric dams, mostly in the developing world, according to a recent U.S. Energy Information Administration outlook. (To be fair, the EIA has a history of underestimating the growth rate of nonhydro-based sources of renewable energy, like solar and wind.)

Since making electricity by water requires a steady supply, the world's increasing commitment to hydropower bakes in significant risk should weather patterns continue to become more erratic. In general, global warming will result in more intense rainfall events as well as more intense droughts and a loss of mountain glaciers that feed rivers in many parts of the world. For some places like the American West, Latin America, India, and Africa, that erratic energy future is already here. And nearly everywhere, less reliable hydropower could lead to dirtier energy use overall, at least in the

short term.

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