Other

Part of Climate Week NYC

Climate Futures:

Storytelling, Film, and

Indigenous Knowledge

Thursday, September 22 12pm - 2pm at Skylight Gallery, NYC

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Climate

**Futures:** 

Storytelling,

Film, and

Indigenous

Knowledge

Thursday, September 22

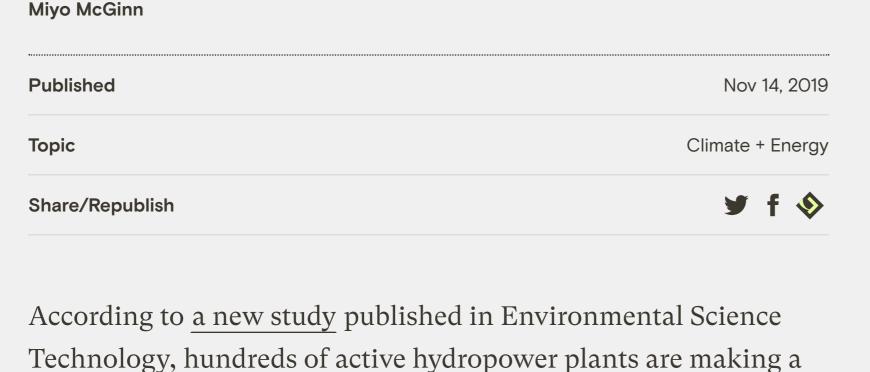
12pm - 2pm Skylight Gallery, NYC

## Why some hydropower plants are worse for the climate than coal

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"It's pretty alarming," Ilissa Ocko, the study's lead author, told Grist.

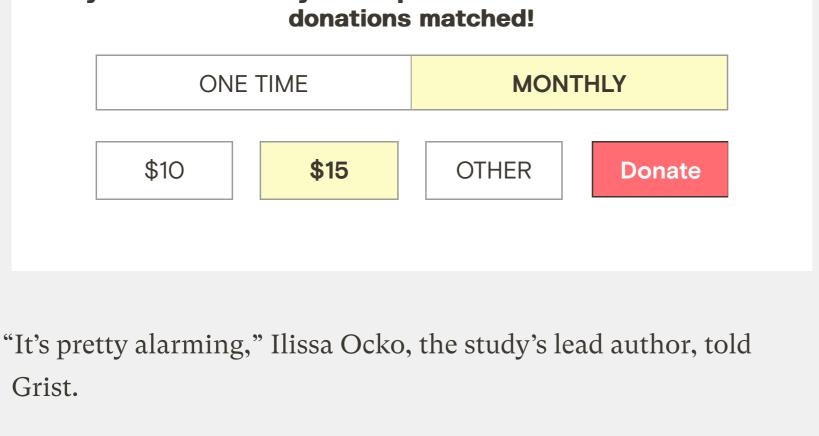




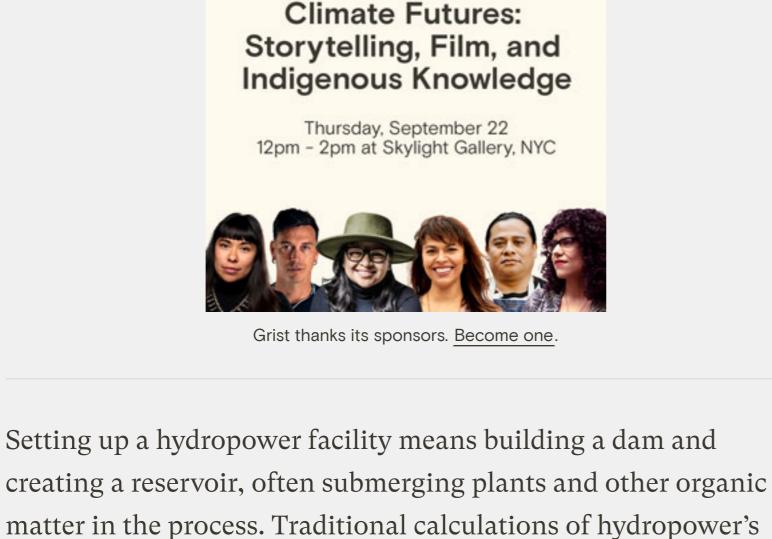
worse impact on the climate than fossil fuels. Yup, you read that right: Hydropower, popularly seen as a green energy source — and a major clean energy source in a lot of

emission-reduction plans — can release more greenhouse gases than coal- or oil-burning power plants, under certain conditions. Scientists have known for a while now that hydropower facilities release greenhouse gases — mostly methane, but also CO2 and nitrous oxide. But the way they've historically calculated a

facility's climate impact has obscured methane's heat-trapping potency. The new study, which looks at data from thousands of hydropower plants to compare their long- and short-term climate impacts, found that hundreds of active facilities around the world are worse for the climate than coal. X Grist relies on the support of generous readers like you. Donate today to keep our climate news free. All



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environmental impact take this destruction into account. But as the drowned plants decompose, they release methane, which bubbles out of the reservoir and into the atmosphere. Ocko's study was the first to take into account how these methane emissions change over time. Exactly how much methane is released varies widely depending on a wide range of factors, from temperature to precipitation to the depth of the pool — methane production can vary from year to year and even season to season. Ocko's team was able to identify a

few indicators that a hydropower facility plant would likely

produce more greenhouse gases than others, such as a large

surface-area-to-depth ratio of the reservoir and warmer temperatures. But it's a lot more complicated than that, and each facility's exact emissions profile — and the causes of that emissions profile — all vary, widely. None of this means that hydropower is "bad": Some facilities have negative emissions, and some are more warming than fossil fuels in the short term but better in the long term (even as the opposite is also sometimes true).

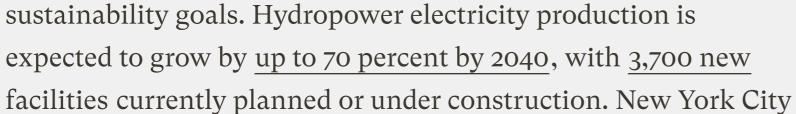
Since hydropower still has the potential to be a low-emissions

power source, the most important thing is for planners to choose

locations and design facilities with emissions in mind, so that the

plants either minimize greenhouse gas emissions or divert them

before they enter the atmosphere.



is a prime example — Mayor Bill de Blasio recently recommitted

This is going to be crucial for industry and policymakers alike in

coming years as governments turn to hydropower to meet their

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to a pipeline to bring hydroelectricity to the city from Canada. With this and similar plans, the devil is in the details. "We need to be really careful that new facilities we develop don't fall into the category that have emissions that lead to climate impacts that are worse than fossil fuels," said Ocko.

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