

German study highlights carbon footprint of video streaming

September 10 2020, by Frank Jordans



In this Aug. 20, 2019 file photo, gamers play the latest video games from Electronic Arts at the Gamescom in Cologne, Germany. Streaming high-definition video and games can result in significant greenhouse gas emissions, depending on the technology used, according to a German government-backed study released Thursday. (AP Photo/Martin Meissner)

Streaming high-definition videos and games can result in significant greenhouse gas emissions, depending on the technology used, according to a German government-backed study released Thursday.

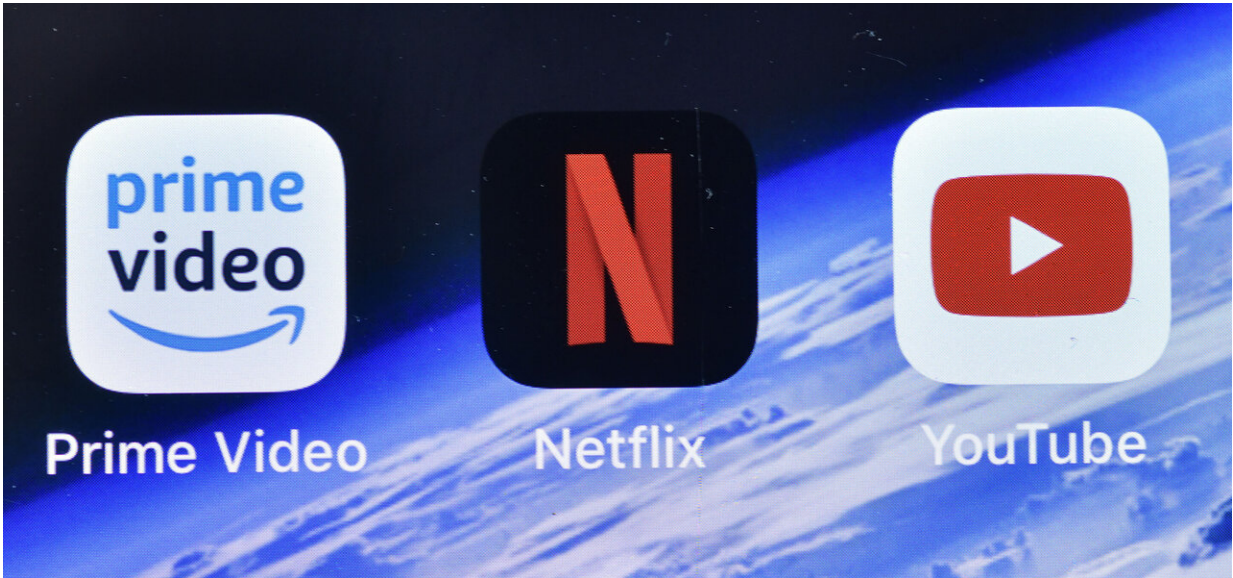
The report published by Germany's Federal Environment agency calculated the amount of carbon dioxide produced by [data centers](#) where material is stored for streaming, and by the transmission technology used to get it to consumers.

It concluded that streaming video over fiber optic cables results in the lowest amount of CO₂ emissions—2 grams per hour. Using copper cables produces twice that amount, while 3G mobile technology results in a hefty 90 grams of CO₂ per hour.

The report's authors said streaming over next-generation mobile technology, known as 5G, would result in [carbon dioxide emissions](#) of 5 grams per hour, suggesting that widespread rollout could help cut [energy consumption](#).

Data centers, meanwhile, accounted for only a small share of the overall [energy](#) use, though the amount varied significantly depending on how efficiently servers were used and cooled, according to the report.

Christian Stoll, an energy expert who wasn't involved in the study, said the figures appeared plausible but noted that they didn't take into account the amount of electricity consumed by the devices used to watch the streamed videos.



The apps of Amazon Prime Video, Netflix and YouTube are pictured on an iPhone in Gelsenkirchen, Germany, Thursday, Sept. 10, 2020. Streaming high-definition video and games can result in significant greenhouse gas emissions, depending on the technology used, according to a German government-backed study released Thursday. (AP Photo/Martin Meissner)



In this Monday, Jan. 13, 2020 file photo RWE lignite-fired power station releases steam in Bergheim, Germany. Streaming high-definition video and games can result in significant greenhouse gas emissions, depending on the technology used, according to a German government-backed study released Thursday. (AP Photo/Martin Meissner, file)



In this Aug. 20, 2019 file photo, a man testing a Sony PlayStation Virtual Reality headset at the Gamescom in Cologne, Germany. Streaming high-definition video and games can result in significant greenhouse gas emissions, depending on the technology used, according to a German government-backed study released Thursday. (AP Photo/Martin Meissner)



In this Aug. 13, 2020 file photo, the logos for Netflix, Hulu, Disney Plus and Sling TV are pictured on a remote control in Portland, USA. Streaming high-definition video and games can result in significant greenhouse gas emissions, depending on the technology used, according to a German government-backed study released Thursday. (AP Photo/Jenny Kane)

"(This) represent a significant part of the total emissions," said Stoll, a researcher at the Technical University Munich's Center for Energy Markets and the MIT Center for Energy and Environmental Policy Research.

Presenting the report, German Environment Minister Svenja Schulze said the study was an attempt to help provide solid data for [decision-makers](#) as digital infrastructure becomes increasingly important at the

same time as countries try to reduce emissions of greenhouse gases that heat up the atmosphere.

"It is possible to stream data without negatively impacting the climate if you do it right and choose the right method for data transmission," she said. "From an environmental perspective, it would be a good idea to set up more public WiFi hotspots, as this is more climate-friendly than streaming in mobile networks."

© 2020 The Associated Press. All rights reserved. This material may not be published, broadcast, rewritten or redistributed without permission.

Citation: German study highlights carbon footprint of video streaming (2020, September 10) retrieved 24 April 2024 from

<https://phys.org/news/2020-09-german-highlights-carbon-footprint-video.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.