



Dispatches From The Wild, Weird World Of Humanity And Its Biosphere

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Pumas



Aka cougars, aka mountain lions, aka catamounts, aka *Puma concolor*. This big cat of many names ranging across the Americas has only recently been studied in-depth, leading to some fascinating revelations. In 2017, for example, it was discovered that pumas are not in fact solitary, but almost always participate in [sharing their kills](#) with other adult pumas and with other females' kittens. (Pictured: one of the camera-trap images from that research). Now, the same research team that made that discovery has quantified pumas' multifarious role in the continental food webs for the first time. Drawing on decades' worth of studies, the researchers quantified an incredible 543 observed distinct interactions between pumas and 485 other species, from their prey animals to their competitors to those that scavenge from the carrion they leave behind. This is likely the [most recorded ecological relationships for any carnivore in the world!](#) They included 203 observed species becoming puma prey, including mule deer, elk, bighorn sheep, beaver, armadillo, porcupine, huemul, and many more. 281 different species eat pumas' leftovers, ranging from Andean condors to raccoons to skunks

to a variety of beetles. 40 species change their behavior in a "fear effect" to avoid pumas, including white-tailed deer in Florida and vicuñas in the Andes, which in turn can benefit plant communities by reducing grazing pressures.

12 species directly compete with pumas for the same prey (e.g. coyotes, bobcats, ocelots, wolves, jaguars). And finally, in 7 cases pumas were found to provide valuable ecosystem services to humans, for example by reducing deer-vehicle collisions. (Note: sometimes a species does more than one of these things, for example coyotes both compete with pumas and scavenge from their kills, which is why the researchers counted 543 different interactions for just 485 species).

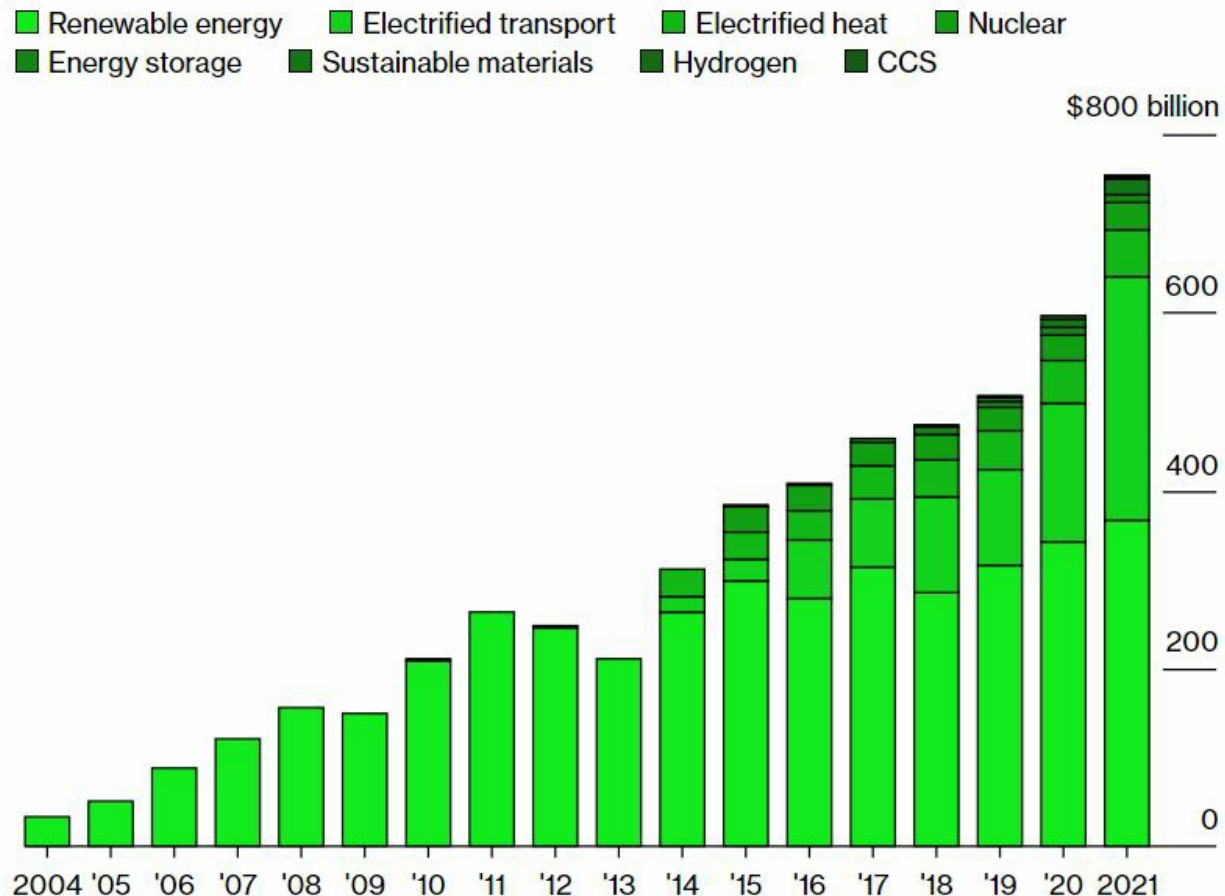
Senior author of the [new study \(fully available here\)](#) and leading puma expert Dr. Mark Elbroch said "These findings crystallize how pumas keep ecosystems healthy and resilient, playing an invisible but essential role in linking an awesome number of plants and animals via energy and nutrient pathways. This work also underscores how human communities in the Americas benefit from living in ecosystems with pumas. Because these big cats support ecosystem health, they, in turn, support the human communities tied to these ecosystems." Fascinating news, underscoring the profound importance of an extraordinary cat species!



Energy Transition Investment

Taking off Thanks to Transport

Global energy transition investment by sector



Source: BloombergNEF

Note: nominal dollars

According to renowned business research group BloombergNEF, worldwide investment in the energy transition away from fossil fuels rose to a [record high of](#)

[\\$755 billion in 2021](#) (see chart). That's more than 25% higher than in 2020 and more than double what was invested in 2015. Notably, while investment in renewable energy continued to grow steadily and to make up the bulk of all investment, investment in electrified transport (i.e. EVs) absolutely boomed, growing ten times faster year-on-year. Investment in energy storage also grew rapidly. For more, check out their [free summary report](#). Great news!



California: Monarchs

Monarch butterflies are divided into two populations: western and eastern. The larger eastern population spends the winter in Mexico, and the western population overwinters in California (pictured). That western population has had a very rough last few decades, threatened by pesticide use, urban sprawl, and climate change. The annual Western Monarch Thanksgiving Count conducted by the Xerces Society [found 1.2 million monarchs in California in](#)



[1997, but a shocking low of just 2,000 in 2020](#). Now, the results from the 2021 count are out, and an impressive [247,000 butterflies were found!](#) This is still below historic norms, but it's a lot better than the all-time low of 2020. Researchers hypothesize that a "[series of fortunate events](#)" may have led to this monarch rebound, potentially including lower pesticide use due to reduced farming during COVID, just-right rainfall levels leading to more milkweed growth, and perhaps even a bumper crop of wildflowers growing on recently wildfire-burned areas of California providing extra food. It's even possible that the western population didn't rebound and that a few hundred thousand monarchs just decided to fly over the eastern population-we may never know. Either way, this is a good sign for a species struggling to make its way in the Anthropocene!



The Weekly Anthropocene

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