



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

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Jordan



Researchers in **Jordan** are working to preserve the special evolutionary talents of [rare coral populations in the Gulf of Aqaba](#) (pictured, above) that have proven highly resistant to coral bleaching despite very warm waters. “Corals in the Gulf of Aqaba can withstand higher temperatures,” [said local conservationist Ehab Eid](#). “When most of the world’s corals are gone because of rising water temperatures, the corals in Aqaba might be the last remaining reefs.” These corals can survive a temperature rise of 5 to 6 degrees Celsius above the normal summer maximum, while most corals (like those of the much-beleaguered Great Barrier Reef) die after a 1 to 2 degrees Celsius rise. For context, we’re already experiencing global warming of 1 to 2 degrees Celsius above previous norms (an average of 1.1 to 1.2 C, but with occasional local much-hotter heat waves), but [we have a decent chance at holding it somewhere between 2 and 3 C if we build out renewables](#)

[fast enough](#) (and every fraction of a degree *really matters* for minimizing the damage!).



“We started over 30 years ago with small projects, culturing corals here in the lab,” [said coral biologist Fuad Al-Horani](#). “Now we have more than 30 sea nurseries, with thousands of coral colonies.” (Pictured: researcher Maytoon Kteifan in her office). The researchers are also freezing cell and tissue samples for future studies (later generations could use these genes to relaunch coral reef ecosystems capable of surviving warmed seas!) and leading “cleaning dives” to keep abrasive and

disease-carrying plastic trash off the reefs.

These people are doing some really incredible work, with extraordinary potential to safeguard a key genetic resource of Earth: hot water-resistant corals! [The full story](#) from Mongabay is worth checking out!



Renewables Revolution: Dispatches

Australia's largest coal plant, the 2,880-megawatt Eraring station, announced that it would close in 2025, [seven years earlier than expected](#). The CEO of Origin, the company that owns it, [said](#) “the reality is the economics of coal-fired power stations are being put under increasing, unsustainable pressure by cleaner and lower-cost generation, including solar, wind and batteries.” That's a coal CEO (soon to be former coal CEO) speaking, folks.

This is part of a broader and very welcome trend: despite little to no policy action by the conservative Scott Morrison government, the Land Down Under is indeed enjoying a renewables boom. 3,000 megawatts (3 gigawatts!) of rooftop solar alone were added in 2021, bringing the proportion of renewables in Australia's national grid to over 30%. And it's showing no signs of stopping or slowing down—there's a lot more room to grow! [The Australian state of Tasmania reached 99.9% renewable electricity-for the whole year of 2021, not just for a short period-while the state of South Australia reached 65.7%](#). Great news!

The Biden Administration announced a [multi-pronged strategy for](#) cleaning up and decarbonizing the energy-intensive yet critical to civilization **steel, aluminum, and concrete industries**. This a [big deal](#) for [competitive, clean American manufacturing](#), and includes a lot of really helpful stuff, including directing infrastructure funds to low-carbon building materials, creating a Buy Clean Task Force for federal procurement, building on the “Green Steel Deal” with the EU (announced at Glasgow in November 2021 and covered in this newsletter) and federal investment in the production of “clean hydrogen” using renewable energy to electrolyze water. (A refresher: [hydrogen is valuable](#) because it can be burned to heat stuff up, critical for heavy industry, without producing carbon emissions. So far it's mostly not been produced with renewable energy, thus making it not any better than fossil fuels, but the US and EU are investing heavily in green hydrogen R&D and development. It may or may not end up being a big and/or necessary part of the clean energy future, but better to be trying it out than not).

Electric cars sales are soaring globally

EVs' global sales market share, 2010–2021

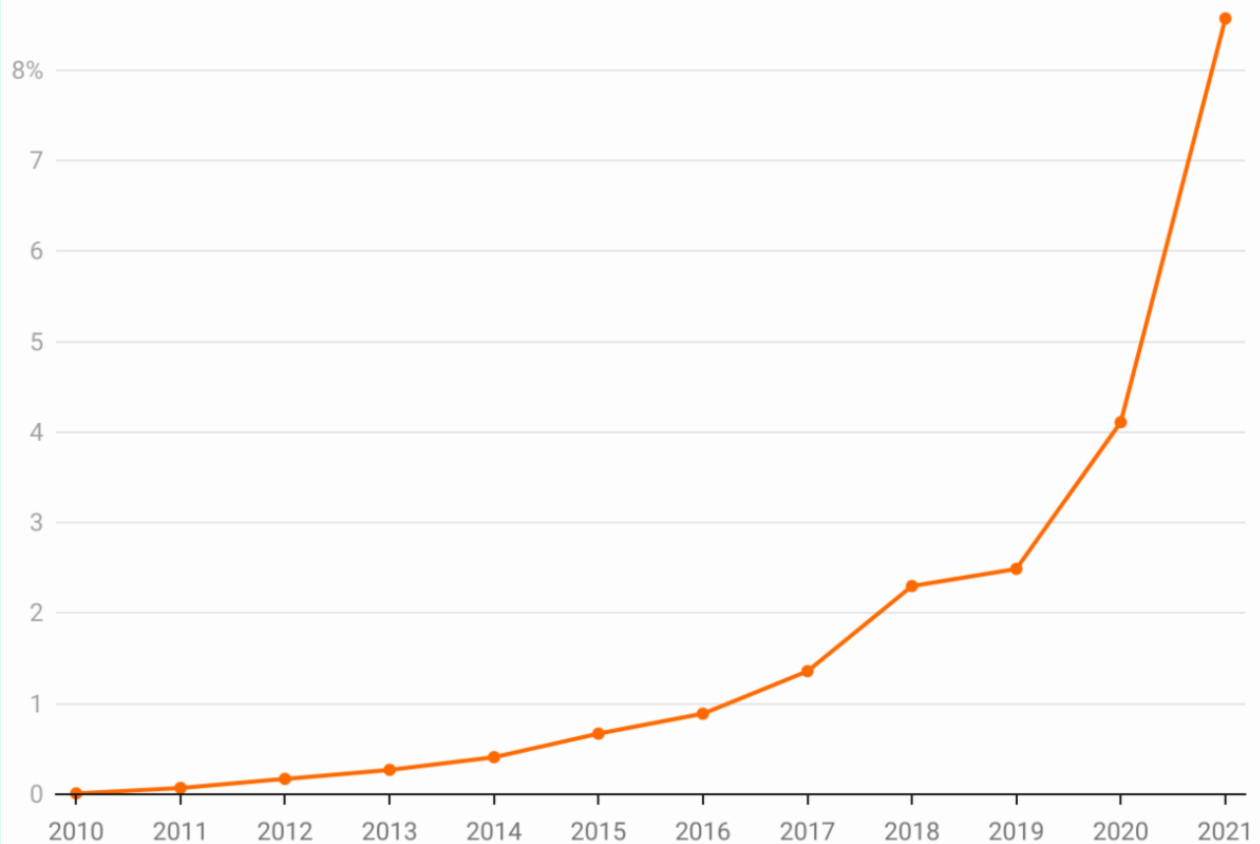


Chart: Canary Media • Source: IEA

[6.6 million electric vehicles were sold in 2021, accounting for 8.6% of global sales](#) (Chart above thanks to the International Energy Agency and the [awesome Canary Media](#)). That may not sound like much, but it's more than double the previous year, indicating an exponential growth curve starting to kick into high gear: for comparison, EVs accounted for just over 4% of global sales in 2020 and 0.01% in 2010. And it's going to accelerate much faster: [10 major automakers](#) including Toyota, Volkswagen, General Motors, Volvo, Jaguar, and Mercedes-Benz have pledged to sell only electric vehicles (not even hybrids, *fully electric*, zero gas power!) by 2040 or earlier. This is superb news-EVs are a key part of the global fight against climate change and air pollution, and it looks like we're finally on the right track!

In a minor yet still cool innovation, California is spending \$20 million (quite small, for infrastructure spending) on "Project Nexus": [covering irrigation canals in Stanislaus County with solar panels](#). This should reduce evaporation from the canals substantially, and provide more renewable energy generation on otherwise unused space.

In sum, "renewable energy news" is increasingly just "energy news," it's shifting bit by bit from the big challenge of the future to the thing keeping the lights on today. You love to see it!



GloFish are a variant of the common zebra danio (*Danio rerio*) genetically modified with some added jellyfish genes so that they glow in the dark in a range of fluorescent colors. They occupy a unique place in legal history as the first genetically modified organisms that became available for retail sale in the US. As a child, this writer had pet "GloFish" in their aquarium. Now, a [new study](#) has found that populations of GloFish have become established in several small, slow-moving streams in **southeastern Brazil** (specifically the Paraíba do Sul watershed near Muriaé), and have been living wild and reproducing since at least 2017. They likely originated as escapees from a nearby ornamental aquaculture center. (Pictured: blue and red GloFish. For scale, each is smaller than a human pinky finger).



At first glance, this *sounds* scary (Invasion of the Genetically Modified Glowing Fish!), but there's actually no evidence that there's any negative effects to native species whatsoever. They also would likely be quickly eaten by bigger predators if they expanded beyond the streams to bigger rivers, as their bright colors make them easy to see and vulnerable. They're technically invasive, but they seem on track to be a ["neutral introduction" on the species spectrum](#). Perhaps in decades or centuries to come, this region of Brazil will become known for the charming little glowing minnows in its streams, a new tile added to the mosaic of biodiversity by human ingenuity.

President Biden announced a \$1 billion funding boost, also from the already-passed infrastructure bill, to the Obama-era **Great Lakes Restoration Initiative**, to clean up highly polluted "toxic hotspots."

In 2007, a pair of giant anteaters (*Myrmecophaga tridactyla*, pictured) were released into Argentina's Iberá reserve, where they'd gone extinct decades earlier. [Now, an estimated 200-plus giant anteaters live there](#) (over 90 reintroduced, and over 70 new babies!), and the success of the program has led the way for the reintroduction of jaguars, macaws, and Pampas deer. A great example of rewilding!



A research team in **Gabon's Loango National Park** appear to have discovered "chimp doctors," individual chimpanzees [applying insects, seemingly chewed or "mouthed" before application, to other chimps' open wounds](#). This behavior has been observed over 70 times, always on chimpanzees with wounds. The next step is to try to identify and retrieve samples of the specific insects they're using (which is hard, given that they're caught by wild chimpanzees and then immediately chewed and used) to see if they actually have medicinal properties-or if these chimp doctors have perhaps been beguiled by the placebo effect.

