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Disasters Hit 90% of USA in 2022

George Harvey

Hurricane Sandy hit the United States just over ten years ago. It formed as a hurricane on October 22, 2012, and dissipated on November 2. It caused about \$65 billion in damages in this country, nearly all of which happened after it had weakened and was no longer a hurricane.

When the extent of the damage was understood, the U.S. Department of Housing and Urban Development (HUD) undertook a project, Rebuild by Design (RBD), with help of a number of non-profit organizations and funding from philanthropists. The purpose was to enhance preparedness and resilience.

At its start, RBD was a design competition, a function it has continued to fulfill through the years. It has, however, undertaken projects of other kinds. Recently, it created a book in pdf format, Atlas of Disaster (AOD), which has maps providing in-depth information about disasters in this country, at both the state and county level.

AOD is by no means trivial. It is over 340 pages long and has about 250 maps. The pdf file can be accessed at <https://bit.ly/atlas-of-disaster>, but we might suggest checking your computer to be sure you have disk space and memory for it, because the file is over 174 megabytes. When



Ortleigh Beach, New Jersey. (Office of the Governor of New Jersey)

I loaded AOD to look at it, the sheer size of it degraded performance of my computer enough that I had to shut the power off to reboot.

As other atlases do, AOD has a fair amount of text explaining and building upon the maps. But it goes into details of weather disasters on a state-by-state basis, with coverage for each county that has seen disasters. It gives a visual display of federal assistance, energy reliability, social vulnerability, and risks, with maps for each state, with its counties, together with a table giving information relevant at county level.

According to the text, 90% of the counties in the United States

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Sustainability Strides in Chocolate-Making

Jessie Haas

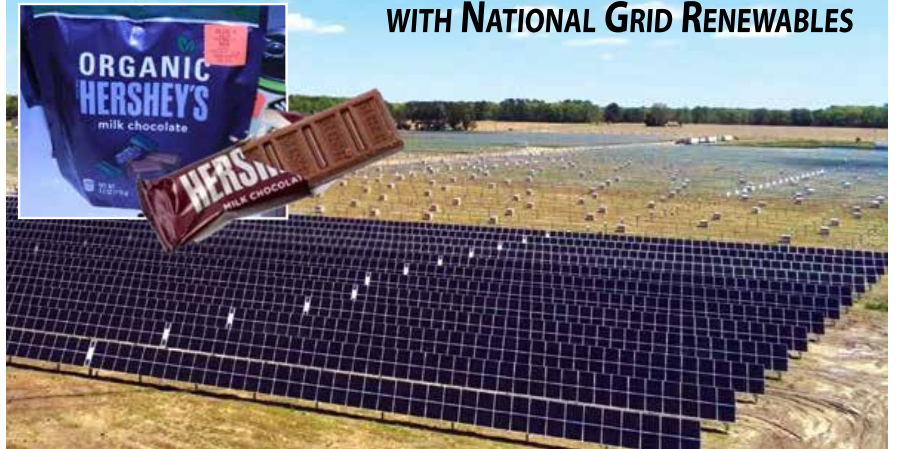
Chocolate is good for us, body and soul, a source of copper, antioxidants, and joy. But good for the planet? Often not. Chocolate has an unfortunate association with child labor, slavery, deforestation, and habitat loss.

But there's more to the story. Pressure on the industry has led to change, with some big names like Hershey and Lindt leading the way. Smaller local companies are also doing stellar work, leading to good chocolate choices for every budget.

In 2019, Hershey embarked on a Science Based Targets initiative (SBTi) aimed at reducing the company's greenhouse gas footprint in alignment with limiting global temperature increase to 1.5 degrees C, the most ambitious designation available through the SBTi process. Hershey has entered into purchase power agreements enabling construction of three utility-scale solar farms. The most recent is a 140 megawatt solar and storage installation in Texas. Significant investments in manufac-

Hershey Signs Up for More Solar

WITH NATIONAL GRID RENEWABLES



Hershey's first utility-scale solar farm located in Camden, NC. The solar project is a 20 MW facility on 218 acres of land which reduces CO2 emissions by 32,025t/yr. (BayWa r.e) Hershey's Chocolate Bars (AdobeStock/547065949 & 332976356)

turing efficiency have reduced emissions and operating costs. 77% of electricity used by Hershey in 2021 was renewable or zero emission. The company phased out coal in India plant, transitioning to using rice hulls as biofuel.

Since 2015, the company has reduced packaging weight by 25 million pounds and has set a new goal of having 100% of plastic packaging recyclable, reusable, or

compostable by 2030. It has also committed to ending deforestation across its supply chain by 2030 and to protecting water sources. Locally, employee volunteers recently planted 75 native trees at Hershey's technical center campus to filter storm water going into Chesapeake Bay. These will absorb over 200,000 lbs of CO2 over their lifetime. Volunteers also planted 600 trees on a nearby dairy

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A Climate Scientist's Review of COP27

Dr. Alan K. Betts



The COP27 meeting in Egypt continued the annual discussion of key climate change issues and whether we are on target to keep the warming of

the planet below 1.5°C. Teams of people brought their enthusiasm from around the world, including many young groups to encourage decisive action to reduce climate change, but their access was limited. In contrast, there were 636 fossil fuel lobbyists to ensure their companies' profits were protected.

At COP26 in Glasgow, 153 countries made net-zero commitments, many for 2050, and put forward new or updated emissions targets, known as Nationally Determined Contributions (NDCs) that

would probably limit the global rise of temperature to 2°C. The global climate disasters in the past year make it obvious that we are already past critical thresholds, with 2020 the warmest year at 1.0C above the 1880-1900 reference average. At COP26, nations agreed to phase out coal and fossil-fuel subsidies, and all agreed to make more ambitious emissions targets by the end of 2022.

However, since then, only 24 countries have revised and updated their emission-reduction targets. Australia is the stand-out where the new Labor government

has pledged to cut emissions by 43% by 2030, and has laid out plans to increase investment in solar, electric vehicles and renewables to decarbonize. However, Australia is also making huge profits as the

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Floods in Pakistan destroyed food systems and left 4000 homeless. (factly.in)

Electric Snowmobiles

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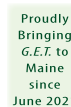
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A Climate Scientist's Review of COP27 – *Cont'd from p.1*

number one exporter of coal, and it claims it is not responsible for those emissions! Likewise some Middle Eastern countries are developing 'green' economies, which frees up more oil for export.

Following COP26, the UN appointed a high level Expert Group: "Integrity Matters" on the Net-zero Commitments of Businesses, Financial Institutions, Cities and Regions. The main conclusion that Secretary General António Guterres presented at COP27 is that "greenwashing" is prevalent. Essentially, climate change denial has been replaced with greenwashing, which is dishonest advertising by the fossil fuel and financial industries that pretend they are doing something to deal with climate change, when in reality this is tiny compared with their huge profits. A fine example is the Exxon-Mobil "Advancing Climate Solutions" July 2022 Progress Report. They plan a 20% reduction in emissions by 2030 by reducing the emissions from the leakage of methane and its flaring: they should have done this decades ago. They plan for net-zero emissions from its 'operated assets' by 2050, and they hope to develop a business strategy that is resilient to net-zero emissions by 2050, whatever that means. This is the company that knew disaster lay ahead in 1978 when their own chief scientist did the global warming analysis. Yet for 45 years, they have bribed politicians, funded fraudulent advertising and continued to extract and sell oil globally.

There was no consensus at COP27 on the key issue of phasing out all the fossil fuels: the fossil fuel lobbyists made sure of this. The observers who were there as citizen lobbyists were not allowed in the negotiation rooms. The global warming

threshold of 1.5°C was nominally kept, but it is slipping away (as may 2°C).

The second big issue at COP27 was loss and damage payments from the rich countries (responsible for most of the emissions) to the poor and middle-income countries that historically emitted very little but are suffering the current climate extremes without the resources to deal with them. An agreement to set up a 'loss and damage' funding facility was reached; and this was regarded as the rare victory at COP27. It is a promise to begin a process to establish a fund of voluntary contributions, but who will contribute and how it will be managed will be left to COP28. This agreement in principle was only reached because Pakistan, the Chair of the G-77 coalition of 170 developing countries (plus China), kept pushing for agreement into Sunday morning, long after the meeting's nominal closure on Friday. The climate disaster in Pakistan this year killed 1700 people, flooded one third of the country, destroying homes and causing massive destruction of crops. Pakistan cannot afford the reconstruction. Also pushing were the Pacific island nations who sent a delegation led by Vanuatu asking for a 'loss and damage' climate fund. As the climate warms, Category 5 hurricanes are becoming more frequent. Damages have reached \$600 million in a single year, a major fraction of the annual economy. Their reefs are dying, and they are critical to their life and food supply, and rising sea level is an existential threat. They have asked for payment for these losses as their way of life is destroyed.

China does not want to contribute as it was given 'developing country' status in 1992 and contributed far less historically

to emissions, even though now it is now a major producer as the second largest global economy.

In a just world, the fossil fuel companies would be major contributors to this climate fund as they are making trillions in profits every year, but their strategy has been to bribe politicians to 'deny climate change' and protect their business from any responsibility for damages. The EU would like the fossil fuel industry to contribute. The U.S. has the largest economy and is the biggest historic contributor of emissions. However in the present 117th U.S. Congress, 139 climate science deniers have accepted more than \$61 million in lifetime direct contributions from the oil, gas, and coal industries. I would assume the fossil fuel lobbyists at COP27 had millions in bribes available to ensure their companies do not have to pay.

This agreement to establish loss and damage funding represents progress, but the U.S. claims it does not include liability or compensation provisions. Generally speaking, a stable climate is incompatible with U.S. business-as-usual capitalism, since its key objective is to maximize profits by exploiting people and the Earth's resources, which include the fossil fuels. The U.S. avoids discussing these key issues in global forums, which constrains progress at these COP meetings.

In a different context the Russian attack on Ukraine has impacted fuel supplies and costs in Europe as well as globally. It has indirectly nudged renewable energy development, but also the development of more natural gas transport to replace the loss of Russian supplies. However, the massive secret destruction of the Nord Stream 1 and Nord Stream 2 pipelines

(presumably by Russia) is worrying to Norway and the UK, as they have networks of natural gas pipelines under the North Sea. Since NATO support is preventing Russia from capturing Ukraine, Putin may resort to the semi-clandestine destruction of critical underwater NATO facilities.

As always COP27 deferred many critical issues to the future, so watch for follow-up! Mounting challenges make agreement very difficult, but climate catastrophes will nudge us.

Dr. Alan Betts of Atmospheric Research in Pittsford, VT is a climate scientist. See alanbetts.com. ☼

COP 27 ACCOMPLISHMENTS

"This COP was about implementation, implementation, implementation - nobody arrived at COP27 thinking we've got another five or ten years and we need to come up with a plan. Everyone I met was focused entirely on making action happen on the ground, which includes deploying carbon capture, utilization and storage (CCUS) solutions to tackle industrial emissions. We had some incredibly constructive conversations with policymakers, industrial companies and investors - all of us coming together to agree on the critical steps to scaling CCUS, kickstarting new projects and delivering industrial decarbonization."

- Quote from Carbon Clean CEO, Aniruddha Sharma