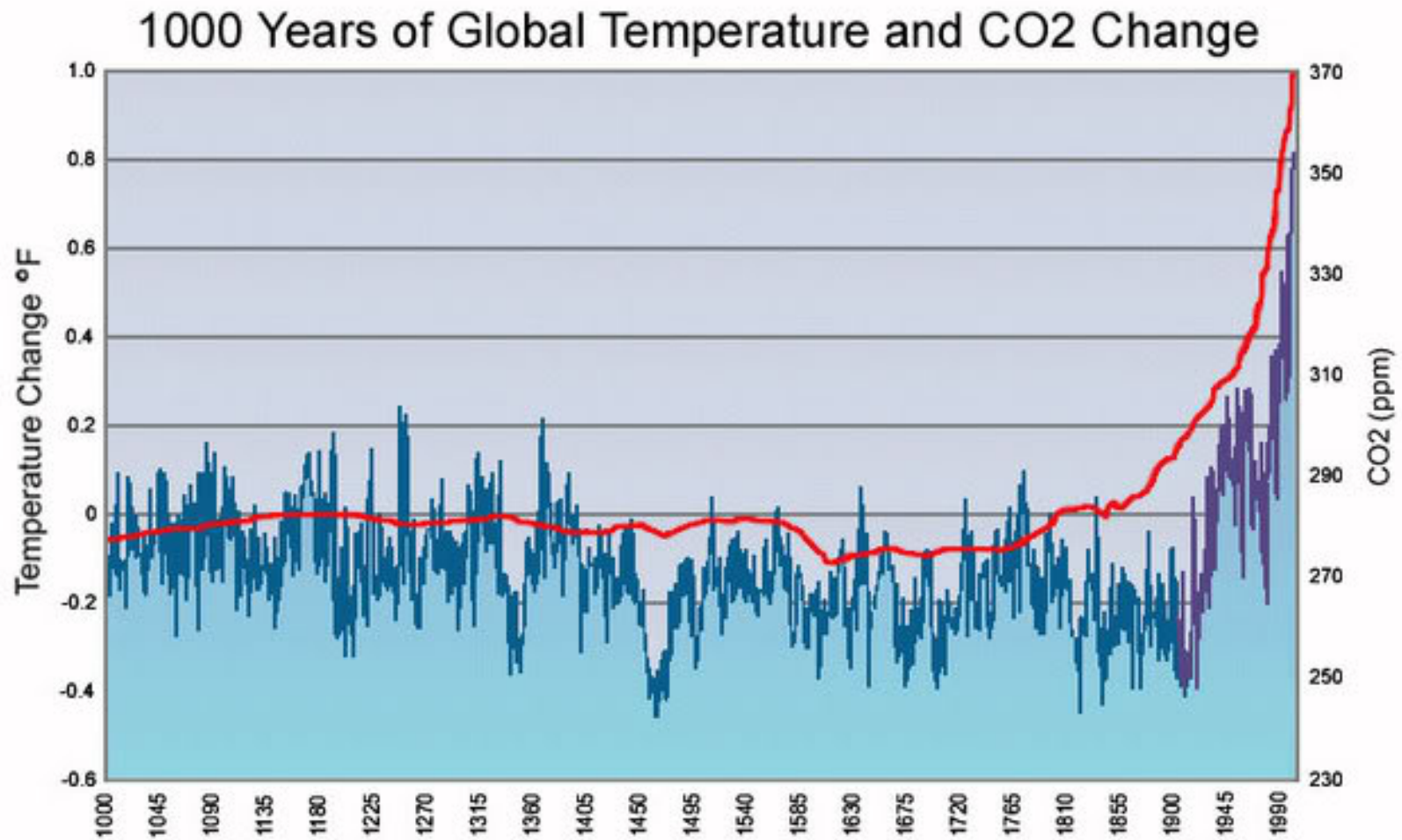


**The Village Chicago Men's Group
Presentation**

**April 14, 2021 Climate Change
A Brief Overview and Discussion
Presented by
Chuck Frank**

The Science



WARNING!!

You may have seen some of these headlines and/or data. Each by itself can be concerning independently. But when you see all the info together in one spot it can be overwhelming and terrifying. One of my purposes today is to scare the hell out of you and make you realize how terrifying and all encompassing is the place in which we find ourselves. Furthermore, as this same awareness becomes more pervasive, it explains why the world is reacting so dramatically and why everything is about to change in ways unimaginable just two or three short years ago.

The Evidence and Consequences to the Planet:

According to the **U.N.**, there is a “staggering rise” in climate related disasters and “we are turning our only home into an uninhabitable hell for millions of people.”

Human history, about 12,000 years, is a mere eyeblink in geologic time and has been the most stable for the past 650,000 years. Our current “chemistry experiment” is pushing the climate well beyond the historical parameters upon which we rely into a state it hasn’t seen in tens of millions of years.

Ice all over the planet is melting at rates not seen during the history of human civilization and is in line with worst case scenarios. Mountain glaciers worldwide have lost at least 6 trillion tons of ice since the 1990s.

Earth hasn’t warmed this fast in tens of millions of years. Usually transitions transpire very slowly and there is plenty of time to adopt to the changes. Not this time!

Global sea level has risen on average 2.9 millimeters a year since 1992. That’s a total of 78.3 millimeters or 3.1 inches, according to NOAA.

High temperature records are being smashed regularly. But don’t think of any record breaking month as being the hottest month, or year, ever recorded. Think of it as one of the coolest of that particular month or year that will occur in the next century.

Phoenix 114, Baghdad 125, Antarctica 68 for first time ever, **Bordeaux** hits record temperature, **Siberia** smashes high temperature record coming in at **100.4**. Last February, while much of the planet hit all time highs, the record cold weather was gripping millions of Americans.

Ice cover in the Arctic hit an all time low.

Gulf Stream is slowing down.

The jet stream is weakening and causing the Polar Vortex.

Snowpack in the western US has declined by an area the size of South Carolina.

Butterflies are in retreat across the warming American West.

There has been a “catastrophic” decline in freshwater fish.

Record forest fires, mudslides, droughts, floods, water shortages, tornadoes.

In the last month these headlines:

Governor Evers Signs Emergency Order Relating To Elevated Fire Risk Across **Wisconsin**

Feb. Winter Storms Most Expensive on Record — **NOAA**

WEST VIRGINIA; Wildfires Doubled in First 3 Months of 2021

CALIFORNIA: Megadrought: The Golden State’s annual survey of Sierra Nevada snowpack, upon which it relies for as much as a third of its water, was only 59% of normal

Rising Temperatures Complicate Crop Storage

Massachusetts officials are urging residents to conserve water as drought conditions affect much of the state. A mild drought has been declared.

Lake County is typical of local conditions like in Cook County:

Lake County set new flood stage record in 2018 experiencing more frequent and stronger rainfall events. The county went above flood stage during six separate storm events, triple the average for the past 10 years and a record for the county.

2019 was worse.

And Climate Disruption is now locked in and cannot be reversed, only slowed down.

I want to point out that as I review the various ways that the Climate will impact all that we've come to accept as normal, the categories are overlapping. Real Estate values are intermixed with insurance availability and finances and transportation.

Example:

Due to huge fires and flooding from overflowing rivers, hurricanes, huge storms, insurance becomes unavailable. The property holder, without insurance is in violation of their mortgage and defaults. The bank and our financial system is impacted as are the valuations of the insurance companies. The real estate becomes impossible to sell destroying peoples' financial security, retirement and purchasing power.

OR how about this one. All new vehicles become electric by 2030. Electric vehicles have only a very small fraction of moving parts of today's ICEs (Internal Combustion Engines). Thus, dealers lose the income from service. This alone could put many out of business but in addition, new retail models are developing like Tesla that are selling directly and increasingly, on line. And with ride sharing and autonomous vehicles less vehicles are sold and especially sold retail through dealers. Thus dealers go out of business freeing up tons of real estate. Add to that the 100,000+ (900,000 employees) gas stations that become extinct. In addition, parts suppliers go out of business. Due to ride sharing and autonomous vehicles, the number of vehicles on the roads drops dramatically as does the number of privately owned vehicles. Thus the need for parking lots dries up. Think of all the real estate hitting the market with NO demand for it. Add to that the new trend driven by covid of work from home reduces the need for vehicles and parking. And the warming climate is causing increasing frequency of pandemics.

The Impact on Our Lives

Real Estate/Insurance

Home prices: Between 2007 and 2017, average **home prices** in areas facing the lowest risk of flooding, hurricanes and wildfires have far outpaced those with the greatest risk..the interaction between climate change and the housing market...is increasing as more Americans live through storms, floods or wildfires. “two-fifths of the Earth’s population...live near coastlines. Insured property worth trillions of dollars could face even greater danger from floods, superstorms and tidal surges.

Homeowners who are selling in Florida are showing on their for sale signs their elevation above sea level.

People in flood zones are unable to move because their properties are worthless and they are upside down on their mortgages. They can’t buy insurance anyway so are out of compliance with their mortgages. Many of these people have no other assets than their homes and are relying on the equity to retire. If they can find insurance it’s unaffordable and so they have to default on their mortgages and then no one wants to but the property anyway.

Climate change and soaring flood and fire insurance premiums could (will?) trigger another mortgage crisis. The Camp Woolsey fire cost Allstate \$529 million after taxes causing Allstates stock price to drop 11% and erasing about \$3 billion in market capitalization. The fires that year are estimated to have cost insurers \$9.05 billion. 18,000 properties were destroyed.

Government flood insurance rates are about to increase dramatically making it unaffordable and the only option. Premiums charged by the **National Flood Insurance Program** will rise sharply for about 200,000 policyholders, many of whom own expensive homes in high-risk flood zones and have been paying too little, the Federal Emergency Management Agency said. The vast majority of NFIP policyholders — roughly 3.7 million people — will see moderate rate increases, according to FEMA projections released yesterday.

More and more insurance companies are refusing to insure fossil fuel projects and invest their investment portfolios into fossil fuel related stocks or financial instruments.

More on Real Estate:

As more and more cars and trucks become electric, gas stations will start to vanish freeing up lots of prime space.

Due to the transition to EV's and other reasons, car dealerships will start to vanish freeing up much more large tracts of land.

Due to ride sharing, remote work, internet shopping and autonomous vehicles, the vehicle fleet will be greatly reduced and thus the demand for parking. Think downtown parking garages and shopping malls and office building parking lots. This will dump even more commercial property on the market.

Fossil fuels and Energy

New fossil fuel projects are doomed and existing ones are going to become “stranded assets”.

Coal is dead. Natural gas will follow soon.

Renewables are at price parity and becoming cheaper.

A carbon fee is becoming more likely. Kerry Comments Encourage Hill Carbon Price Talks

“President Biden believes that at some point in time, we need to find out a way to have a price on carbon that’s effective,”

Government subsidies for fossil fuels are losing favor and government subsidies and incentives for renewables are gaining support. Biden’s EV Plan is Enormous. And Maybe too Small. When President Biden rolled out his infrastructure plan last week, one number towered above the others: \$174 billion for electric vehicles.

Insurance is becoming harder and harder to find.

Insurance companies along with banks, endowment funds, investment banks, private equity are all increasingly committing to divesting of anything to do with fossil fuels. Forget any new pipeline projects much less ones that are currently trying to get permitted. This also goes for export terminals.

Fossil Fuels Continued:

Battery storage is growing exponentially.

Fossil fuel companies are increasingly seeing the writing on the wall and starting to pivot to renewables.

The Biden Administration is recalculating the social cost of carbon. It's already been raised from \$1 to \$55 and could potentially go to over \$100. This will have a MASSIVE impact on government regulations.

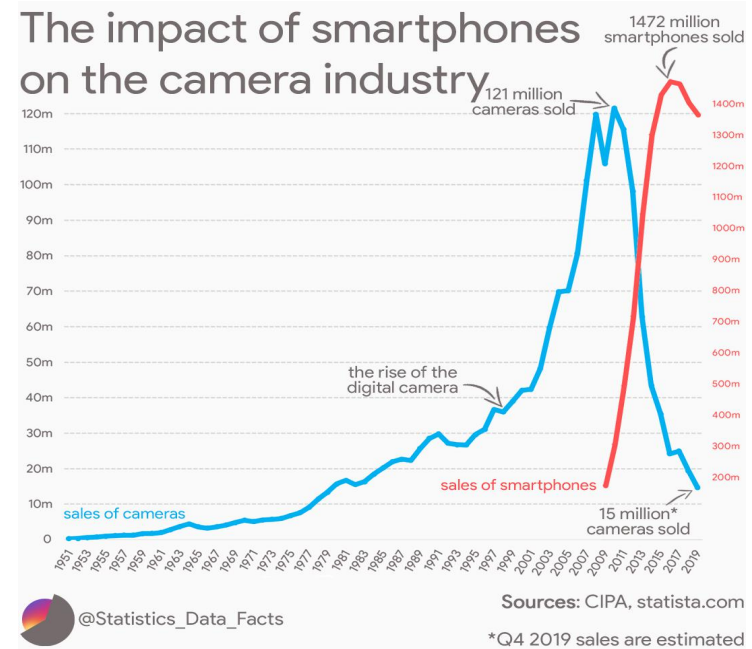
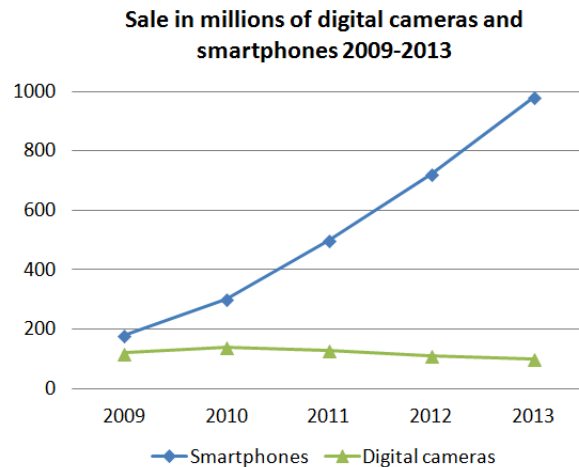
Fracking is not profitable and cannot get new financing so it too is toast.

Over 170 cities, more than ten counties, and eight states across the U.S. have goals to power their communities with 100% clean, renewable energy.

FERC, Federal Energy Regulatory Commission, has changed it's stance on fossil fuel project approval and will now include in its impact evaluations the fossil fuel implications for the climate. This is a seismic shift.

'Seismic shift' at FERC could kill natural gas pipelines

Transportation:



The debate over the wisdom of converting the world's automotive fleet from fossil fuels to electrical propulsion is now largely moot: Emissions from personal transportation needs to be reduced dramatically, so if people are going to continue owning vehicles, evermore of them will need electric drivetrains."

The transition to Electric Cars and Trucks will happen way faster than most people think.

I believe that by 2030 virtually all new light duty vehicles sold in the US will be fully electric or drive 95% on electric. It will then take another 10 to 15 years to turn over the fleet depending on government incentives.

Why? Better performance, better features, less expensive to buy, way less expensive to own and operate, no need to freeze your butt off at a gas station, charging at home. Barriers will fall: Price, range anxiety, speed and availability of charging. Most importantly, the social factor. Buying an ICE in the very near future will make you a social pariah much like smoking has become.

Another reason is that sooner or later you won't have a choice. The manufacturers will stop making ICEs. **Jaguar will be the first all electric ICE manufacturer to go fully electric by 2025. **Volvo, VW and GM** have already committed to it as well. At one point the volume of sales of a particular model will be too low to be profitable for the car company and production will stop.**

Don't buy another ICE. Come trade in time it will be greatly reduced in value.

Batteries are becoming less and less expensive and more energy intensive making further range possible also because this means that the batteries will be lighter and they will have to work less hard. Also allowing greater interior alternatives.

I also believe that today's battery technology will NOT be the application for the future.

Believe it or not, electric airplanes are already in the air.

Commercial aviation represents 2% of global carbon dioxide emissions and 12% of transportation-sector emissions — and the raw numbers continue to grow.”

“NASA's first all-electric airplane may soon take flight from California's Armstrong Flight Research Center...

NASA's demonstrated investment in perfecting an aircraft with zero in-flight emissions offers a glimpse into the future of air travel.”

For Startup, the 5-minute Full EV Charge is Elemental

Banking and Investing

As I said before, cash for fossil fuel projects is drying up.

BMO, Citi, Goldman Sachs, Blackrock have all committed to divesting as have Universities (U of Michigan being the latest) and insurance companies.

Exxon has tanked and is no longer on the Dow.

ESGs (Environmental, Social and corporate Governance) funds are growing exponentially and outperforming the market averages.

SEC, FED, Congress are all focusing on requiring disclosures of climate change risks. Corporate boards are under increasing pressure to disclose and plan for transition to a sustainable future. More and more are changing the makeup of their boards to bring in this expertise.

API, American Petroleum Institute, is beginning to advocate for a fee on carbon. Greenwashing? Yes. But once started down this road the negotiating begins. The devil is in the details. Fee and distribute to be \$ neutral to the payor.

Janet Yellen and the **Treasury** Take on Climate Change

Biden Poised to Sign Executive Order on Climate Finance

President Biden is “poised to issue an executive order” that will require companies to be more transparent about the threats they face from climate change. “It’s going to change allocation of capital,” Kerry said. “Suddenly people are going to be making evaluations considering long-term risk to the investment based on the climate crisis.”

World Bank President Embraces Climate Fight: **World Bank president, described climate change as an “immense” issue for the globe... the World Bank is rolling out more plans to curb emissions and assess climate change’s risks to the financial system**

WASHINGTON — More than 300 businesses, including **Google, McDonalds and Walmart, are pushing the Biden administration to nearly double the United States’ target for cuts to planet-warming emissions ...chief executive officers from some of the nation’s largest companies will call on the administration to set a new Paris Agreement goal of slashing the nation’s carbon dioxide, methane and other planet-warming emissions at least 50 percent below 2005 levels by 2030.**

That is roughly what most major environmental groups want, and the corporate executives called the target “ambitious and attainable.”

Geopolitical

As global climate change progresses, it will eventually lead to ever larger numbers of people being permanently displaced.

Climate Refugees

“We must prepare ourselves for a future in which we will have to accommodate millions displaced by sea level rise, floods, ever-harsher hurricanes, and other damaging effects of climate change. Inevitably, we must recognize evacuees fleeing from storms and sea level rise as what they really are: climate refugees.”

Pentagon Fears Confirmed: Climate Change Leads to More Wars and Refugees

“The most comprehensive study done to assess the link between climate change, war and migration has confirmed that the warming planet is fueling conflicts that lead to more refugees.”

“A Pentagon report published on Tuesday in Washington warned that rising seas and more frequent wild fires [threaten U.S. security](#).”

“The research bolsters previous warnings from [defense and intelligence](#) agencies that climate change could trigger more conflicts severe enough to uproot populations.”

Top Pentagon nominee commits to climate strategy

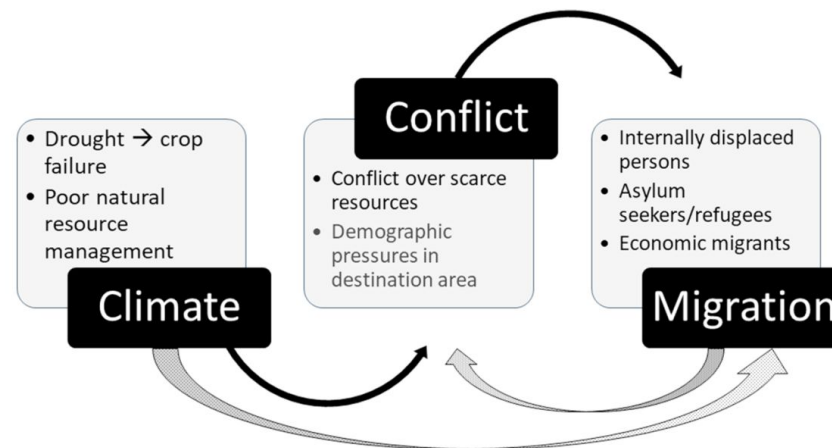
Colin Kahl called climate change an "existential danger" that necessitated a comprehensive approach from the Defense Department. "I would see a principal role of mine to see that **climate change is integrated into the National Defense Strategy**, and then there will be policies and investments that flow from that," Kahl said.

The Race for Renewable Energy is Reshaping Global Politics

Whatever the resistance, the **green transition has now gathered so much momentum**—with net-zero goals enshrined in law in many countries—that **what once looked impossible now seems inevitable**. Just as the advent of coal and oil remade the world, clean energy is set to do the same. The **energy transition will not only cut emissions: It will redistribute power**.

Pentagon Fears Confirmed: Climate Change Leads to More Wars and Refugees

The most comprehensive study done to assess the link between climate change, war and migration has confirmed that the warming planet is fueling conflicts that lead to more refugees.



Biden orders military to form climate risk group

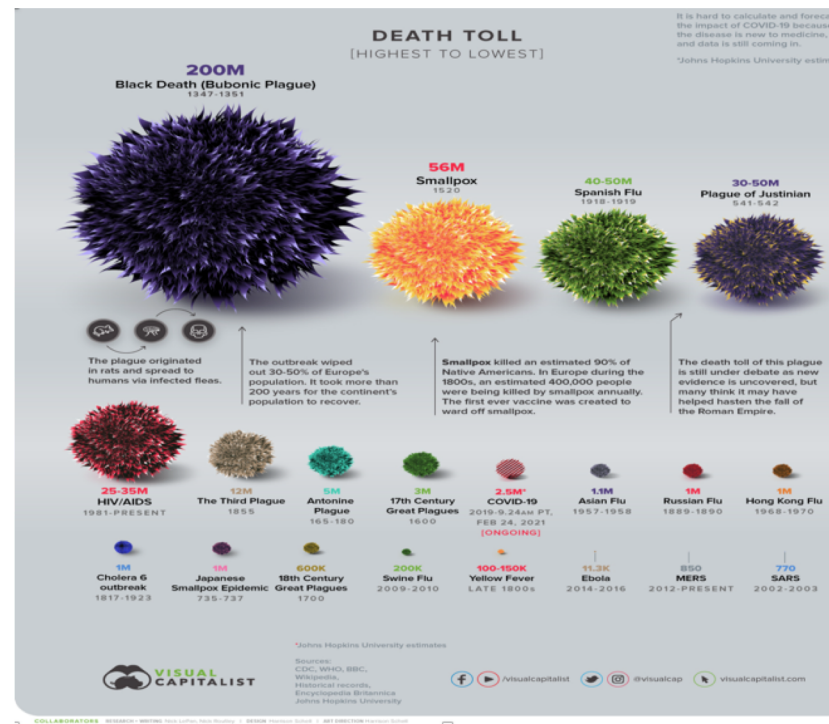
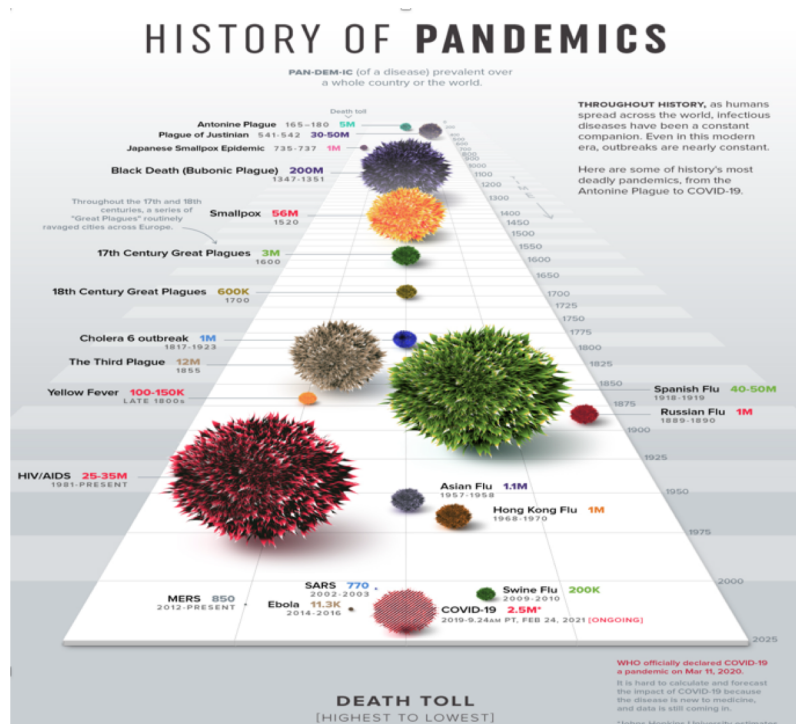
Climate change is a "growing threat to U.S. national security interests and defense objectives," ... He said DOD would incorporate climate risk analysis into all its work, including installation planning, war gaming and the development of a national defense strategy.

Italy says it plans to cut carbon emissions by 60% by 2030

HEALTH

Doctors Warn of Climate Impacts on Medications

Elderly people are more at risk of heat-related illness because they are already prone to dehydration as aging impairs kidney function, decreases total body water and reduces the "thirst sensation." Elderly people also often have a reduced ability to sweat, reduced cardiac output and decreased blood flow to the skin — all issues that could be exacerbated if they are prescribed medicines that further impair those abilities.



So, what can YOU do?

- **VOTE!!**
- **BUY AN ELECTRIC VEHICLE/ELECTRIFY EVERYTHING**
- **ADVOCATE**
 - **JOIN AN ENVIRONMENTAL GROUP**
 - **FILE LAWSUITS**
 - **PUT PRESSURE ON BUSINESS AND GOVERNMENT**
 - **SHOW UP**
 - **PUBLIC HEARINGS**
 - **DEMONSTRATIONS**
 - **EVENTS**

To stay abreast of developing changes, email me at zsf6116@gmail.com to be added to the distribution list for my occasional, usually weekly, blog.

My webpage which catalogs all the past issues is franklytalking.com