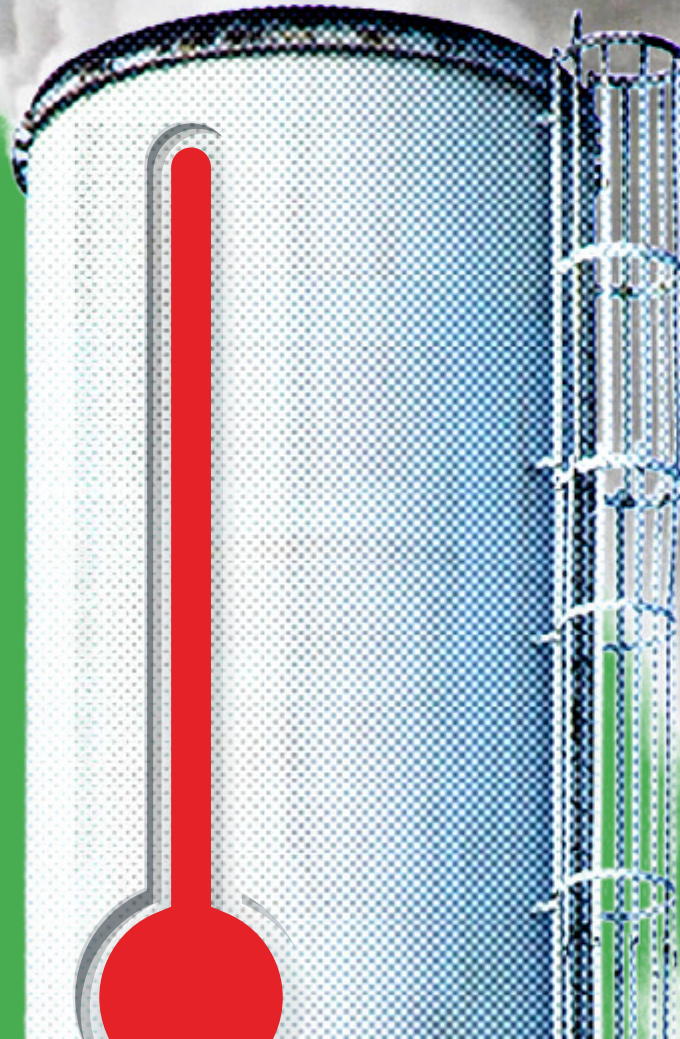


## SECTION 02

# The Need for Climate Action

IN THIS SECTION, WE COVER:

- 7 A brief history of climate change
- 8 The largest CO<sub>2</sub> emitting-countries
- 9 U.S. CO<sub>2</sub> emissions by sector
- 10 A new role for electric utilities

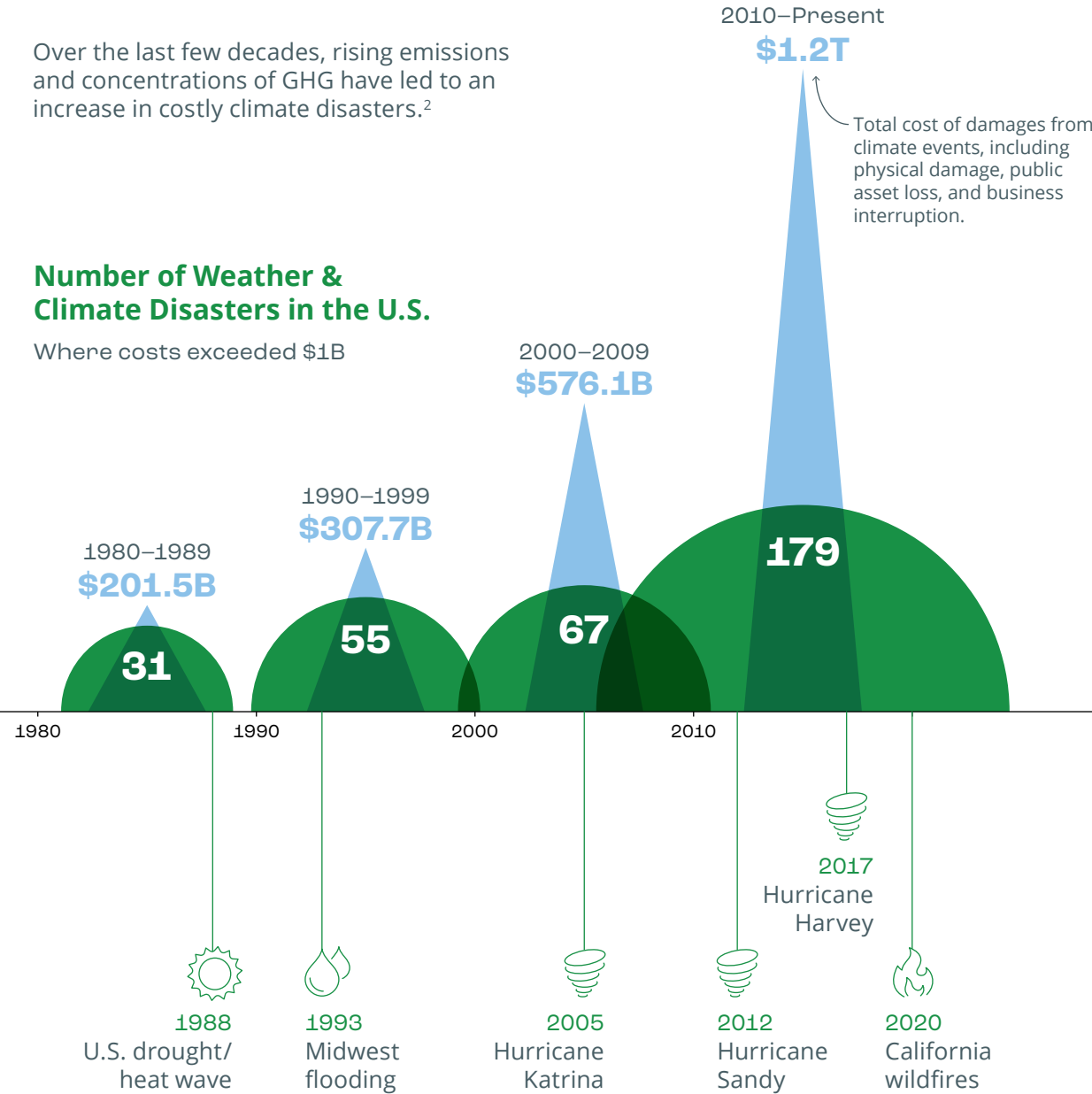


# Compounding Climate Disasters

Over the last few decades, rising emissions and concentrations of GHG have led to an increase in costly climate disasters.<sup>2</sup>

## Number of Weather & Climate Disasters in the U.S.

Where costs exceeded \$1B



Source: NOAA<sup>2</sup>

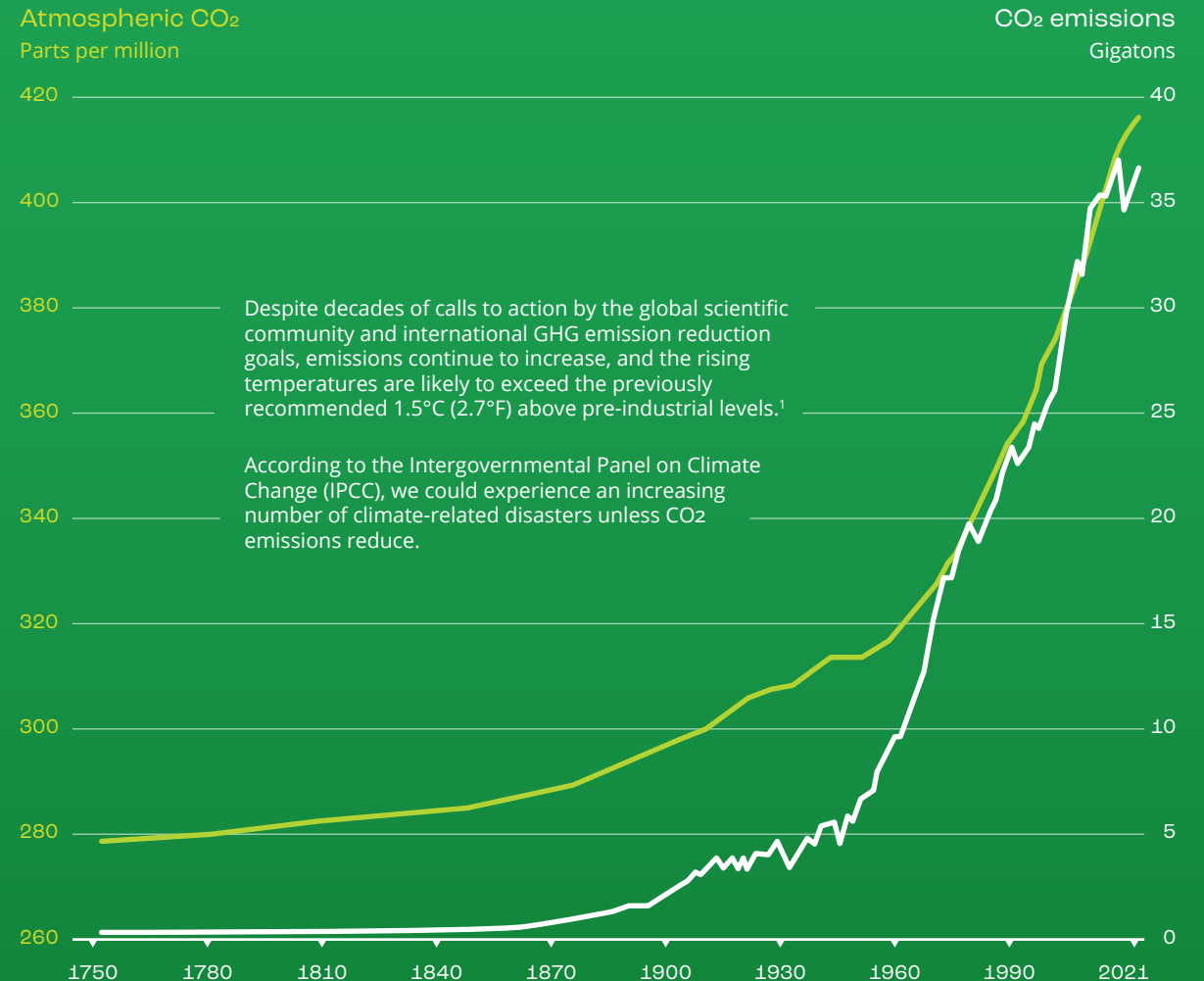
NPUC ANNUAL UTILITY DECARBONIZATION REPORT 2022



From the beginning of the Industrial Revolution in the 1750s, human activities—like the burning of fossil fuels including coal, oil, and gas—have been the primary reason for increased GHG emissions in the atmosphere.

Atmospheric concentrations of CO<sub>2</sub> are now 50% more than pre-Industrial Revolution levels, comparable to concentrations last seen around 4 million years ago.<sup>3</sup> Since the late 19th century, the Earth has become about 1.1°C (2°F) warmer.<sup>4</sup>

## CO<sub>2</sub> Emissions and Atmospheric Concentration 1750-2021



Source: NOAA<sup>5</sup>

# Top 10 Biggest CO<sub>2</sub> Emitters in the World 2010

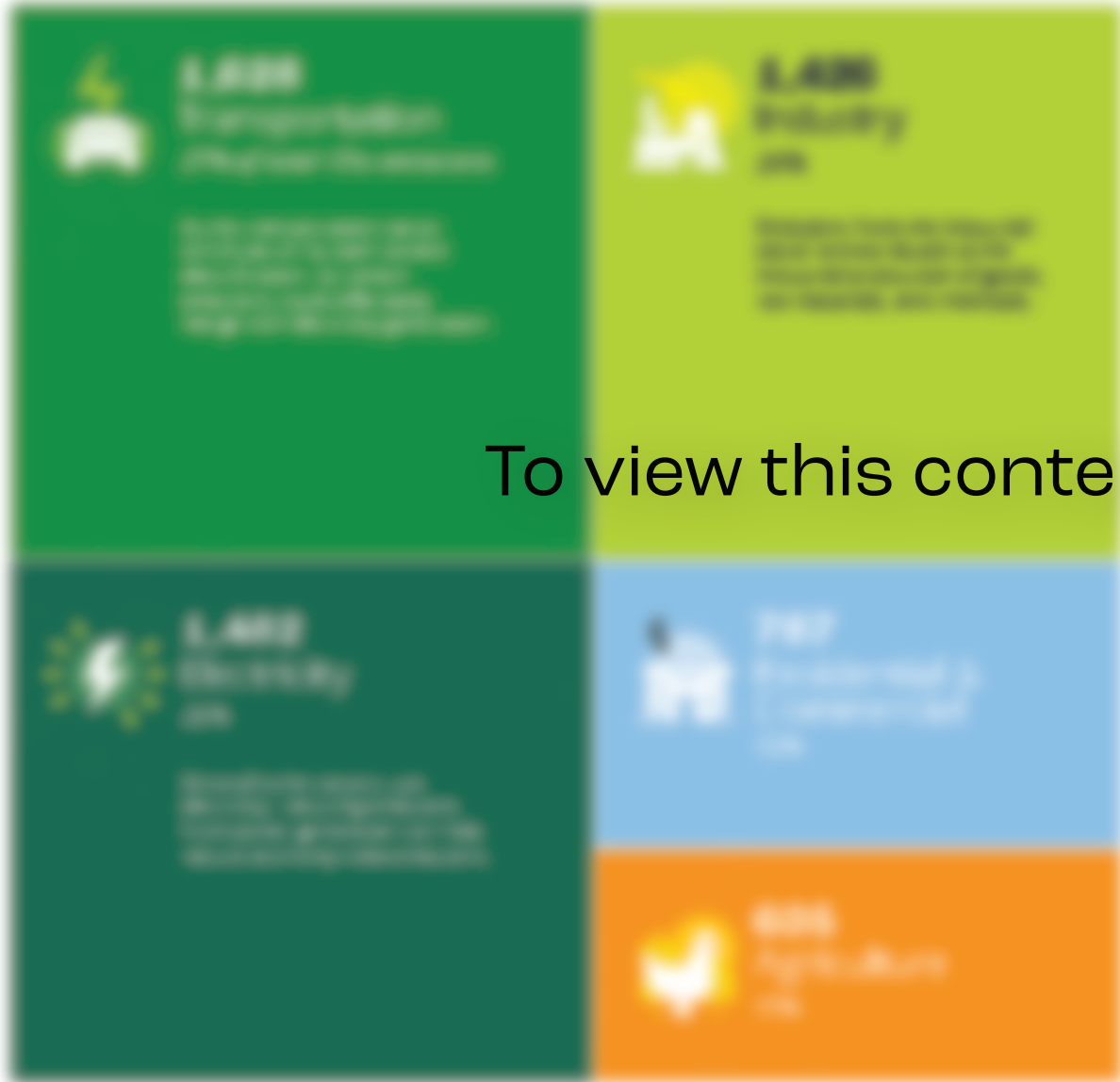
These 10 countries are responsible for 70% of the world's carbon dioxide emissions. The rest of the world's emissions are shared by 190 other countries.



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# Breaking Down U.S. Emissions by Sector

Mill of CO<sub>2</sub>e equivalent, 2010



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# U.S. Electric Power Emissions by Fuel

2010



# At the Forefront of Decarbonization

## Reimagining the Role of Utilities

One of the challenges of decarbonizing the power sector is sufficiently reducing emissions while guaranteeing energy reliability, security, and affordability. Despite this, the country's biggest utilities have the opportunity to facilitate economy-wide decarbonization by being proactive in achieving climate goals.

This is mainly because the decarbonization of utilities and electric power will advance decarbonization in all other sectors that use electricity.



As electric transportation becomes a mainstay and households get electrified, utilities can reduce economy-wide emissions by providing clean electricity from sustainable sources.



In addition, an increasing number of investors are now considering the impact of a company's economic activities on ecological well-being and sustainability. By leading the decarbonization charge, utilities can position themselves to attract investment from climate-conscious investors.

A strengthened focus on reducing dependency on coal and natural gas, and a shift towards renewable sources, must be made.

**Electricity from low-carbon sources like solar, wind, hydro, and nuclear can help limit the devastating impacts of climate change.**