

# Utility Advisory Board

Recommendation to

# Gainesville City Commission

For the City

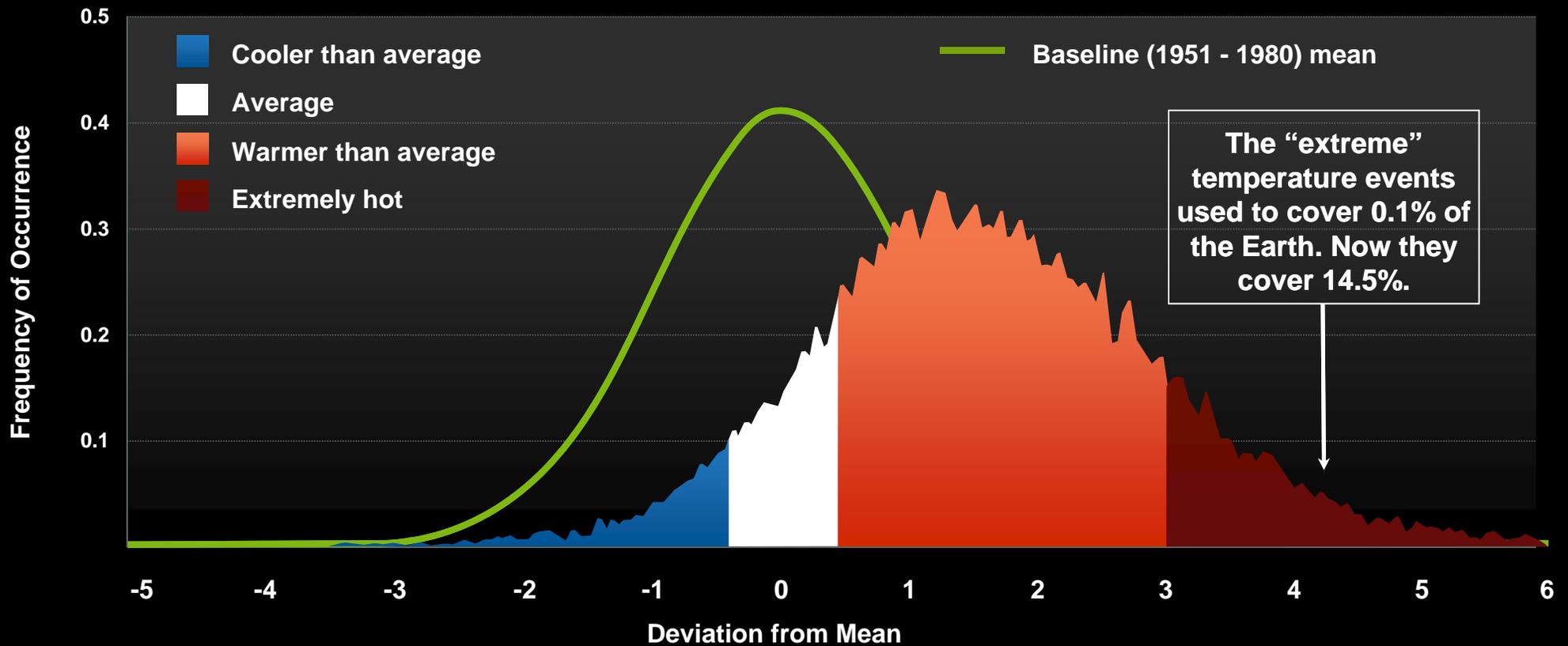
## City Commission Meeting

Next Meeting



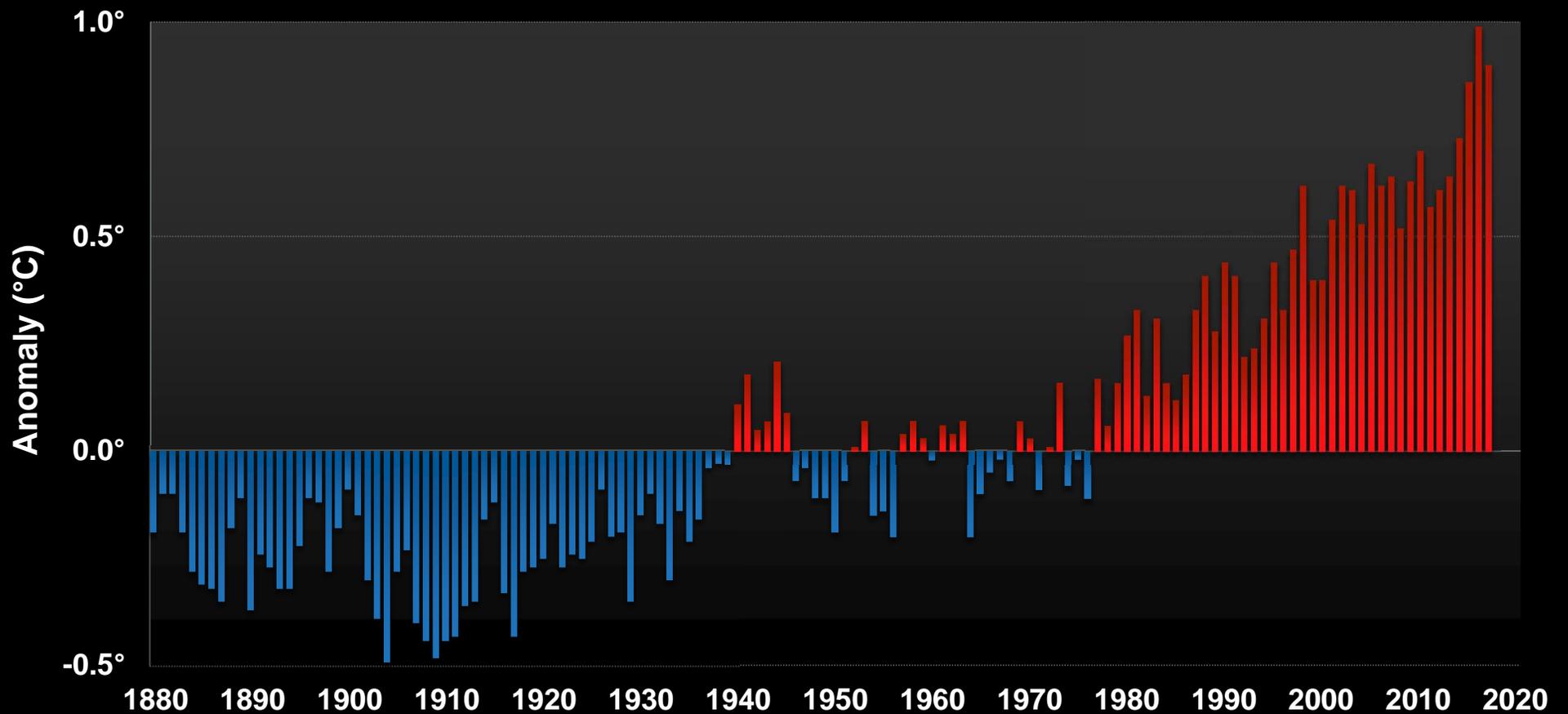
# The Climate Reality Project<sup>®</sup>

# 2005 – 2015



# Global Surface Temperature – Departure from Average

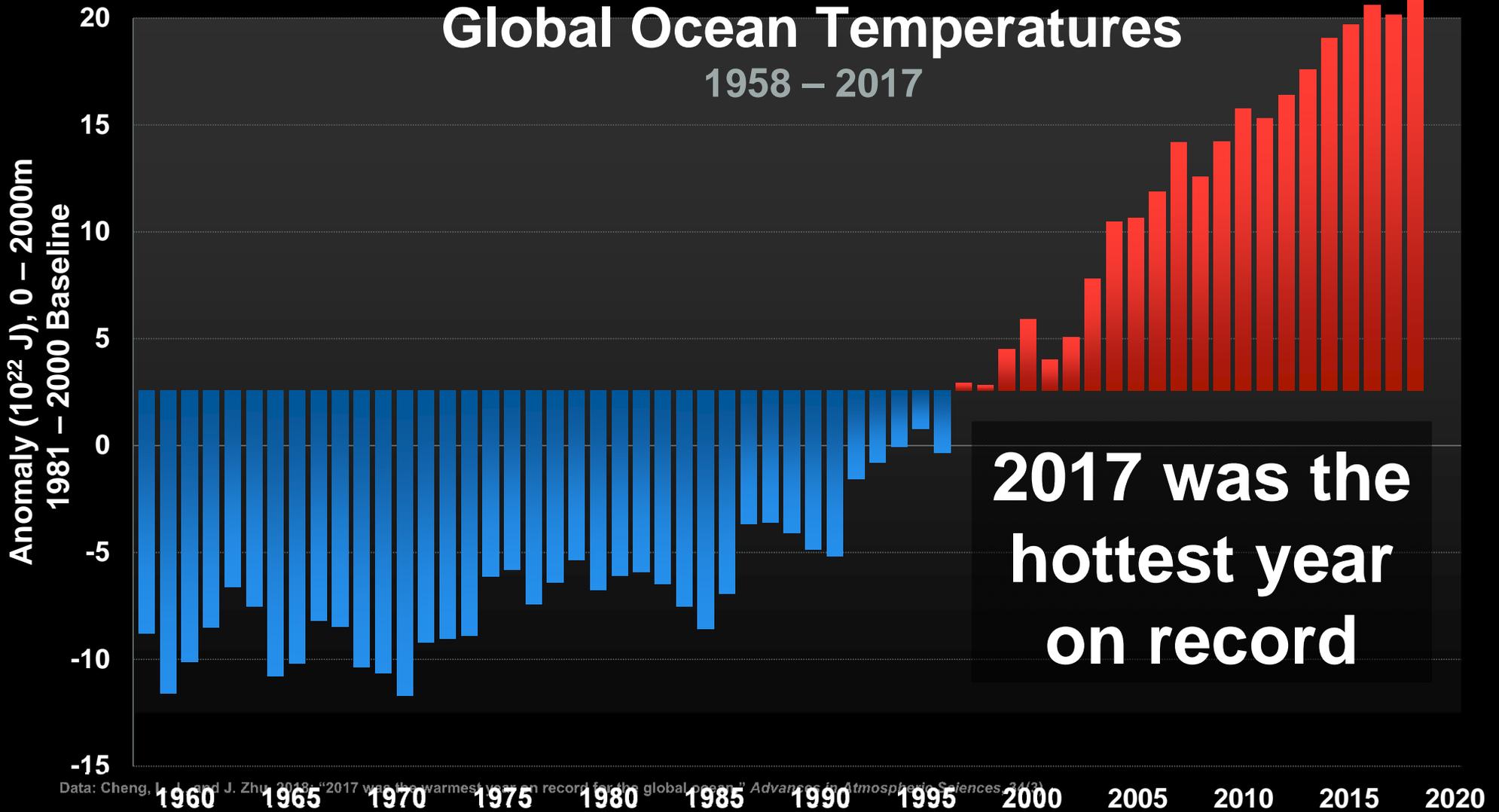
1880 – 2017



Data: NOAA

# Global Ocean Temperatures

1958 – 2017



Data: Cheng, L., and J. Zhu. 2018. "2017 was the warmest year on record for the global ocean." *Advances in Atmospheric Sciences*, 31(3).

**17 of the 18 Hottest Years on Record Have  
Occurred Since the Year 2001  
The Hottest of All Have Been the Last Four Years**

2016

2017

2015

2014

2010

2005

2007

2013

2009

2012

2006

1998

2002

2003

2011

2004

2001

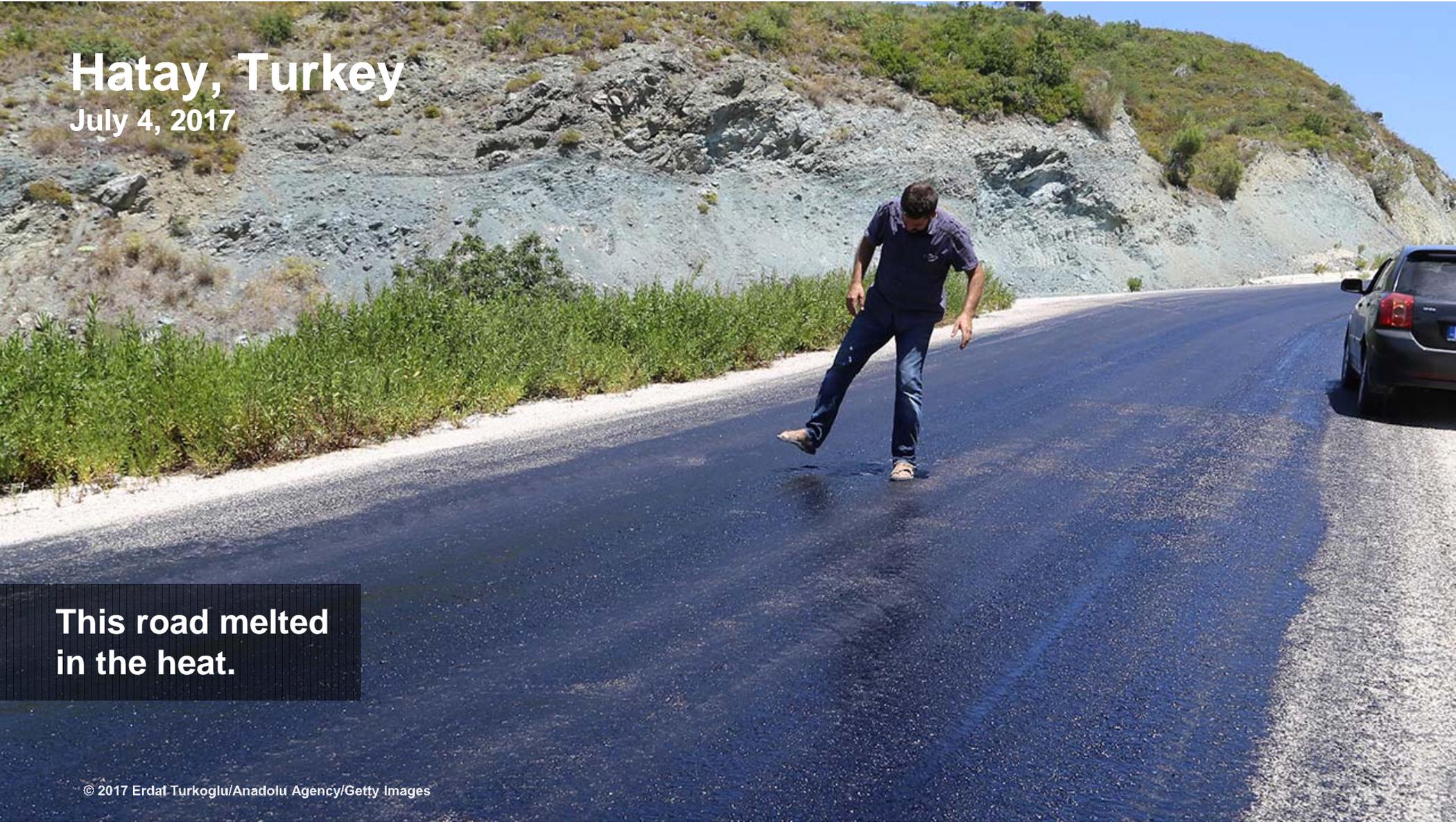
**2017 was the 41<sup>st</sup> consecutive year  
with a global temperature above  
the 20th century average**

# Hatay, Turkey

July 4, 2017

**This road melted  
in the heat.**

© 2017 Erdal Turkoglu/Anadolu Agency/Getty Images



Dublin, Ireland

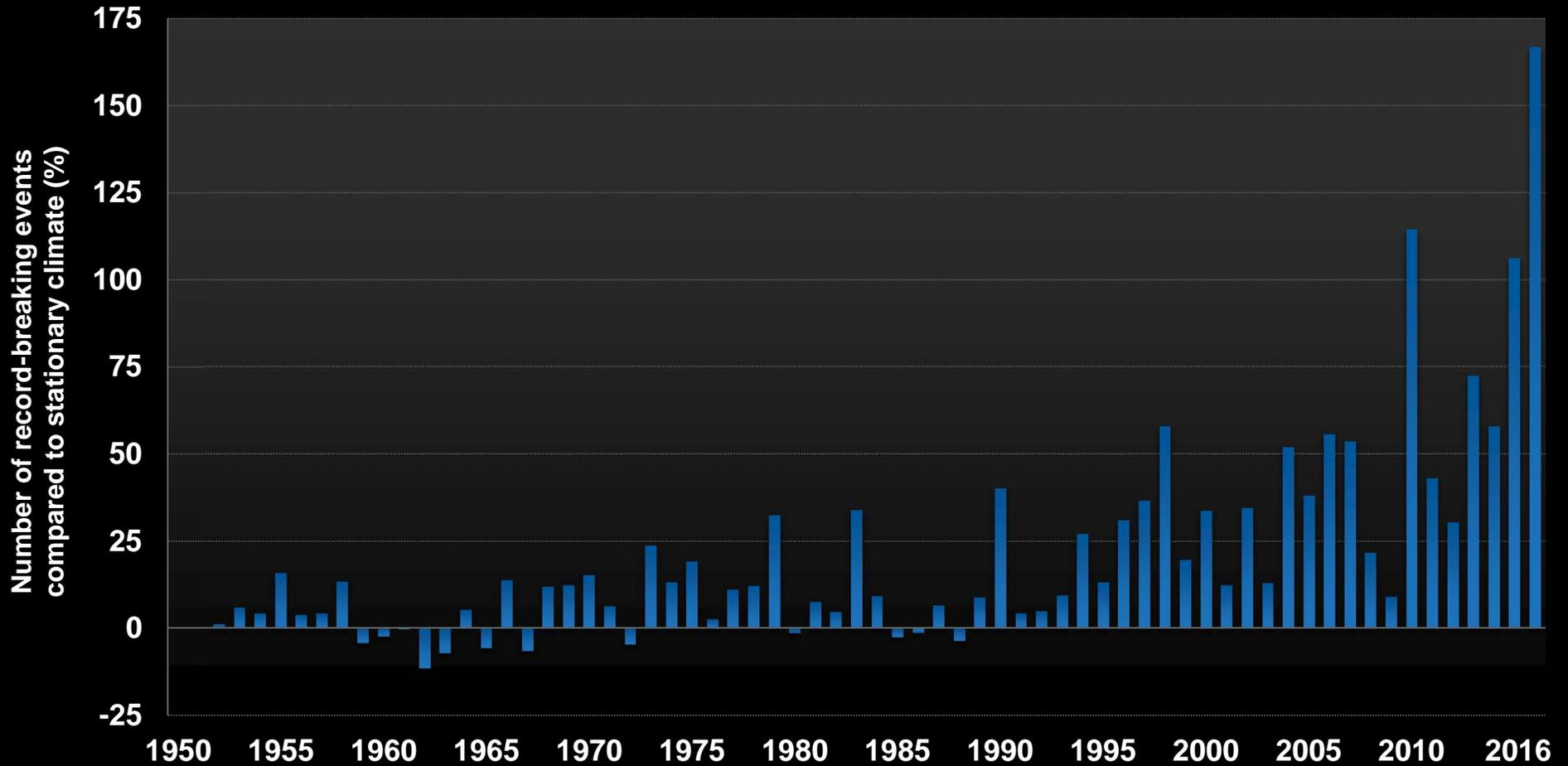
March 1, 2018



© 2018 Reuters/Ciodagh Kilcoyne



# Global Record-Breaking Precipitation Anomalies



Data: Jascha Lehmann, Potsdam Institute for Climate Impact Research

There have been  
**sixteen 1-in-1,000 year**  
downpour **events** in the U.S.  
since May of 2010

# Global Systems Vulnerable to Climate

Disruptions May Lead to Political or Societal Instability



**“Climate Change  
is a  
Medical Emergency.”**

**Professor Hugh Montgomery, Co-Chair,  
The 2015 Lancet Commission on  
Health and Climate Change**

**June 2015**



**“The health impacts of climate change demand immediate action.”**

**Declaration on Climate Change and Health**

**2017**

# The Cost of Carbon

\$ *Political Instability*

\$ *Floods & Mudslides*

\$ *Wildfires*

\$ *Drought*

\$ *Storm Damage*

\$ *Ocean Acidification*

\$ *Infrastructure Loss*

\$ *Climate Refugees*

\$ *Species Extinction*

\$ *Melting Glaciers*

\$ *Famine*

\$ *Water Scarcity*

\$ *Ecosystem Loss*

\$ *Our Way of Life*

\$ *Infectious Diseases*

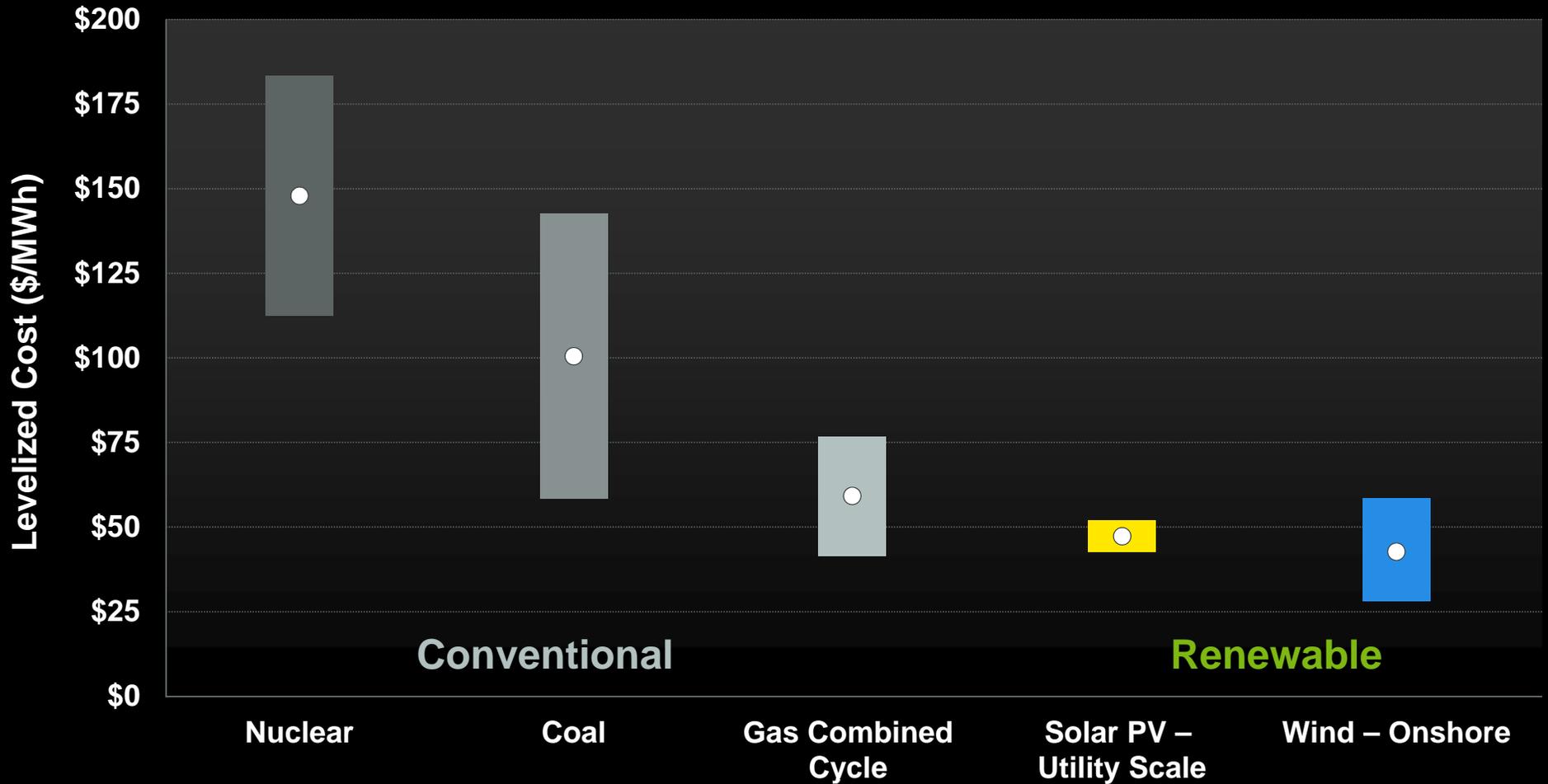
\$ *Sea Level Rise*



... *And much, much more*  
*to threaten*  
*Global Economy*"

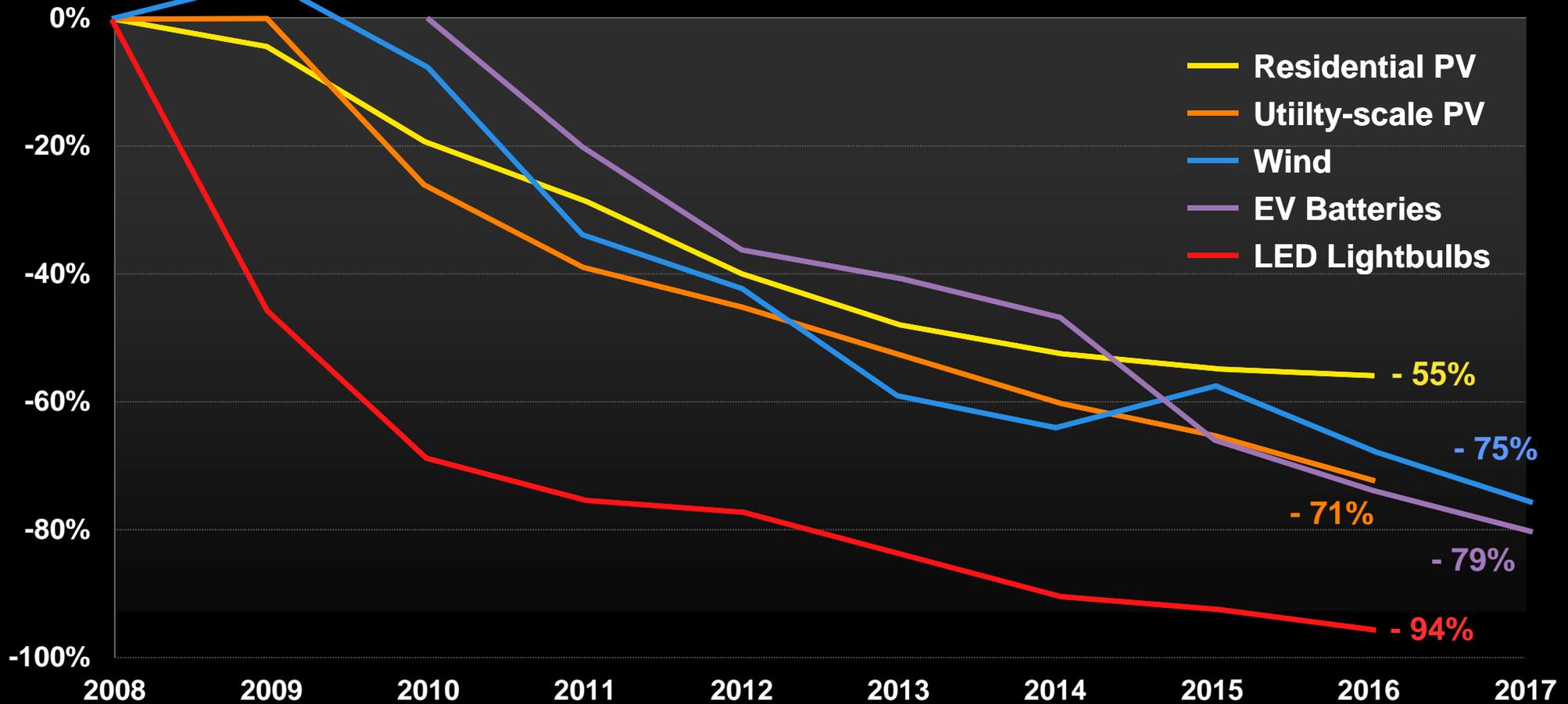
**Globally, wind could supply  
worldwide electricity consumption  
40 times over**

# Levelized Cost of Energy in the U.S.



Data: 2016 Lazard, Lazard's Levelized Cost of Energy Analysis v.10.0; Energy Innovation Policy & Technology, LLC

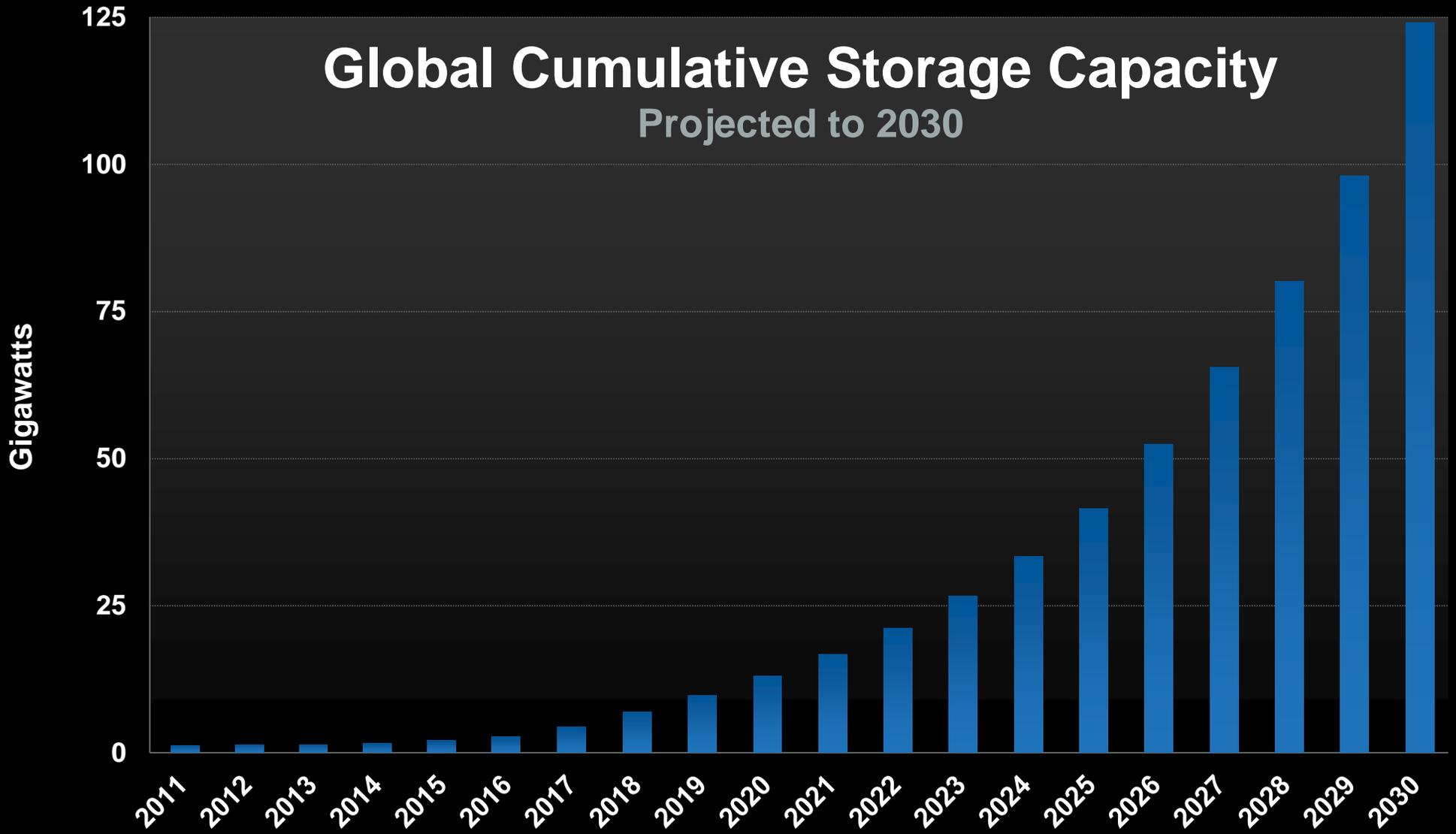
# Cost of Clean Energy Technologies in the U.S.



Data: Natural Resources Defense Council

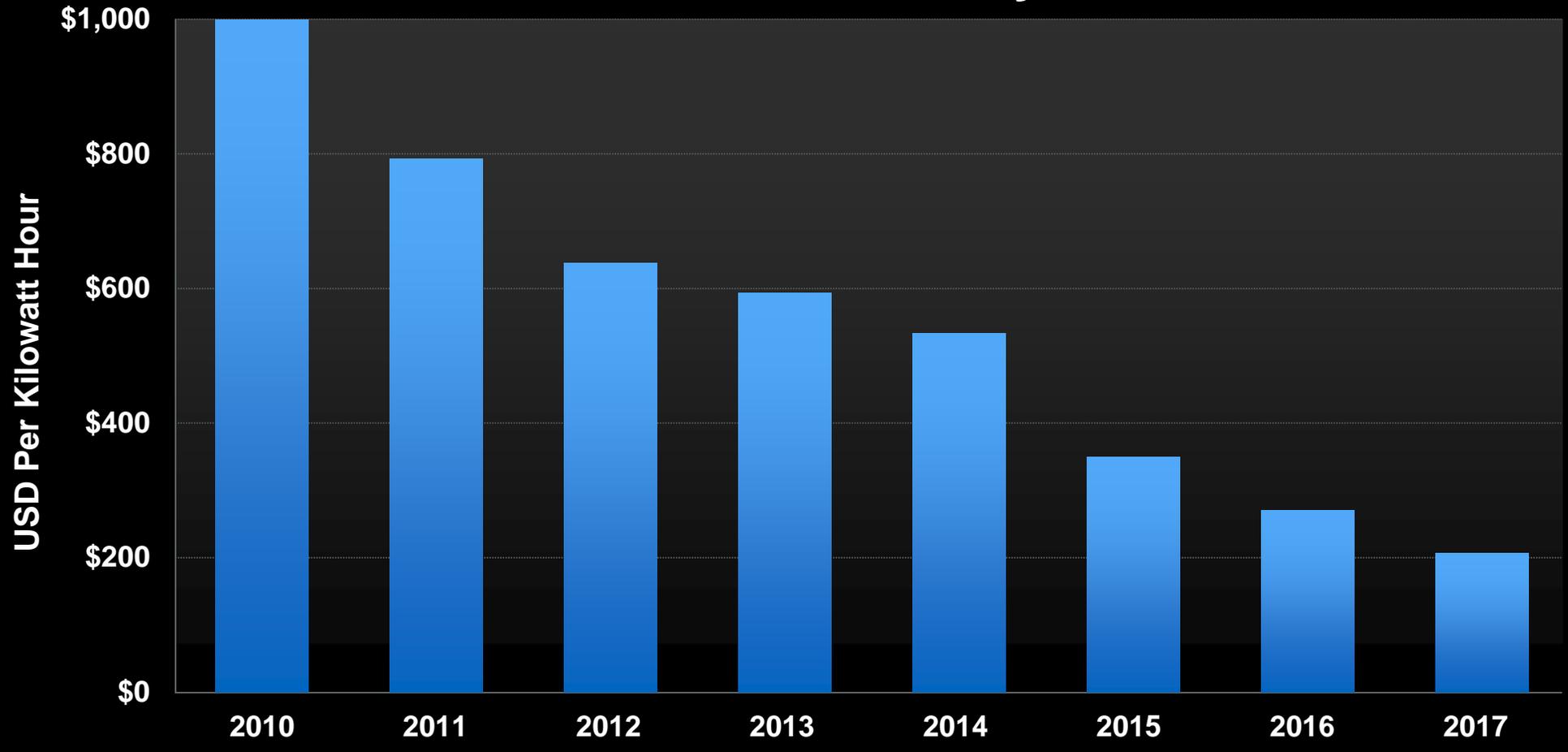
# Global Cumulative Storage Capacity

Projected to 2030



Data: Bloomberg New Energy Finance

# Lithium-ion Battery Prices



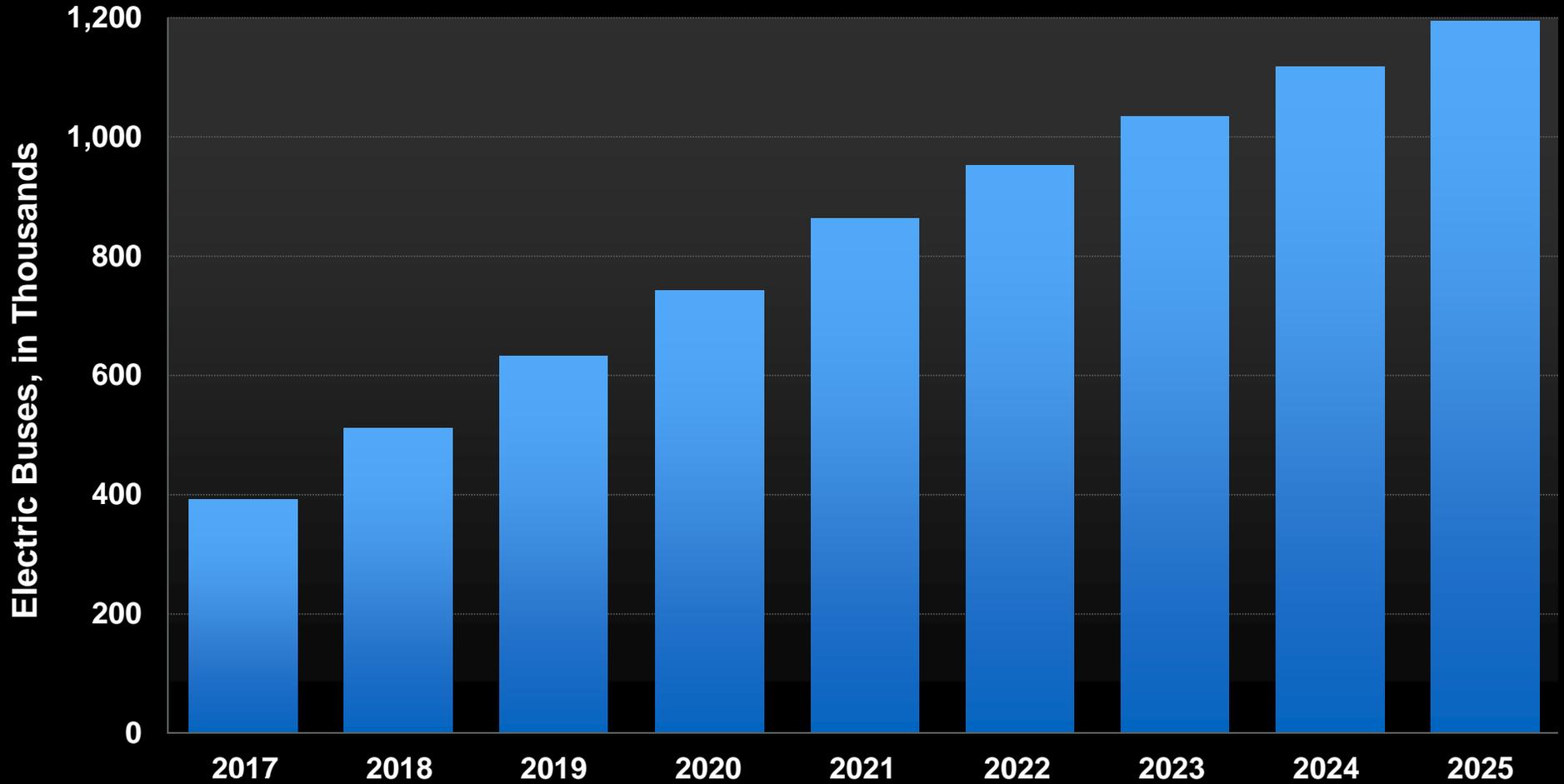
Data: Bloomberg New Energy Finance (volume-weighted averages)

**“Solar-plus-batteries  
is set to begin  
a dramatic transformation  
of human civilization.”**

**Bloomberg View**

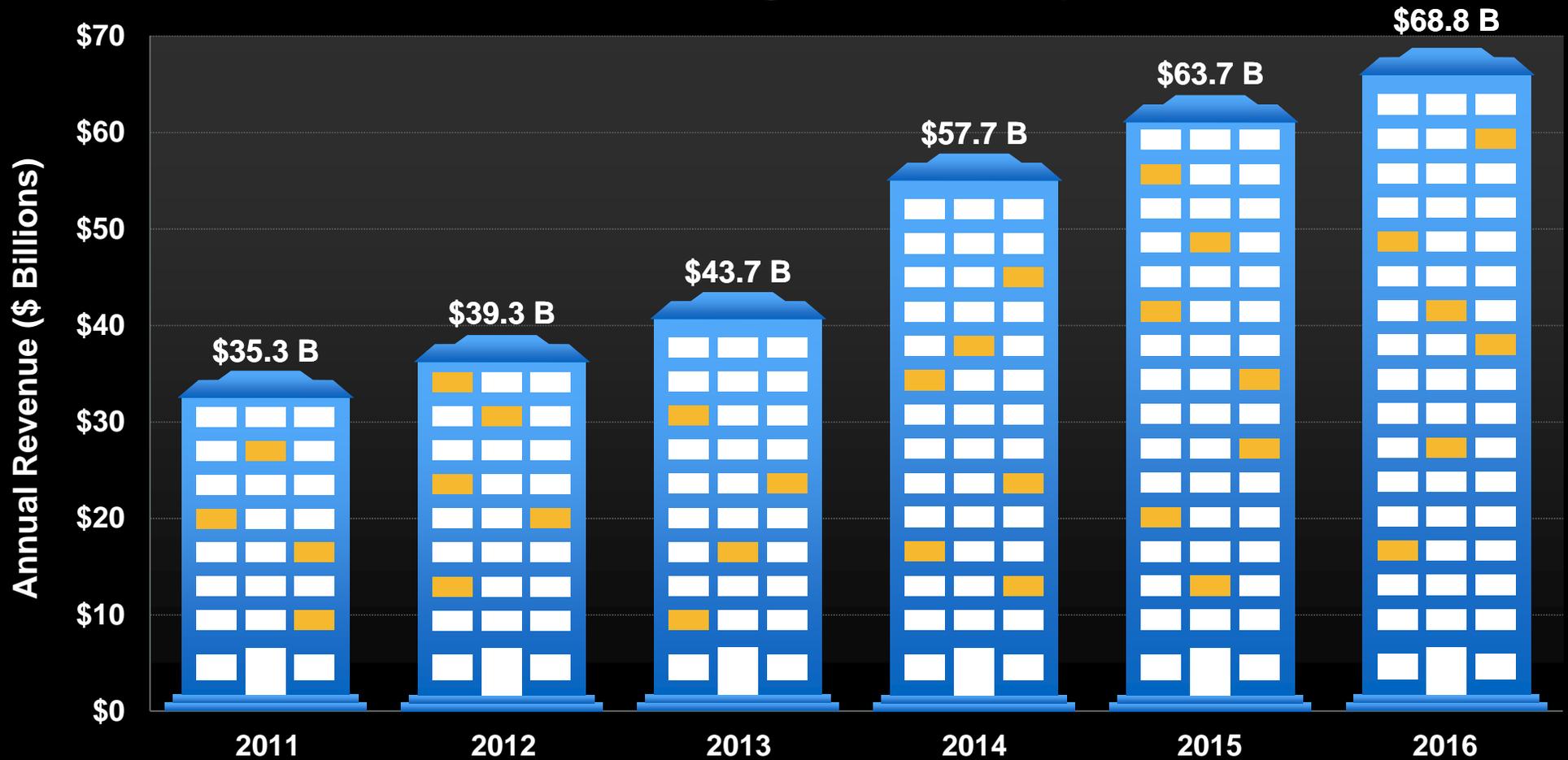
April 8, 2015

# Half of the World's Buses Will be Electric by 2025



Data: Bloomberg New Energy Finance

# U.S. Building Efficiency Market



Data: Navigant Research/Advanced Energy Economy

# The U.S. Congressional Climate Solutions Caucus

a.k.a. “the Noah’s Ark Caucus”

## The 43 Republican Members:

Carlos Curbelo (Florida)

Ileana Ros-Lehtinen (Florida)

Ryan Costello (Pennsylvania)

Lee Zeldin (New York)

Dave Reichert (Washington)

Mark Amodei (Nevada)

Mia Love (Utah)

Tom Reed (New York)

Brian Fitzpatrick (Pennsylvania)

Elise Stefanik (New York)

Brian Mast (Florida)

Don Bacon (Nebraska)

Darrell Issa (California)

Rodney Davis (Illinois)

Peter King (New York)

John Faso (New York)

Mike Coffman (Colorado)

Mike Gallagher (Wisconsin)

Claudia Tenney (New York)

Scott Taylor (Virginia)

Barbara Comstock (Virginia)

David Joyce (Ohio)

Leonard Lance (New Jersey)

Steve Knight (California)

Ed Royce (California)

Dave Trott (Michigan)

Chris Collins (New York)

Jack Bergman (Michigan)

Mimi Walters (California)

Matt Gaetz (Florida)

Mark Sanford (South Carolina)

Dan Donovan (New York)

Fred Upton (Michigan)

Amata Radewagen (A. Samoa)

Jennifer Gonzalez-Colon (PR)

Randy Hultgren (Illinois)

Erik Paulsen (Minnesota)

Peter Roskam (Illinois)

Tom MacArthur (New Jersey)

Bill Posey (Florida)

Lynn Jenkins (Kansas)

Brett Guthrie (Kentucky)

Kevin Yoder (Kansas)

*Membership is evenly split between Democrats and Republicans*

# U.S. Commitments to 100% Renewable Electricity



Data: The Sierra Club

As of August 2018

**Can  
The City of Gainesville  
Change?**



# The Climate Reality Project<sup>®</sup>

GAINESVILLE, FL CHAPTER

**YES!** Gainesville City operations can make the change to renewable electric by 2030 or sooner.

# RENEWABLE ELECTRICITY ROADMAP

Gainesville can join with Climate Realities **100% Committed** to renewable electric by 2030 or sooner.

Gainesville can start the shift to clean, renewable electricity. The path begins with the three steps below.

1. Step up to the Plate
2. Create a Plan
3. Speak UP

# Step up to the Plate

The City of Gainesville has already stepped up to the Plate.

1. Mayors for 100% Clean Energy Endorsement
2. Meetings with Staff, Presentations at commission meetings
3. 100% Committed Chapter Partner Commitment
4. Ready for 100, Commitment to Renewable Energy

# Create a Plan

**How to meet your commitment to 100% renewable electric.**

- 1. Generating power on-site with renewable sources including – but not limited to – wind, solar, and geothermal.**
- 2. Utility green-marketing products, like power purchase agreements with renewable energy suppliers.**
- 3. Utility green-pricing products, like renewable power options administered by utilities.**
- 4. Renewable energy certificates**

# What Sources Are Acceptable?

Solar photovoltaic's

Wind

Geothermal

Hydropower facilities

Run-of-the-river hydropower

would not result in emissions of hazardous compounds

Biomass from solid, liquid, and gaseous forms

feed stocks used are certified as sustainably

co-firing or mixing bio-energy

Others - so long as it can verifiably satisfy the key considerations for all projects above

# What Sources Are NOT Acceptable?

In order to accelerate the movement towards a clean energy economy, The Climate Reality Project explicitly will not accept projects from the following sources:

1. Nuclear energy
2. Coal, oil, or natural gas, even if fitted with carbon capture and storage capabilities.
3. Any other form of electricity generation that would not satisfy the key considerations for all projects above.

# **Creating the Plan – What will the Commitment Cover?**

- 1. All Municipal Building?**
- 2. City and Gainesville Regional Utilities?**
- 3. Water Treatment Facilities?**
- 4. Parks?**
- 5. Traffic Control**

# **Creating the Plan –Target Date**

**Municipal Building 100% Electric by 2030**

**Vehicle all renewable energy by 2035**

**City of Gainesville totally renewable energy by 2040**

**GRU 100% Renewable by 2045**

# Benefit of Partnering with The Climate Reality Project

- The Climate Reality Leadership Corps is a group of trained climate leaders, that have all the resources of the Climate Reality Project Available.

- We have already made and will continue to make presentations to groups across the area on the three questions.

- **Must We Change?**

- **Can WE Change?**

- **Will we Change?**

- Providing a community service of seeing the need, understanding it and supporting the efforts of the community reaching the goal. If your interested in the training go to <https://www.climaterealityproject.org/training>

**Benefits of Partnering with Sierra Club**

**Gainesville Coalition of Climate Organizations**

# Utility Advisory Board

Recommendation to

# Gainesville City Commission

For the City

## City Commission Meeting

October 16, 2018

## **Recommendation**

- 1. Sign on to the Mayors for 100% Clean Energy (this months).**
- 2. Sign the Agreement with The Climate Reality Project Gainesville Chapter, 100% Committed to renewable electric in municipal buildings by 2030 or sooner. (this month)**
- 3. Sign on with Sierra Club's Campaign Ready for 100, agreeing to move to 100% Renewable Energy Sources by 2045 or sooner.**
- 4. Continue researching and a building a Roadmap for Gainesville to reach these goals.**
- 5. Continue to work with the Community Climate Coalition**

**“After the final no,  
there comes a yes,  
and on that yes  
the future world depends.”**

**Wallace Stevens**



Source: NASA