



The Real New
Deal:
Carbon-Free

...by 2030?

JERRY YUDELSON



**ICAA Convention
& Trade Show**
October 10-12, 2019
Phoenix, Arizona

Our Dilemma

If 350 ppm CO₂ concentration in the atmosphere is what's ultimately required, why do we hope instead to solve things by "holding the line" at 450 ppm?



The Defining Business Issue of Our Time

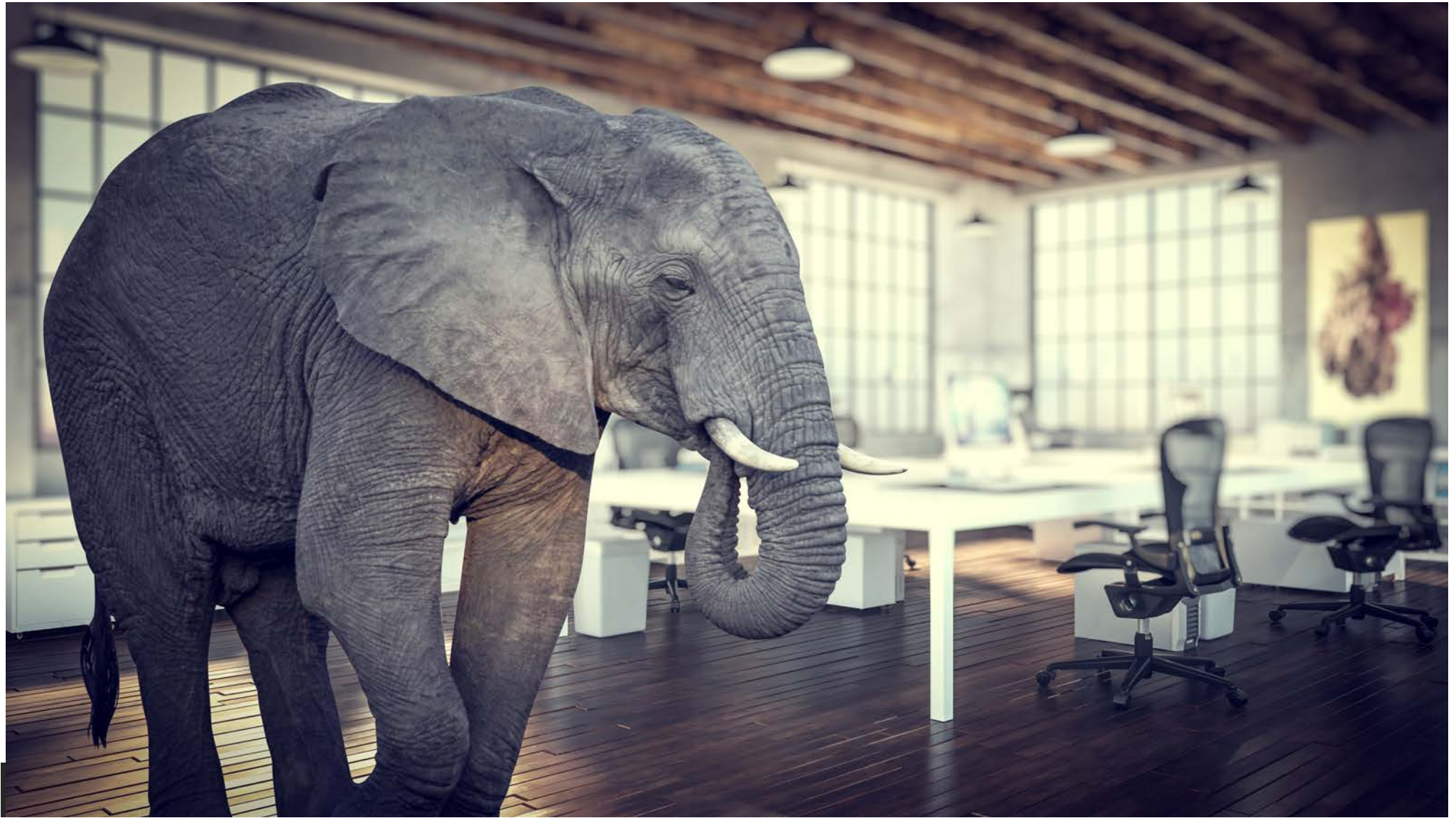


Greta Thunberg at the UN Climate Summit September 23, 2019

"I shouldn't be up here. I should be back in school on the other side of the ocean, yet you come to us young people for hope. How dare you."

"People are suffering," the 16-year-old continued through tears. "People are dying. Entire ecosystems are collapsing.

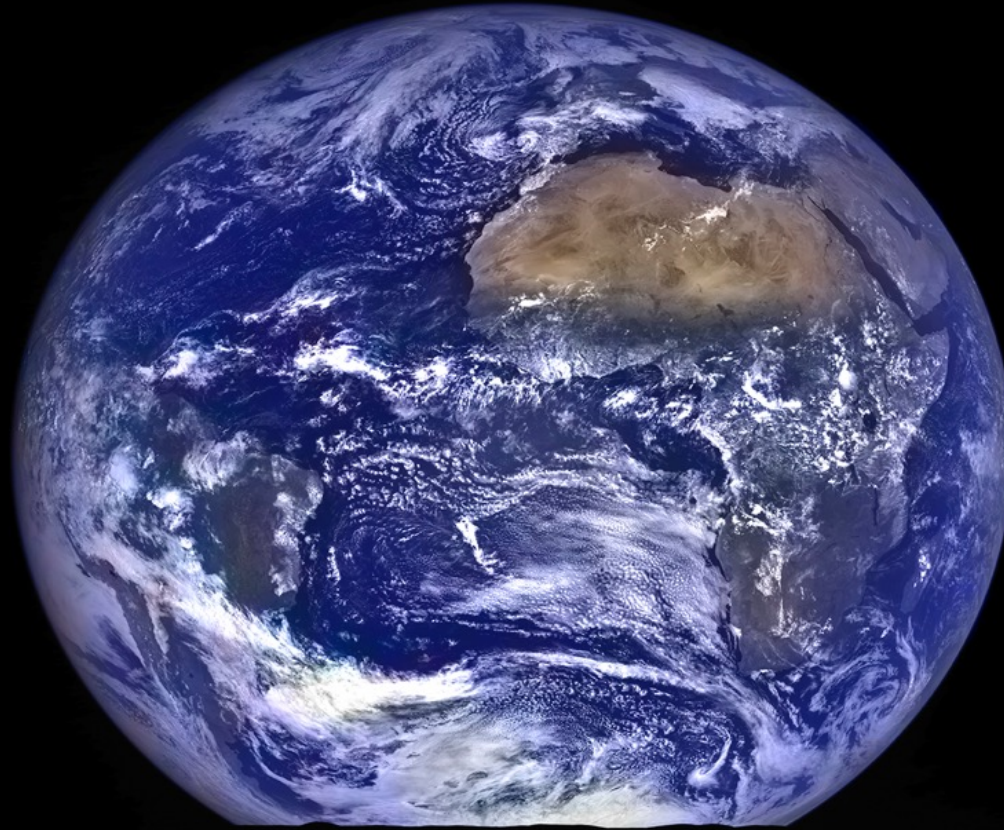
We are at the beginning of a mass extinction and all you can talk about is money and fairy tales of eternal economic growth. How dare you."





The Elephant in the Room

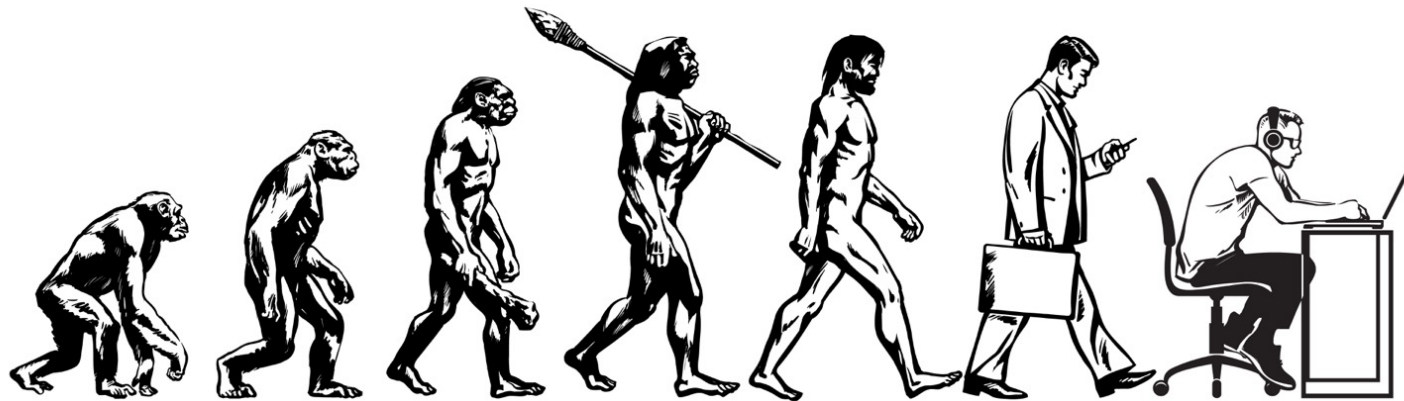
- Climate change/global warming is guaranteed!
 - Only unknown: magnitude & pace
 - We won't reduce carbon emissions fast enough
 - IEA/OPEC: demand growth for oil to 2040 (2018 forecast)
- Carbon capture/storage unproven
- Creating resiliency vs. climate change: costly and slow



Earthrise



What's Going On?



Pleistocene => Holocene => Anthropocene



A Warmer Earth IS Our Future

“Trump administration sees a 7-degree-F rise in global temperatures by 2100”*

*** *Washington Post*, September 27, 2018**

Climate Change Challenges Us



Sea Level Rise Threatens Cities



Goldman Sachs Report on Climate Change

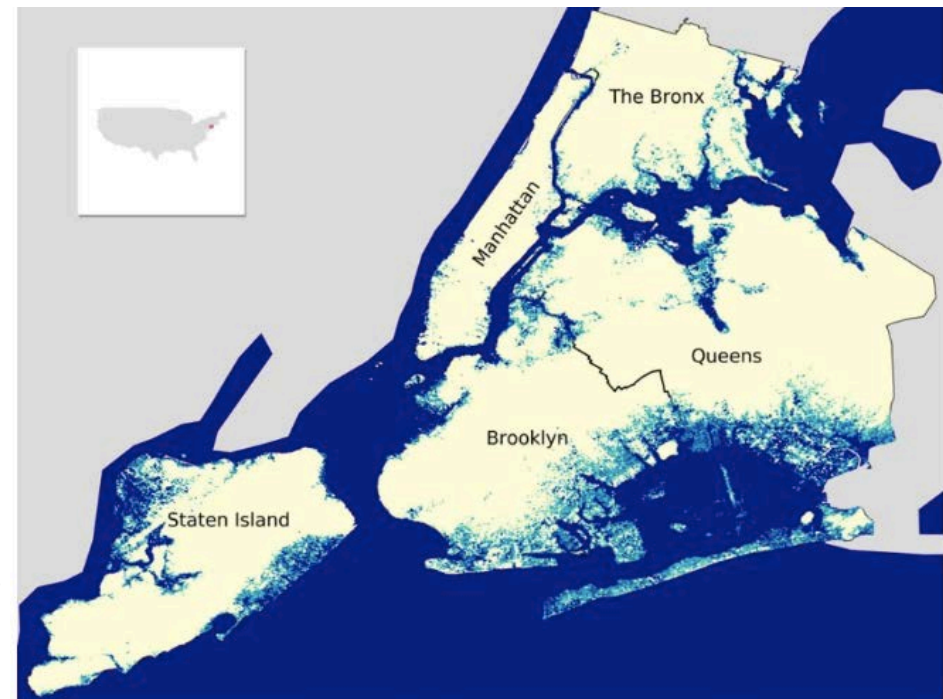
Rising temperatures would lead to:

- Changing disease patterns
- More intense and longer-lasting heatwaves
- More destructive weather events (Hurricanes, rainstorms, droughts)
- Pressure on the availability and quality of water for drinking and agriculture.

Major cities at risk of flooding:

- Parts of New York, Tokyo, and Lagos all at risk of being partially submerged.
- Miami, Alexandria, Dhaka, Mumbai, and Shanghai face major flood risks

Source: <https://tinyurl.com/y4vpwdl7>, accessed September 25, 2019.



“Unknown Unknowns”



Donald Rumsfeld
U.S. Secretary of Defense
2001-2006

“Reports that say that something hasn't happened are always interesting to me, because as we know, there are known knowns; there are things we know we know. We also know there are known unknowns; that is to say we know there are some things we do not know (now). But there are also unknown unknowns — the ones we don't know we don't know...Those in the latter category tend to be the (most) difficult ones.”

Some “Known Unknowns”



- Government at all levels will be beyond broke
 - Pensions & Social Security & Health Care take ~90% of budgets
 - All other funding will fight for the balance
- Political strife (intergenerational) will hinder effective action
- ~60 million Boomers retired by 2030, most living on fixed incomes, will resist higher energy prices
- Cost of disasters will increase dramatically (not just Puerto Rico or Bahamas)

What Are the “Unknown Unknowns?”



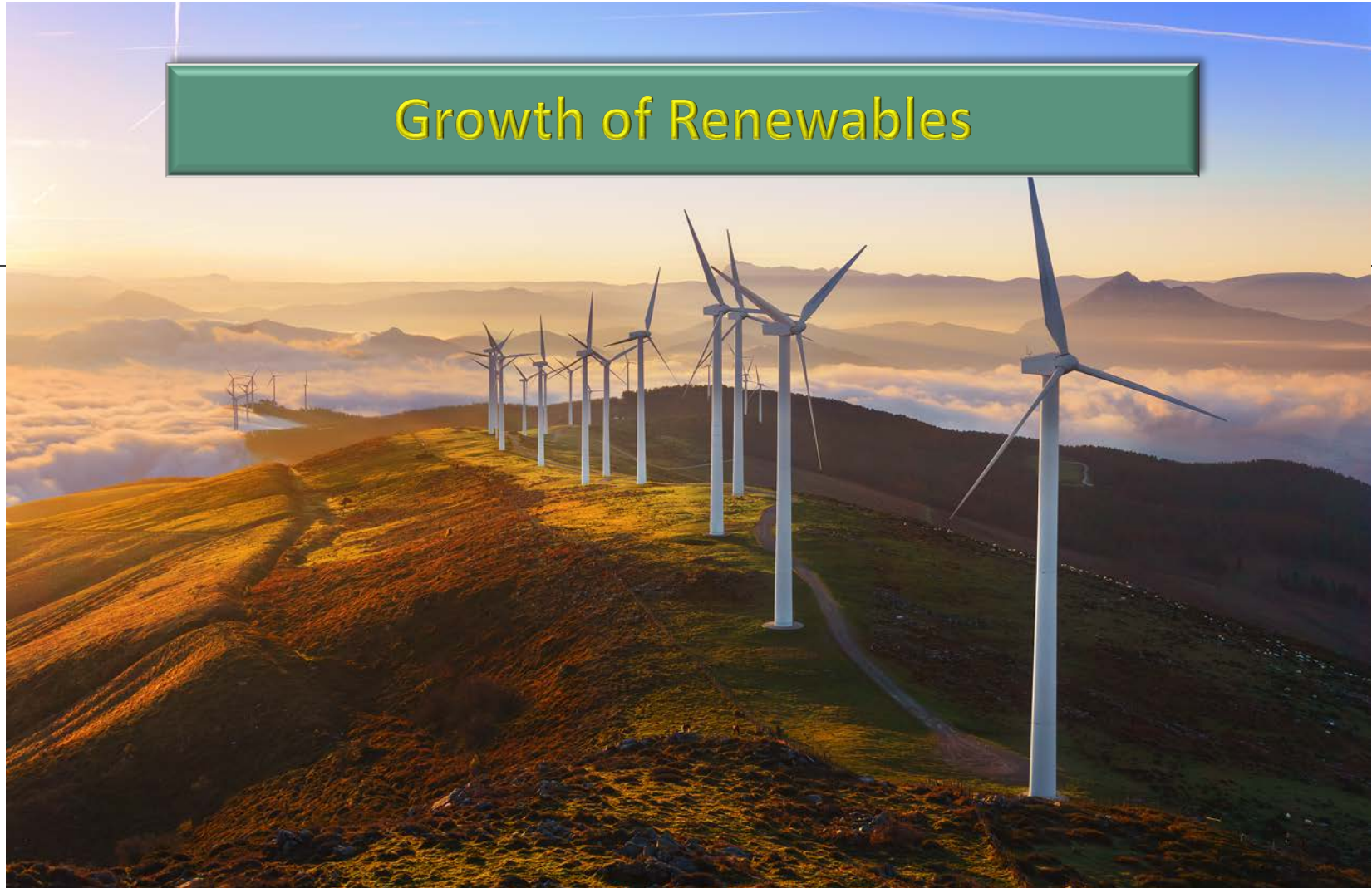
The One Constant - Combustion



What Does the Future Hold?



Growth of Renewables



Response to “Carbon Tax”



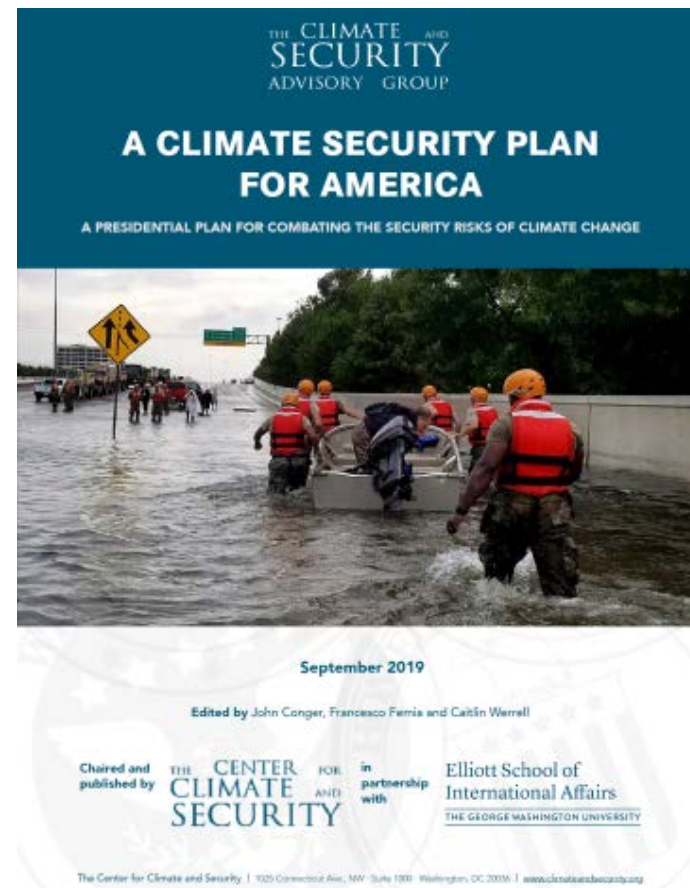
Global Climate Strike September 20 2019

- 150 Countries
- 4 million people
- Mostly young
- Holding governments accountable



Climate Change – The Biggest National Security Challenge

U.S. Military leaders believe climate change poses the largest mid-term risk to our national security and has been planning for it since at least 2014.



Time for a
“Climate
Moonshot?”



Is the
“Green New
Deal” the
“Real Deal?”



Energy Efficiency: “50% Solution”



New research shows that energy efficiency measures can slash U.S. energy use and greenhouse gas (GHG) emissions 50 percent by 2050, moving the country halfway towards its climate goals.

💡 1/3 of energy efficiency goals can come from buildings.

Source: American Council for an Energy-Efficient Economy, <https://aceee.org/research-report/u1907>.

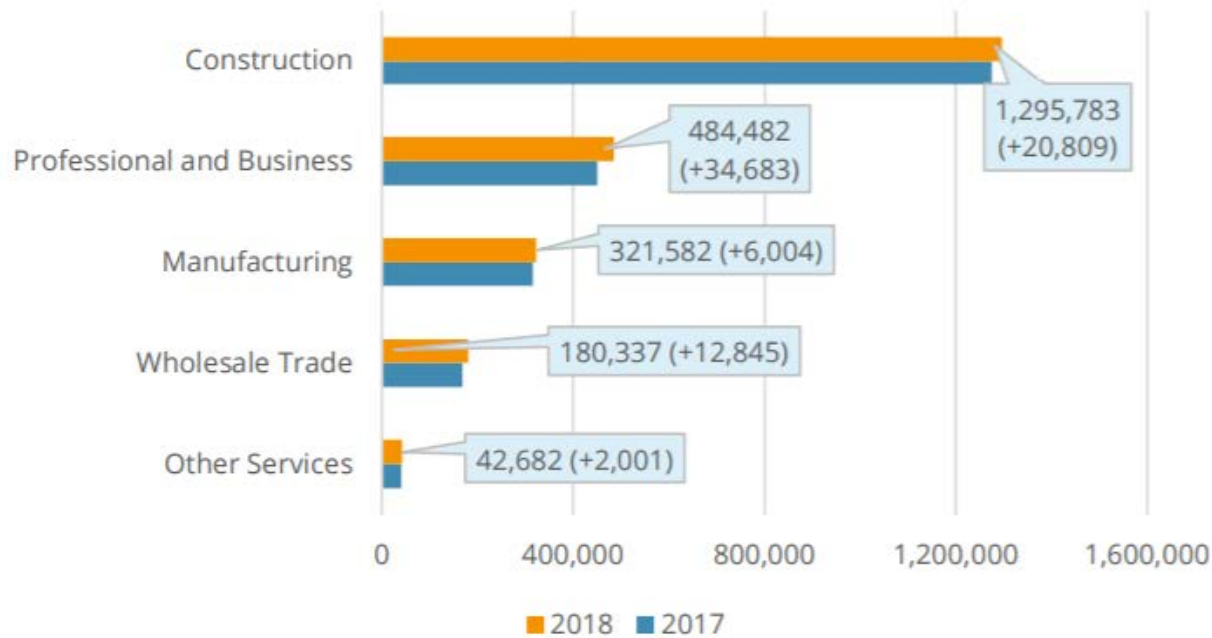
You ARE
the Solution



Energy Efficiency = Jobs



Energy Efficiency Sector – Employment by Industry, 2017-2018



Energy Efficiency Jobs Top Most Sectors in Growth Potential

The least exotic, most productive solution to the climate crisis:

Energy efficiency jobs outnumber power generation jobs in 48 states.

In 15 states, efficiency jobs exceed combined fuel, energy, power generation, transmission, distribution, & storage jobs.



After All, In the End...

Only Performance Counts!

When Performance Counts Most...



...Move to where the ball is headed!

Why These Changes Are Likely to Happen Soon

"Boycotts, sanctions and divestment ultimately proved effective in South Africa because the underlying cause had a critical mass of support, both inside and outside the country. That required a mindset shift. This time, the whole world must recognize that attempting to perpetuate the status quo is to damn future generations to violence and insecurity."

-- Desmond Tutu, writing in the *Financial Times*, September 2019





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NO PLANET
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