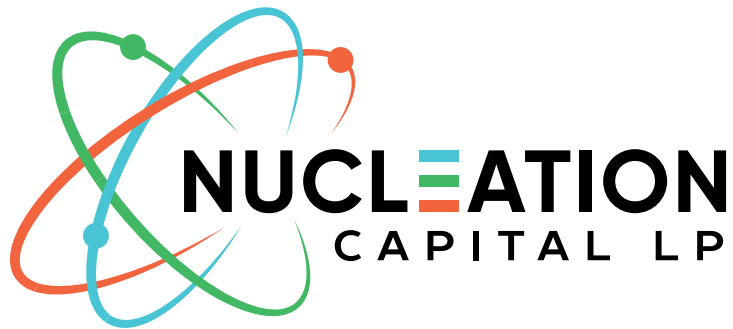


WHY **ADVANCED NUCLEAR** IS CHANGING THE NUCLEAR ENERGY FINANCING PARADIGM



Valerie Gardner
Founding Principal
Nucleation Capital

July 16, 2019

A key SDG: Signed by all nations

**SUSTAINABLE
DEVELOPMENT
GOALS**

7 AFFORDABLE AND
CLEAN ENERGY



More reliance on the private sector

“An increased reliance on the private sector to fund later-stage research, development, and commercialization of energy technologies . . .”

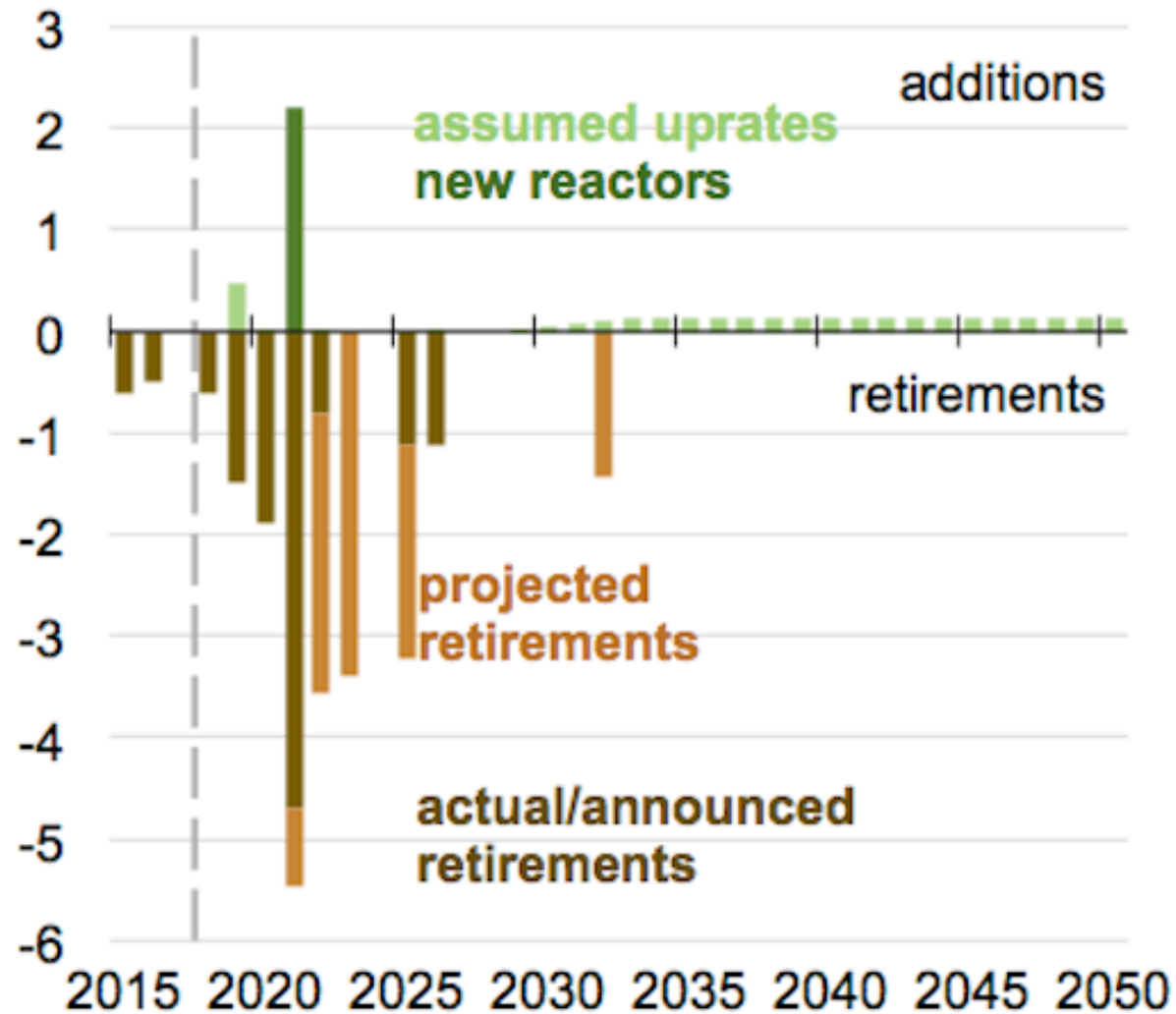


DEPARTMENT OF ENERGY

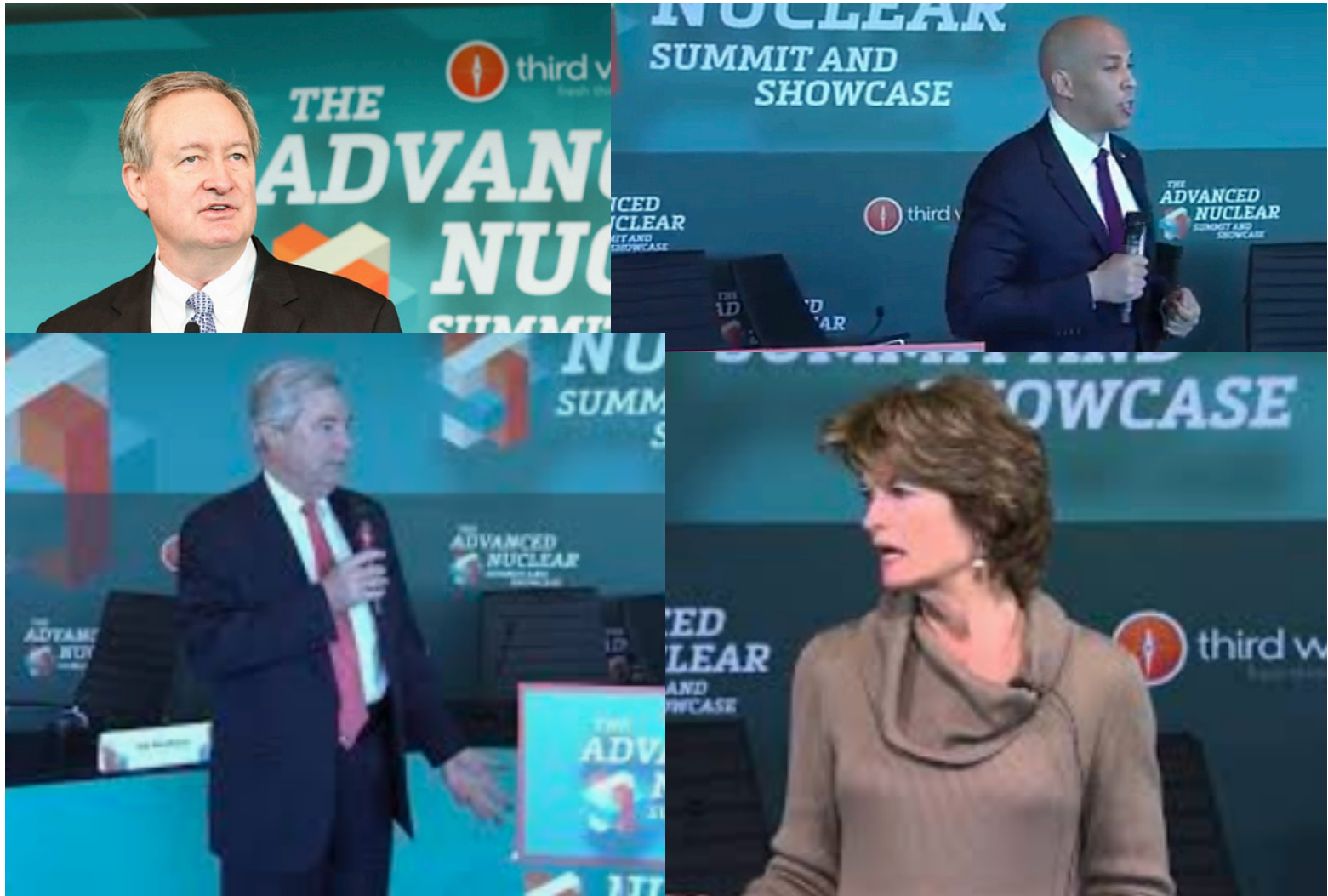
The Department of Energy (DOE) is charged with ensuring the Nation's security and prosperity by addressing its energy, environmental, and nuclear challenges through transformative science and technology solutions. The Budget for DOE demonstrates the Administration's commitment to reasserting the proper role of what has become a sprawling Federal Government and reducing deficit spending. It reflects an increased reliance on the private sector to fund later-stage research, development, and commercialization of energy technologies and focuses resources toward early-stage research and development. It emphasizes energy technologies best positioned to enable American energy independence and domestic job-growth in the near to mid-term. It also ensures continued progress on cleaning up sites contaminated from nuclear weapons production and energy research and includes a path forward to accelerate progress on the disposition of nuclear waste. At the same time, the Budget demonstrates the Administration's strong support for the United States' nuclear security enterprise and ensures that we have a nuclear force that is second to none.

The President's 2018 Budget requests \$28.0 billion for DOE, a \$1.7 billion or 5.6 percent decrease from the 2017 annualized CR level. The Budget would strengthen the Nation's nuclear capability by providing a \$1.4 billion increase above the 2017 annualized CR level for the National Nuclear Security Administration, an 11 percent increase.

Year-Over-Year Nuclear capacity change (EIA)



R's and D's agree on some things!



Move from this . . .



To this!!

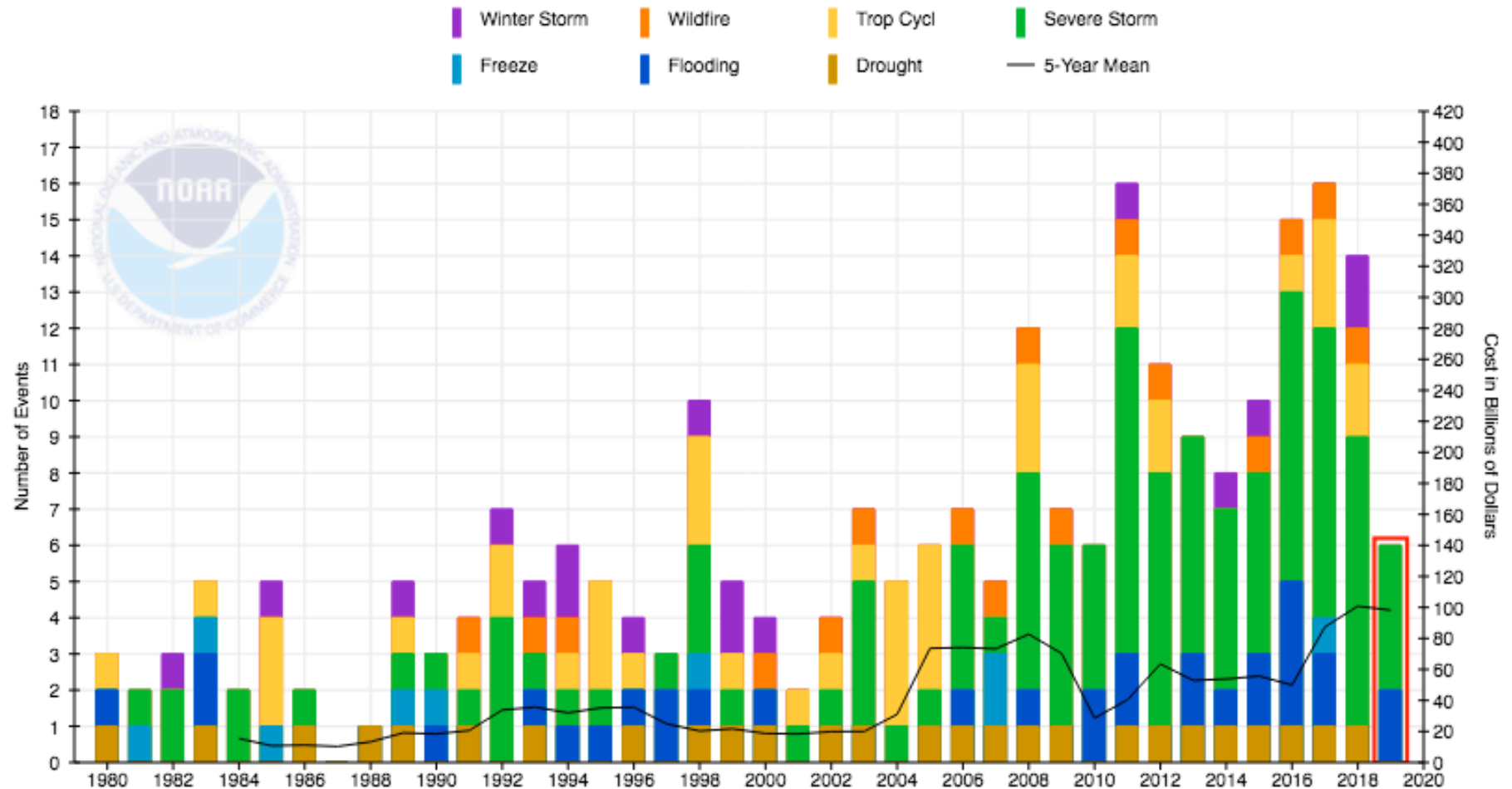





What if we could move quickly from
this technology era . . . to this?



Billion-Dollar Disasters by Year

Billion-Dollar Disaster Event Types by Year (CPI-Adjusted)

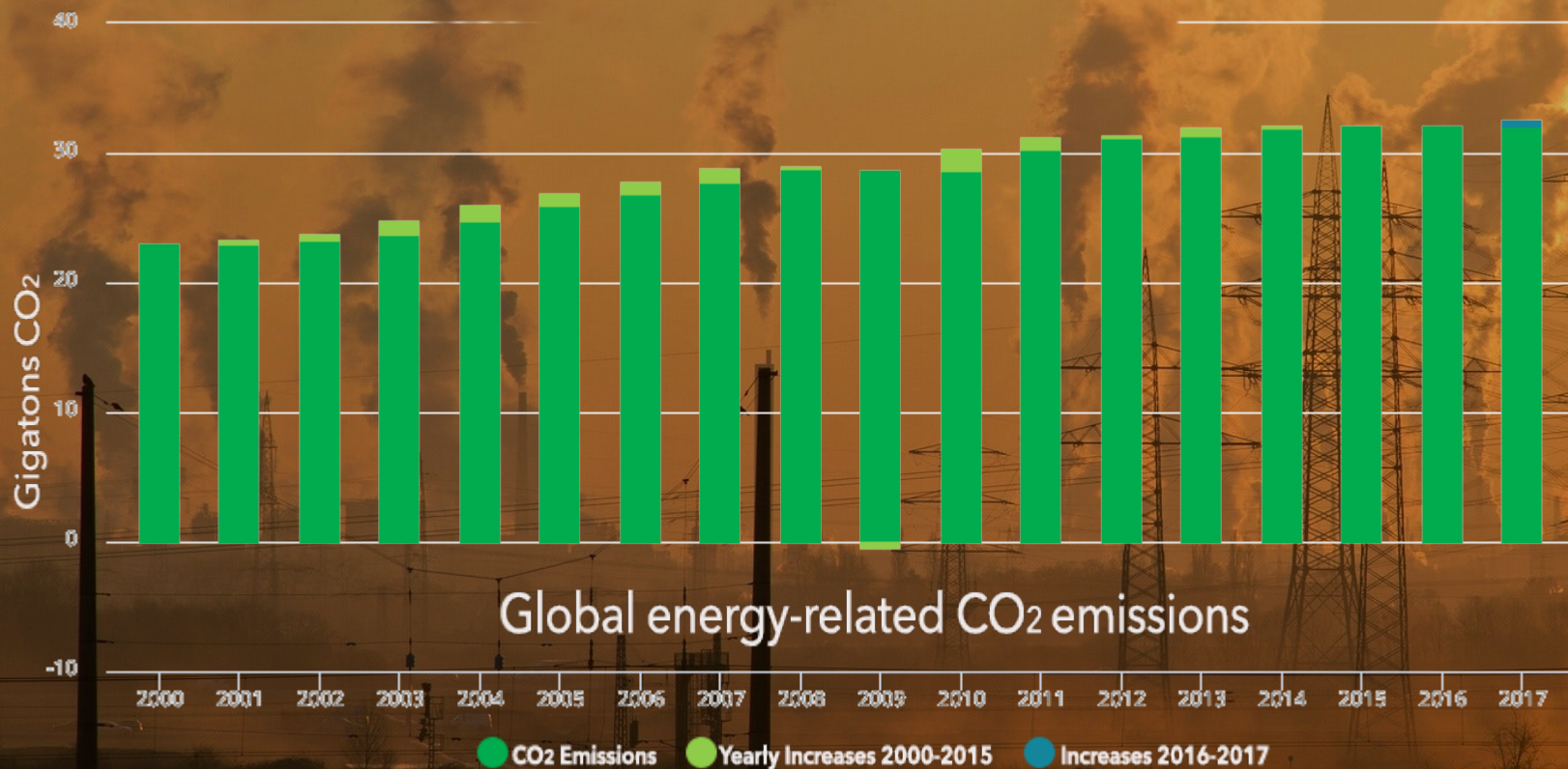


Download:   

Number of events
as of July 9, 2019

Global CO₂ energy emissions

From year 2000 – 2017



Young people are rightly worried



PRI: THE WORLD'S LARGEST GROUP FOCUSED ON RESPONSIBLE INVESTING



Climate change

Climate change is the highest priority ESG issue facing investors. The PRI is working to help investors protect portfolios from risks and to expose them to opportunities in the shift to a low-carbon global economy.

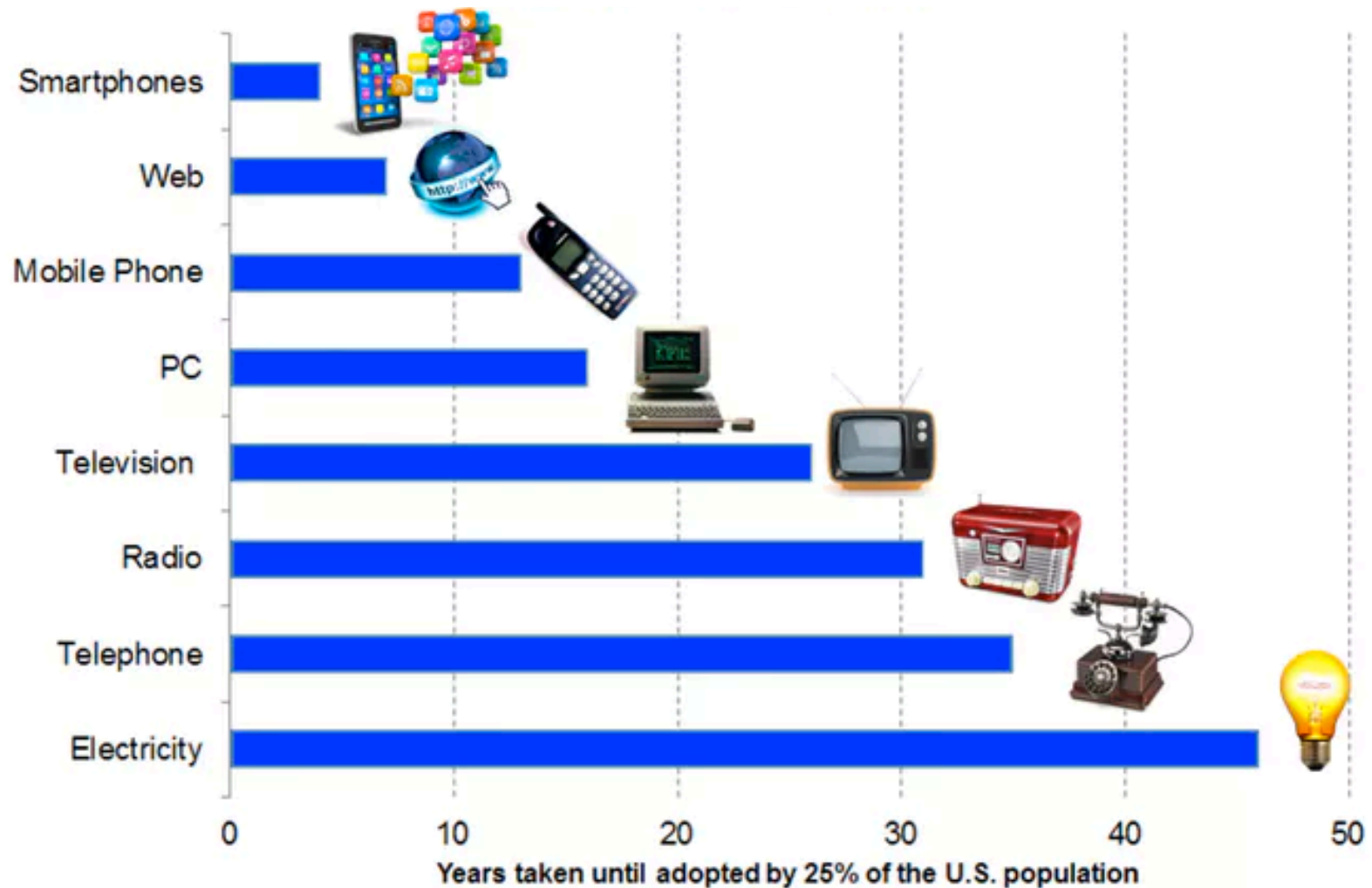
Collectively, over 65,000 investing organizations and individuals with responsibility for \$120 trillion, are committed to decarbonization.

Xcel Energy wants carbon-free electricity by 2050

Colorado's largest utility ups the ante in its plan for renewables



Technology Adoption Rates





Achieving Our 100% Renewable Energy Purchasing Goal and Going Beyond

From the conclusion on page 12:

2. Pursuing technology approaches that advance 24-7 clean energy

As we search for renewable energy projects in every market where we have significant operations, we'll also keep in mind our ultimate goal of 24-7 clean energy. This means that as part of our energy supply portfolio, we will need to address the variability associated with renewables through advanced technological approaches, among other means.

To this end, in complement to our wind and solar purchasing, in the future we may pursue dispatchable, zero-carbon generation energy options for our portfolio. These options could include purchasing energy from technologies like renewables paired with utility-scale energy storage, advanced nuclear power, geothermal energy, low-impact hydro, demand response and energy efficiency resources, or others.

Will nuclear join the conversation?




What's your vision of the future?

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BRIEF

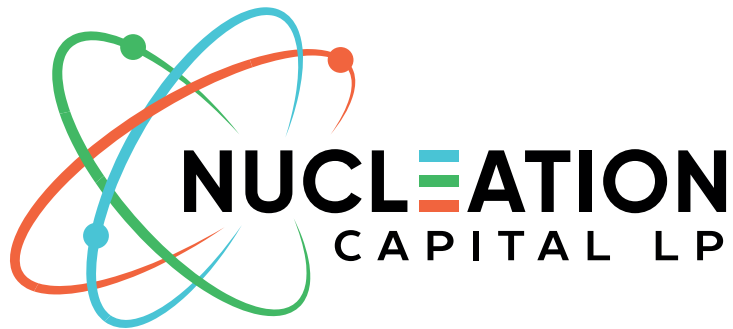
Nuclear power industry heading toward smaller, cheaper, faster build designs: ClearPath



“The key to making great investments is to assume that the past is wrong, and to do something that’s not part of the past, to do something entirely differently.”

—Donald Valentine

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