

CARBON CREDITS FOR THE INSULATION INDUSTRY

MGM National Harbor, Salon C

Brian Kassalen & Benjamin Martin



THE VOICE OF THE INSULATION INDUSTRY™

Agenda

- Introduction (5 minutes)
- Current state of decarbonization (15 minutes)
- Overview of carbon credits (10 minutes)
- Challenges and opportunities for insulation (20 minutes)
- Q&A (15 minutes)

Today's speakers



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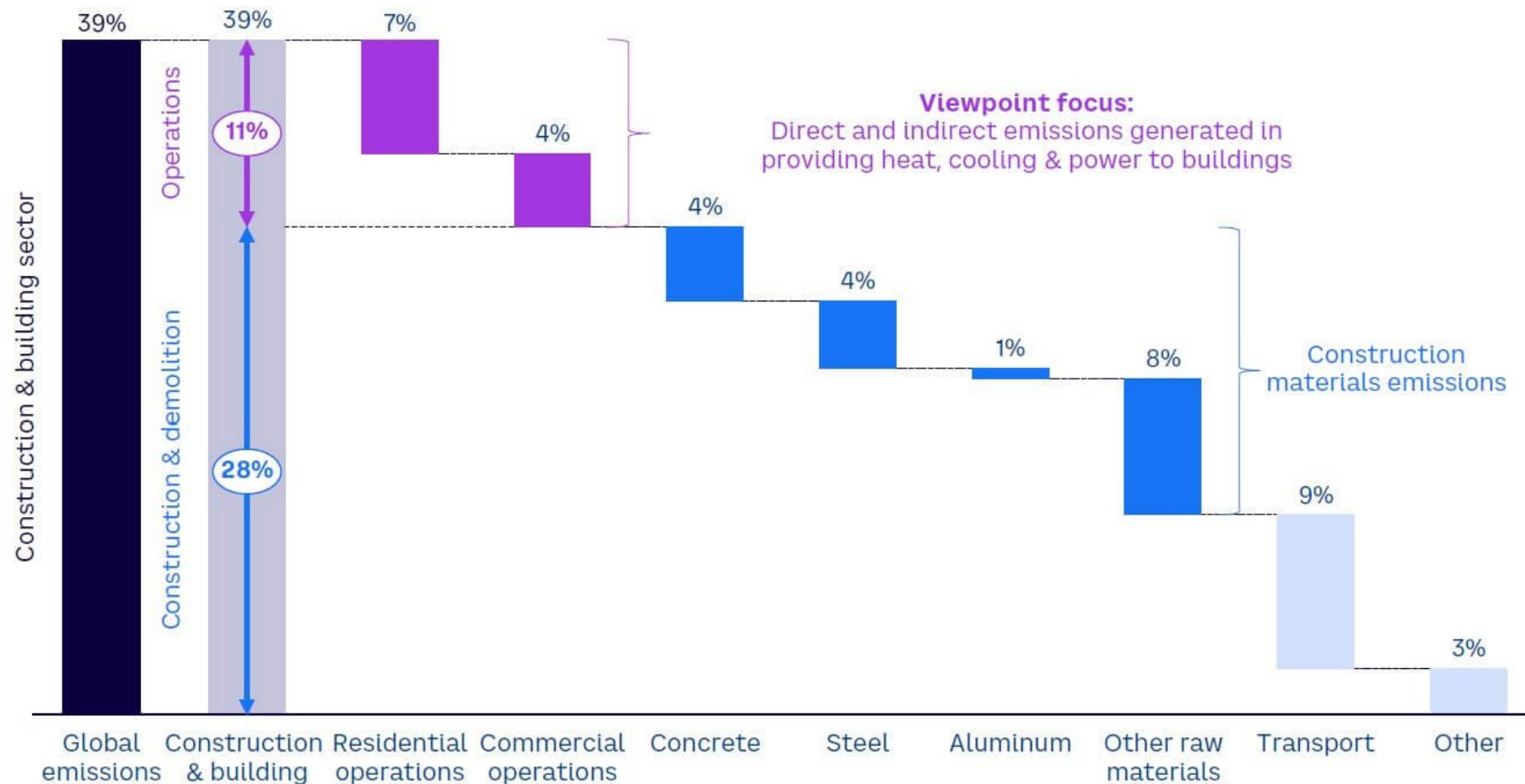


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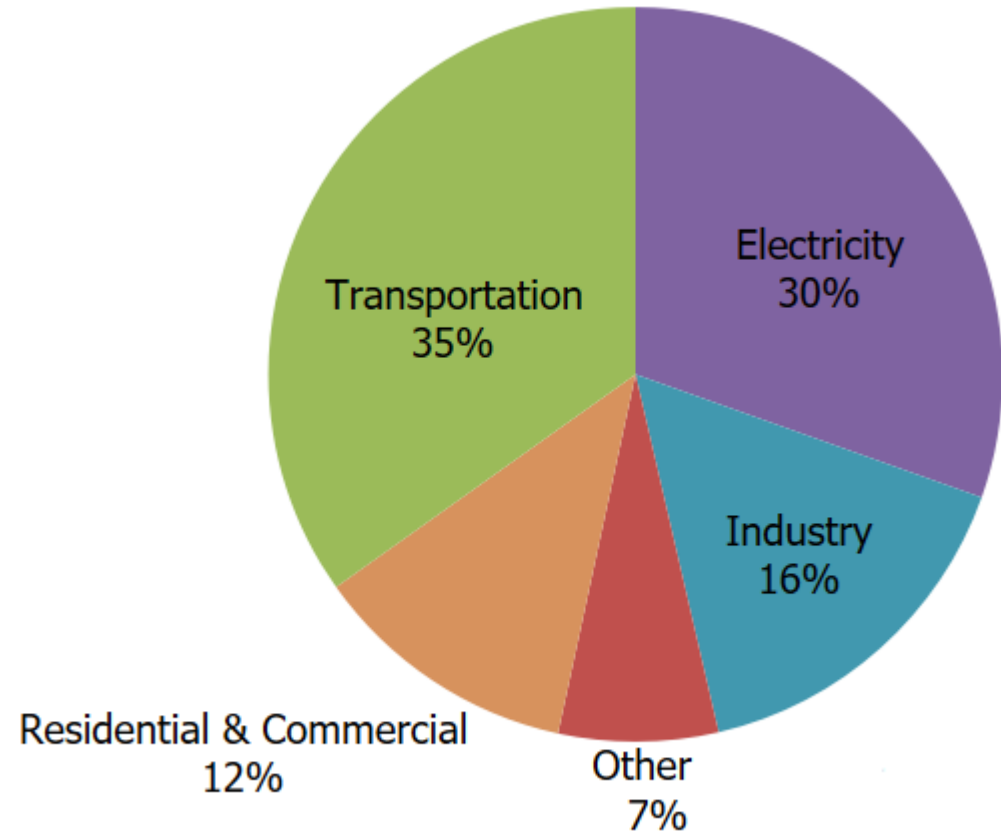
**Explore our ESG and
sustainability resources!**

Construction & building industry emissions

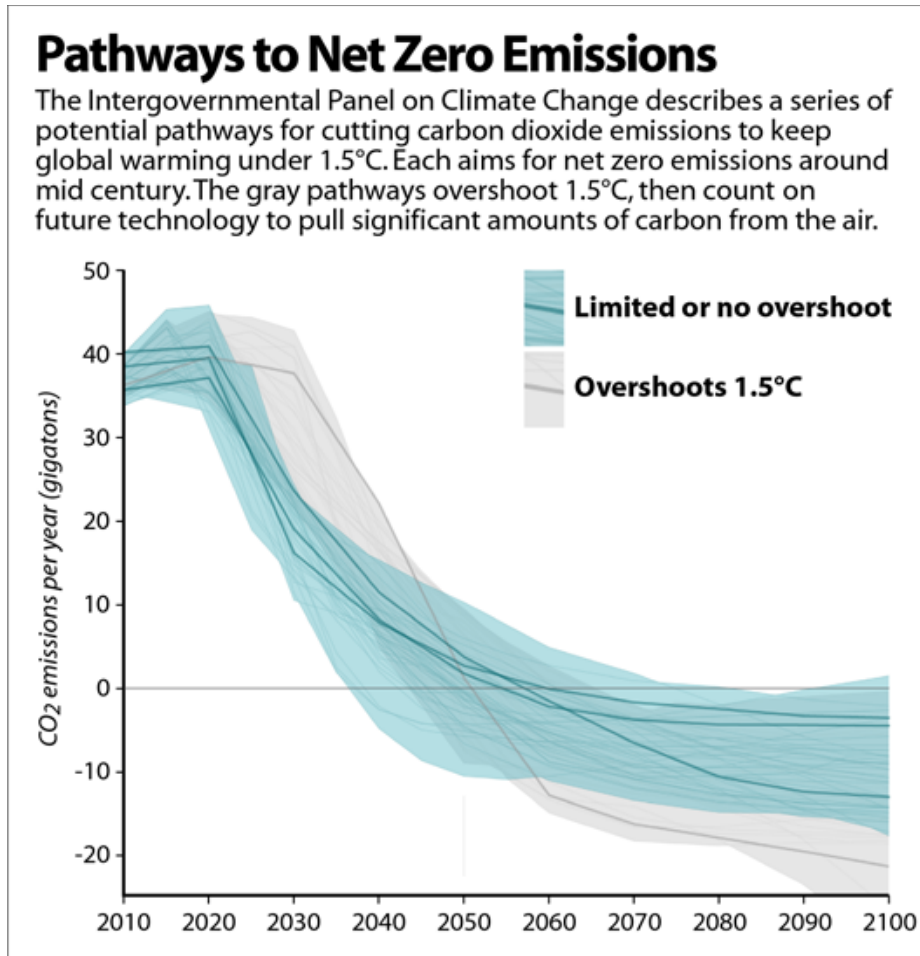


Decarbonization 101

U.S. carbon dioxide emissions, by economic sector



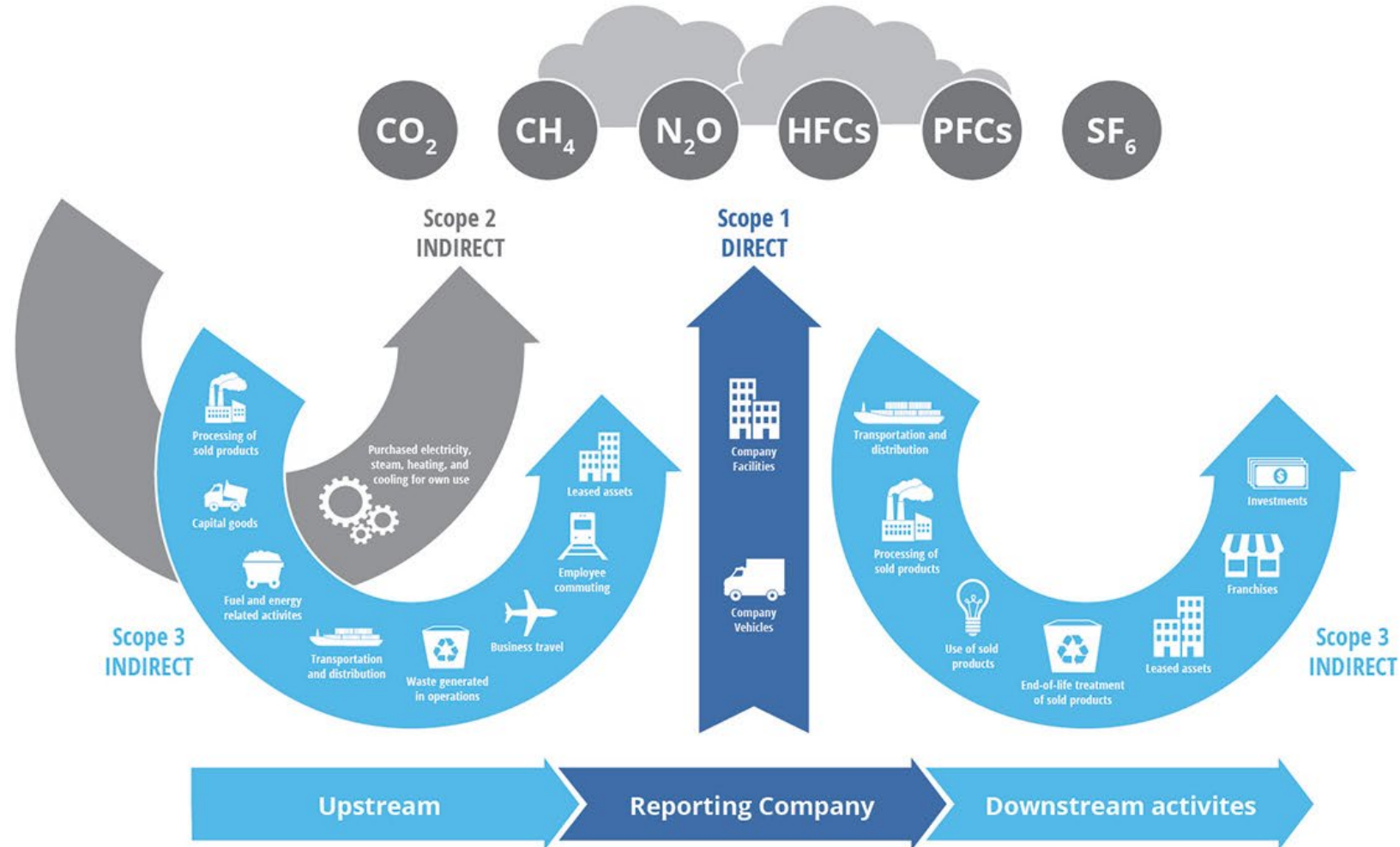
Source: United States Environmental Protection agency



SOURCE: Intergovernmental Panel on Climate Change (IPCC)

InsideClimate News

GHG accounting 101



Source: United States Environmental Protection Agency



6324

with science-based targets

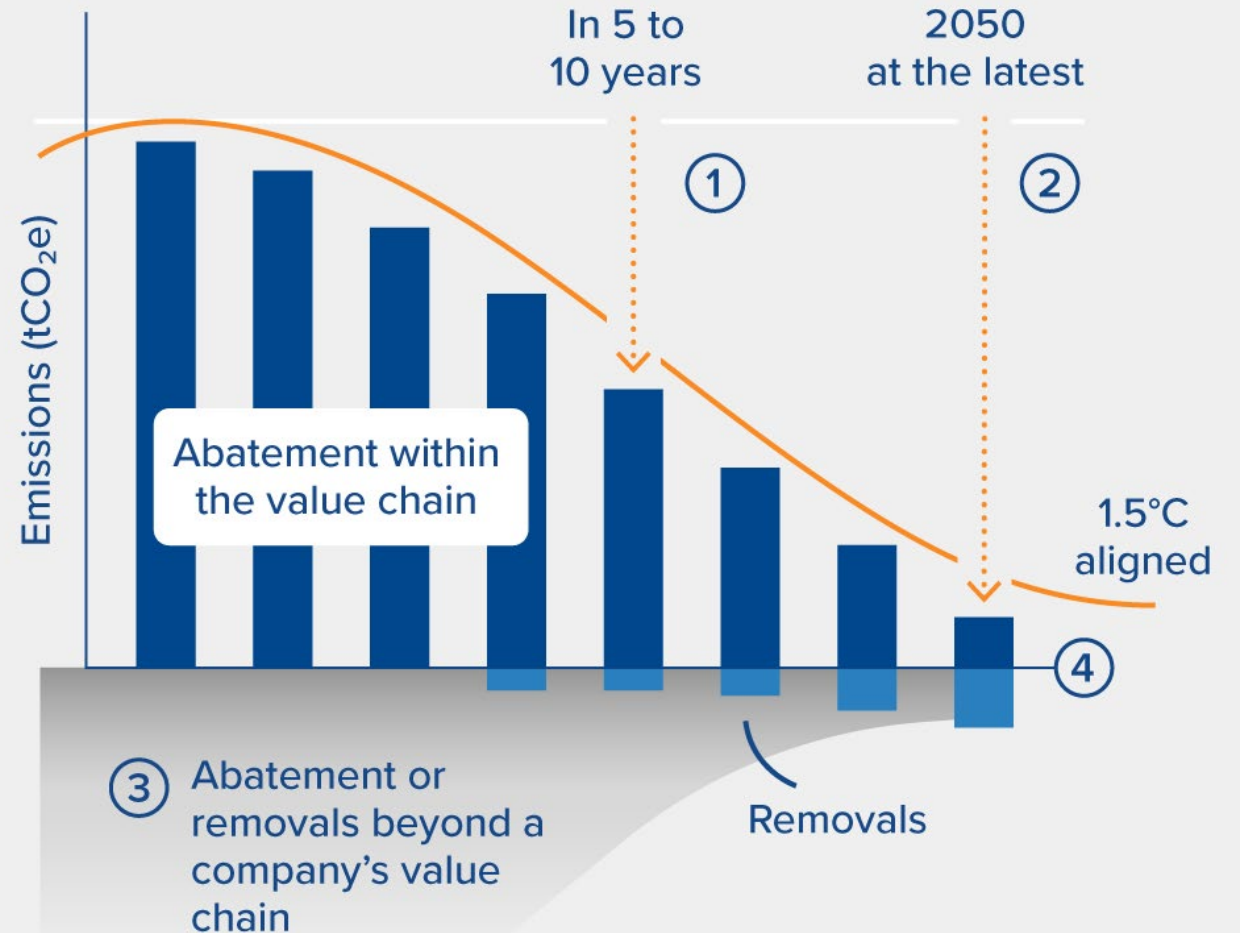
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companies taking action

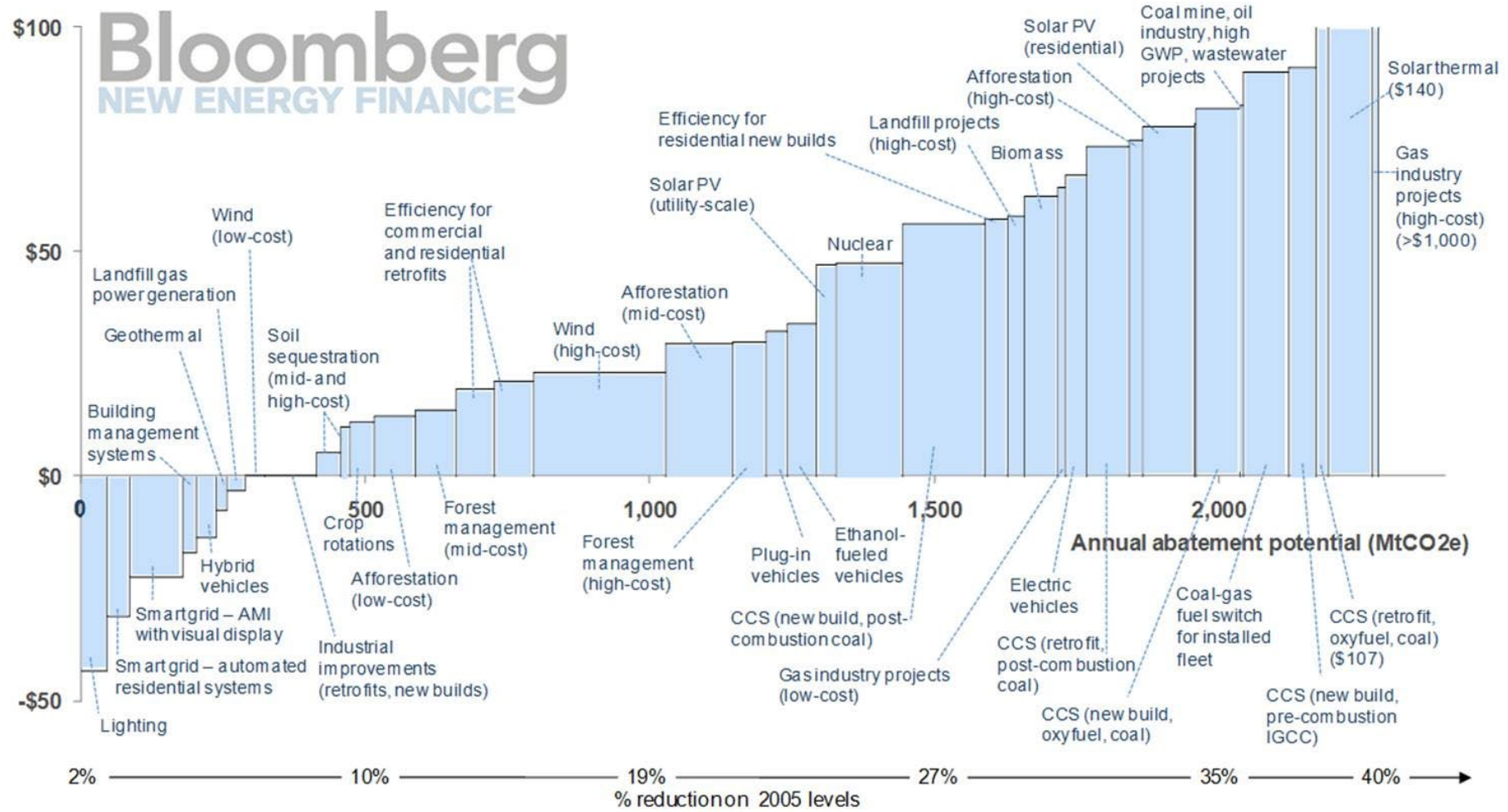
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net-zero commitments

Key Elements of the Net Zero Standard

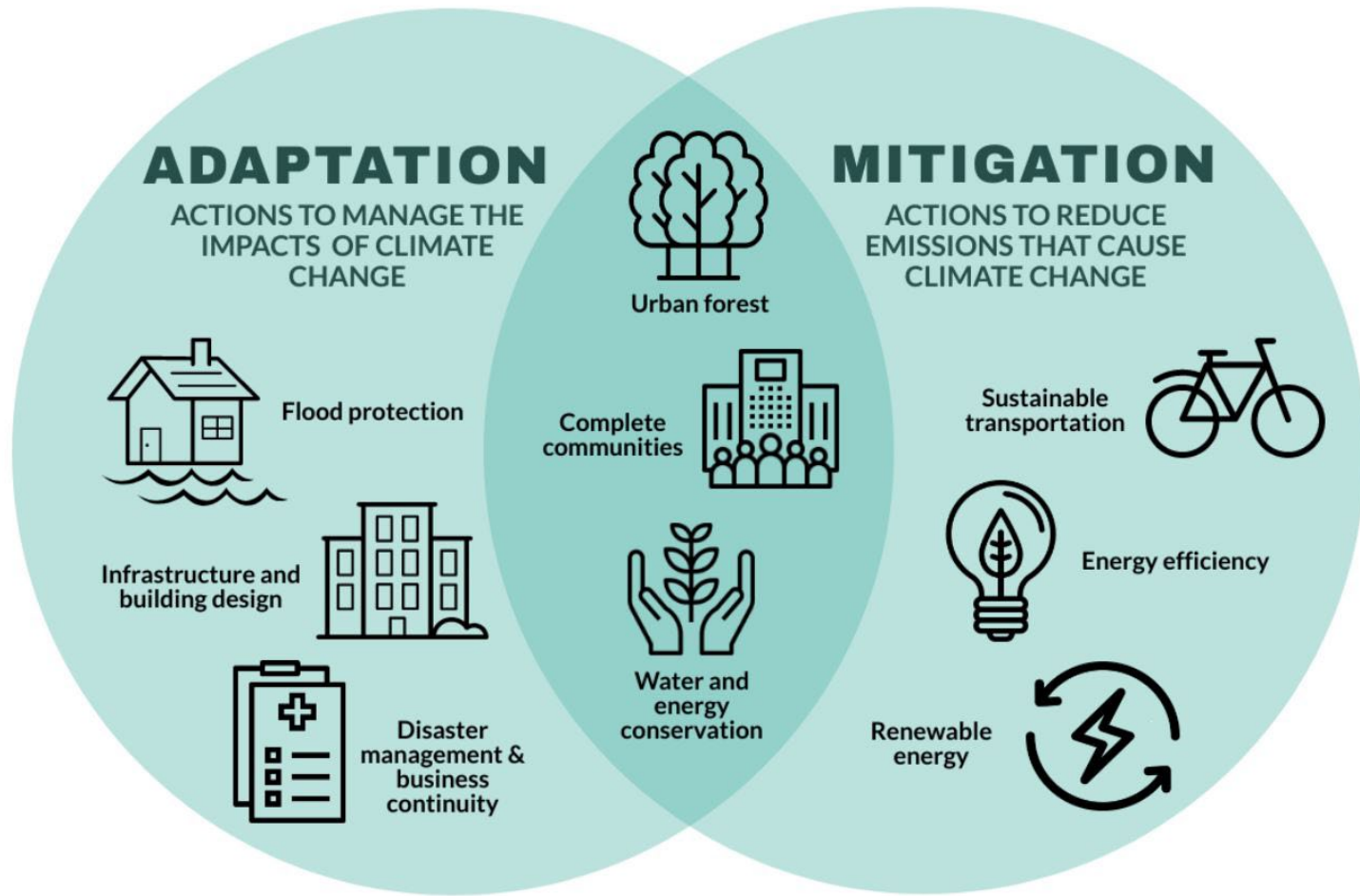


Decarbonization cost abatement curve

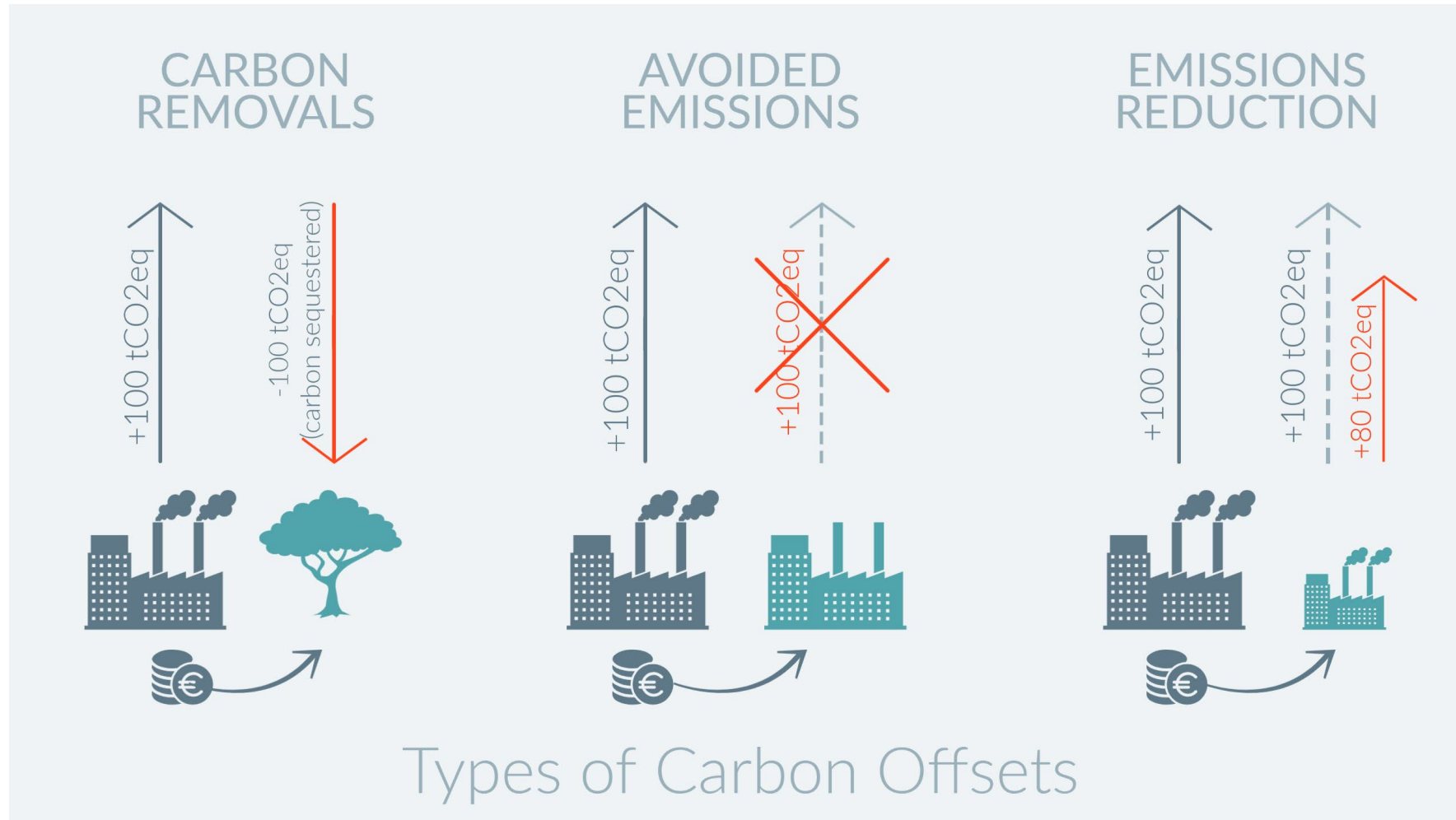


Source: Bloomberg

Mitigation vs. adaptation



Carbon offsetting



Carbon markets

Compliance markets

- Pertains to major emitters (e.g., utilities, large manufacturing)
- Cap & trade-based scheme
- National or state-level boundaries
- Based on an annual carbon budget set by the regulator
- Buy and sell credits for the right to exceed a pollution threshold
- Credits are fixed units
- Typically only the regulated entities participate

Voluntary markets

- Open to any market participant
- Credits are variable in their pricing and impact based on methodology and quality
- Applicable to many technologies and sectors, not just energy or transportation
- Potential to unlock a lot of potential carbon solutions
- Susceptible to double counting, false claims, and other potential risks

Types of carbon credits



Projects such as wind and solar power, as well as small hydroelectric power and bioenergy, can generate carbon credits through the reduction of greenhouse gas emissions from fossil fuels

RENEWABLE ENERGY



Planting new trees, either on previously unforested land or in areas where forests have been cleared, can generate carbon credits by sequestering carbon from the atmosphere. This is because trees absorb and store carbon through photosynthesis

AFFORESTATION & REFORESTATION



Projects that capture and destroy greenhouse gases such as methane, nitrous oxide, and fluorinated gases can also generate carbon credits

INDUSTRIAL GAS CAPTURE & DESTRUCTION



Projects that improve energy efficiency in buildings, industry, and transportation can also generate carbon credits. These projects can include retrofitting buildings with energy-efficient systems, improving the efficiency of industrial processes, and promoting the use of low-emissions vehicles

ENERGY EFFICIENCY



Projects that promote sustainable agricultural practices or change land use to reduce emissions from activities such as deforestation or peatland drainage

AGRICULTURE & LAND USE CHANGES



CCS technology is designed to capture carbon dioxide emissions from industrial processes such as power generation and to store the captured CO2 underground to prevent its release into the atmosphere, can also generate carbon credits

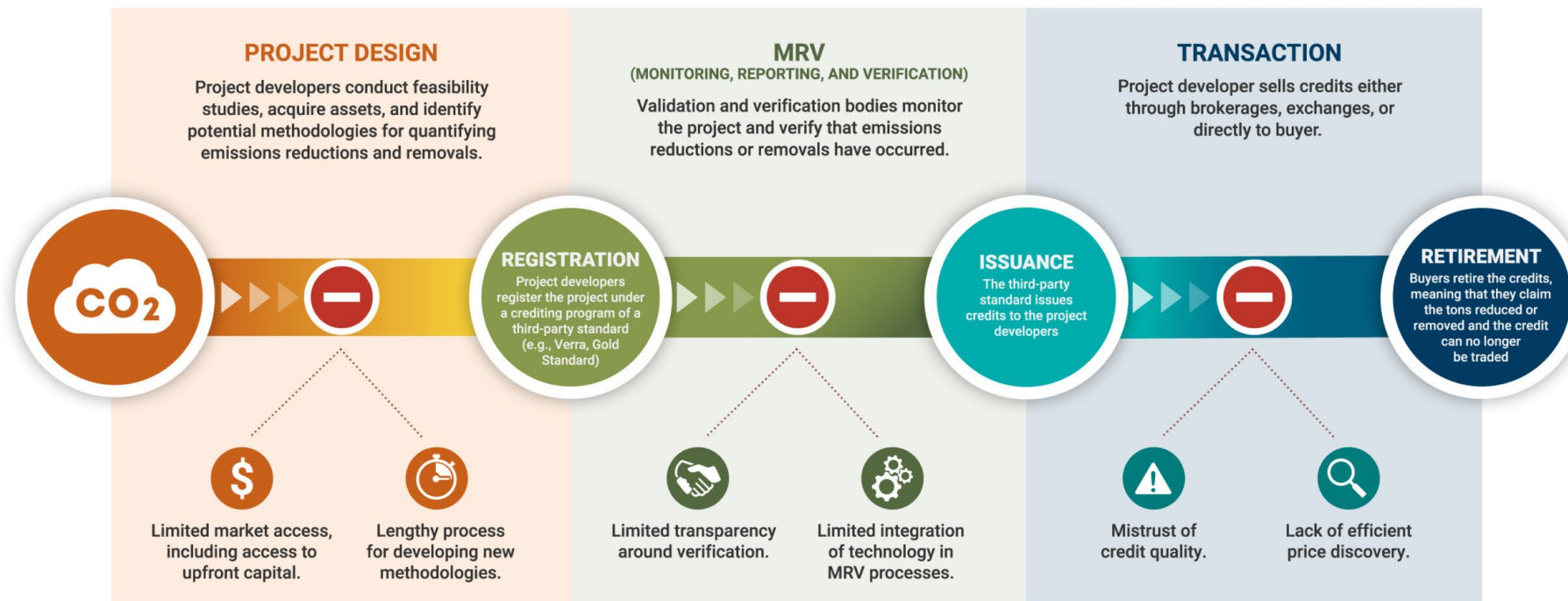
CARBON CAPTURE AND STORAGE (CCS)

MANY OTHERS...

Carbon credit life cycle

LIFE OF A CARBON CREDIT

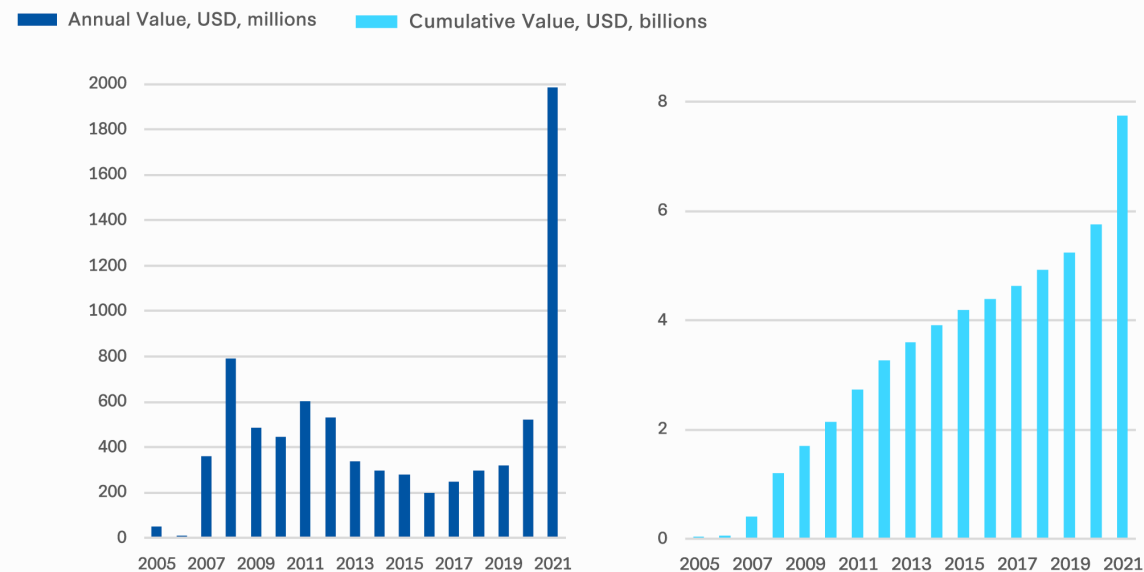
This graphic illustrates the process of developing and bringing carbon credits to market, highlighting a non-exhaustive set of barriers to ensuring a trusted and efficient voluntary carbon market.



Source: Rocky Mountain Institute (RMI)

Growth of the voluntary carbon market

Figure 1: Global Voluntary Carbon Market Size by Value of Traded Credits



Source: "Market Size by Traded Volumes of Voluntary Carbon Credits, Pre-2005 to 31 August 2021," Ecosystem Marketplace, <https://data.ecosystemmarketplace.com/>.

Key groups

Standards and methodologies

- Verified Carbon Standards
- American Carbon Registry
- Gold Standard
- Voluntary Carbon Markets Initiative

Marketplaces

- London Stock Exchange Voluntary Carbon Market
- Nasdaq Climate Market
- Xpansiv CBL
- AirCarbon Exchange

Insulation credit vehicle opportunities

- Long-term stored carbon of insulation for materials with a high carbon density (e.g., natural fibers, wood pulp, etc.).
- Consider engaging a specialist to perform a detailed life cycle assessment of insulation products to determine their embodied carbon, their carbon storage capabilities, and the range of carbon impacts these technologies can have.
- Engage a certification body to perform a review of those technologies and determine a credible methodology to securitize a project.
- Find a carbon credit marketplace that can source potential buyers for these credits.

Key challenges

- Carbon removals and storage are vastly more valued than avoided emissions.
- The market is built on integrity and many projects do not have robust methodologies to understand carbon removals or avoidance with precision.
- Current momentum is on large-scale projects, usually in the forestry or other land use sectors.

Other opportunities

- Engaging all companies early in their climate strategy for energy savings measures (clear ROI).
- Targeting companies with climate targets to highlight cost-saving energy efficiency solutions as a key lever for decarbonization.
- Engaging real estate industry partners on resiliency/adaptation measures for buildings.
- Finding materials that are lower carbon alternatives to reduce upstream emissions.

Inflation Reduction Act (IRA)



**Aug. 16, 2022
signed into law**



**728
pages**



**\$738 billion
in funding**



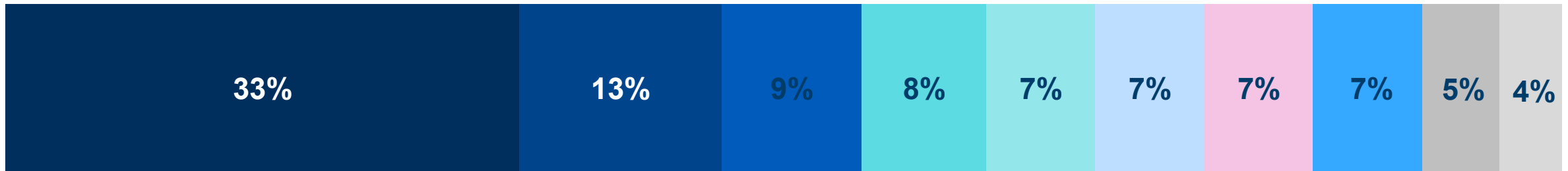
**\$270 billion for
energy incentives
in 70 separate
energy property
types**

Often referred to as the “Act”

Note: Per the Congressional Budget Office – September 7, 2022

IRA OVERVIEW

Breakdown of \$499B in available funding



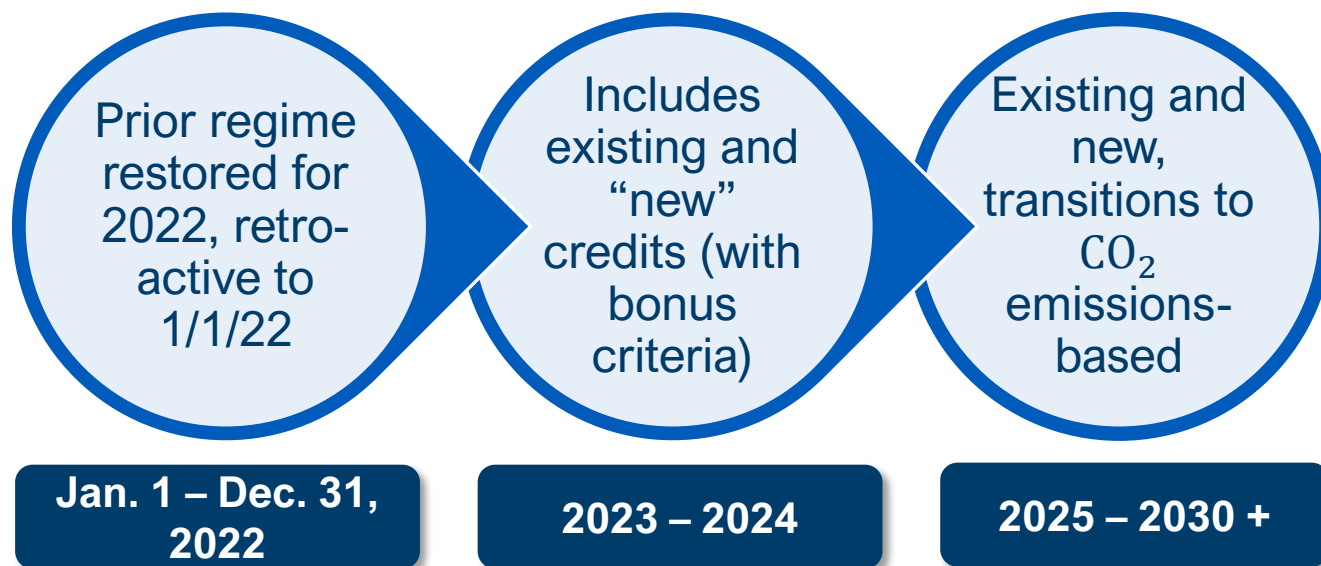
- 33% — Clean electricity tax credits
- 13% — Extension of expanded ACA subsidies
- 9% — Par D re-design, LIS subsidies, vaccine coverage, and insulin
- 8% — Air pollution, hazardous materials, transportation, and infrastructure
- 7% — Individual clean energy incentives
- 7% — Clean manufacturing tax credits
- 7% — Clean fuel and vehicle tax credits
- 7% — Conservation, rural development, and forestry
- 5% — Building efficiency, electrification, transmission, industrial, DOE grants, and loans
- 4% — Other energy and climate spending

How big is the “energy” piece of the Act?

- More than 70 separate tax credits in the IRA
- All but a few of these credits are entitlement credits – at least two are competitive and allocated
 - Environmental justice and manufacturing tax credits have allocation process
- Timeframe: Most credits are good through 2032, which is the longest U.S. “energy policy” timeframe ever
- Tax credits extended, enhanced, and increased in size for energy generation and decarbonized fuel production projects, electric vehicle infrastructure, manufacturing facilities, and certain minerals **all with the goal of reducing carbon emissions**
- Meaningful emphasis on jobs/earnings growth, domestic content, and environmental justice
- Creates ability to transfer credits or receive direct payments from IRS (depending on type of owner and technology)

How big is the “energy” piece of the Act?

DOE, USDA, and other direct funding is significant



Available credits

Existing credits with enhanced features

- Combined heat and power
- Solar
- Biomass and trash facilities
- Biodiesel
- Carbon capture
- Renewable fuels
- Wind
- Hydro and geothermal

New credits with bonus features

- Manufacturing (facility and unit production)
- Qualifying biogas
- Energy efficiency construction (commercial and residential)
- Solar production tax credit
- Storage (e.g., batteries)
- Clean transportation fuels
- EV infrastructure and vehicles (commercial and residential)
- Sustainable aviation fuels
- Clean hydrogen
- Zero emission nuclear

Eligible entities for “qualifying” energy project tax credits

The Act provides for a direct offset to federal tax liability in the form of a tax credit.

Three ways credits bring value to projects:

1. Owner(s) can simply use the tax credit against their own tax liability, in most case back 3 years and forward 22 years
2. If owner(s) doesn't have tax liability or taxable income, they can now sell certain credits to another taxpayer* (“transferability”)
3. Tax – exempt owners can receive a “direct payment” in the form of cash payment from the IRS. These include state and local governments, not-for-profits, tribes, and others (“direct pay”) for certain credits

Essentially, the Act is enabling ALL entities to utilize this legislation regardless of tax status. Additionally, 45Q, 45V, and 45X are eligible for direct pay for non-exempt taxpayers for the first 5 years.



Credit basis is unique

Tax credits can be calculated on a few fundamental bases:

- Build qualifying “energy property” – receive federal tax credit:
 - Investment tax credit (ITC), which can vary in amount based on percent of depreciable cost basis, location, and fuel displacement
 - Production tax credit (PTC) based on unit production over multiple years (most 10 years, some 12 years)
- Manufacture components, systems, or other materials that qualify as low-carbon emission contributors and receive an ITC or a PTC (based on a per-unit basis)
- Energy efficiency – receive a federal tax credit based on certain energy efficiency criteria, applies to both commercial and residential properties

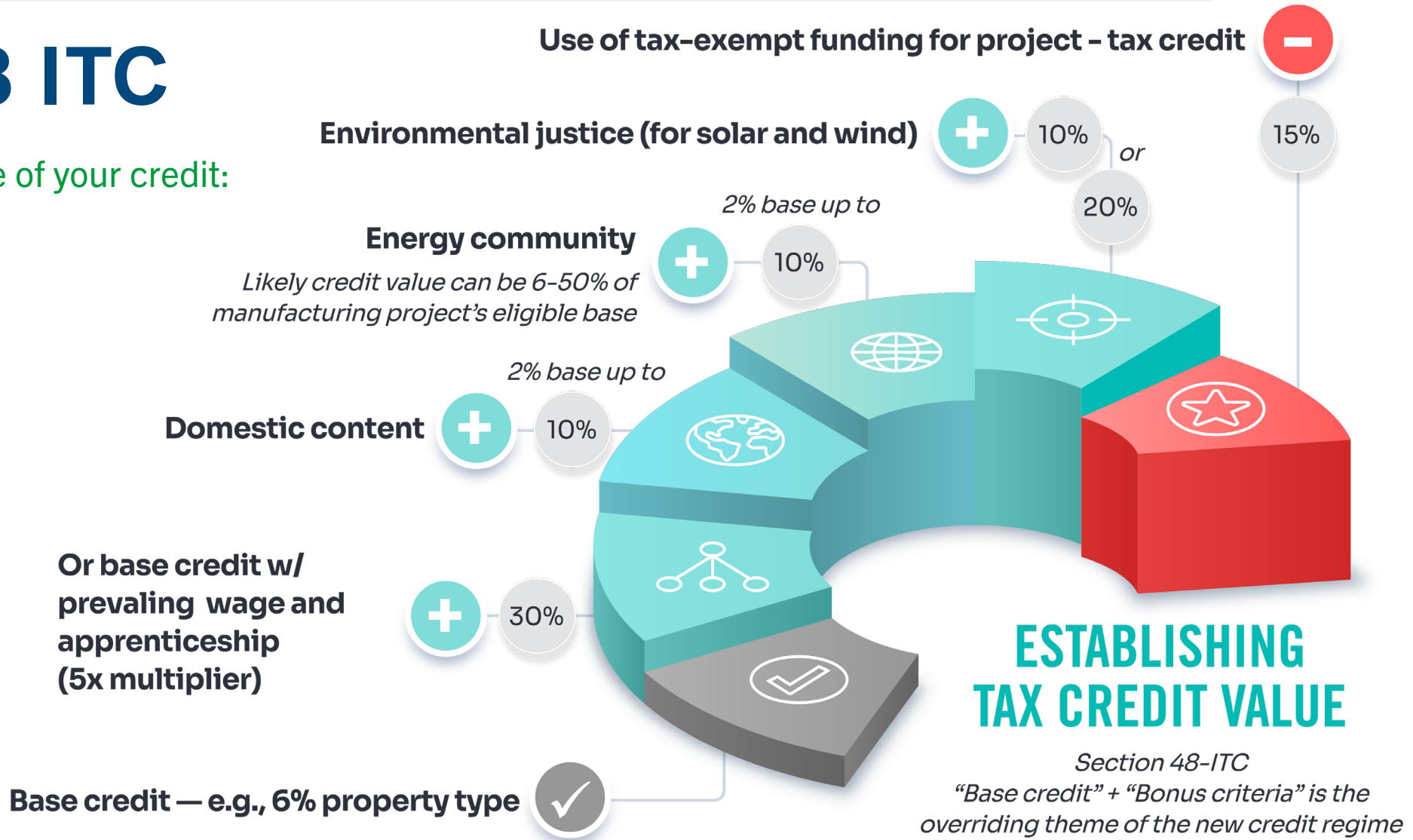
Clean energy tax credits

Investment tax credits (ITC) and production tax credits (PTC)

- Both have **base energy credit value** and if prevailing wage and apprenticeship requirements are met – a **5X** multiplier on base credit is earned
- + **3** adders to base credit available
- Not all credits apply to all projects

Section 48 ITC

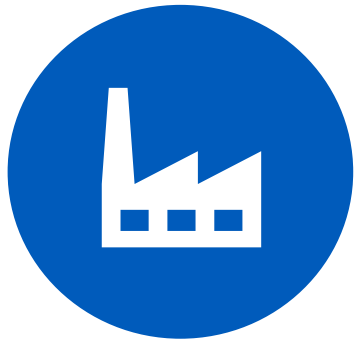
How to calculate the value of your credit:



Not all credits apply to all projects

Maximizing credits and compliance requirements

Bonus credit eligibility confirmation



**Prevailing wage &
apprenticeship**



Domestic content



Energy community

Questions?



Thank you! Let's stay connected



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**Explore our ESG and
sustainability resources!**