ENERGY TRADING WEEK AMERICAS

Money Changes Everything

Catalyzing clean energy markets by seizing U.S. climate stimulus

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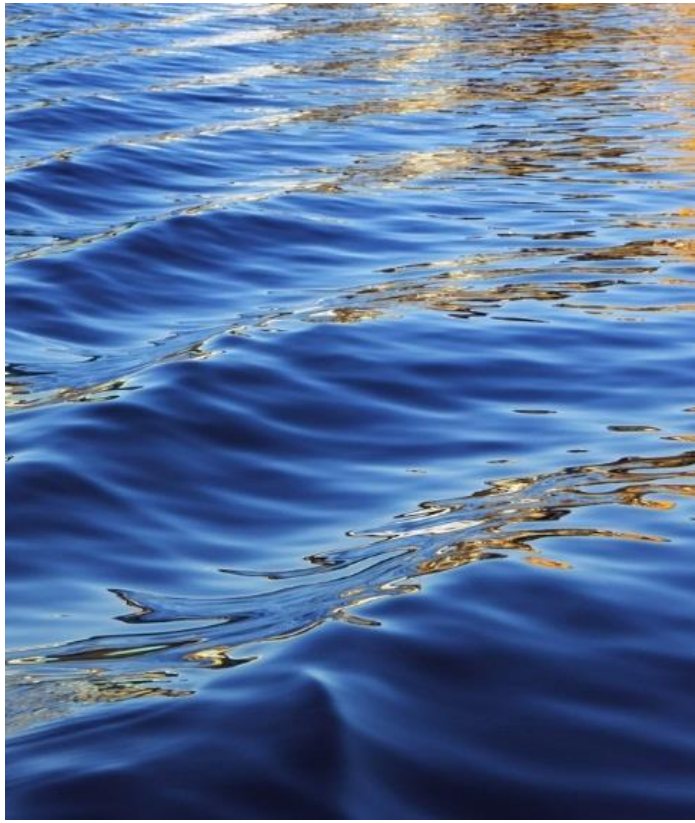
Today's Agenda

- Energy Security and Net Zero Pathways
- Once-In-A-Generation U.S. Climate & Energy Acts
- Department of Energy Investing in American Energy
- Grants to Innovate and Scale Clean Technologies
- Leading Practices and Frameworks

Energy Security and Net Zero Pathways



U.S. Billion-Dollar Weather and Climate Disasters

The U.S. has sustained 371 weather and climate disasters since 1980 where overall damages/costs reached or exceeded $1 billion (including CPI adjustment to 2023).

All Years
1980 to Present

EVENTS	COST	DEATHS
371	$2,616.1	16,111
8.4 / year	$59.5B / year	366 / year

Last 5 Years
2018 to 2022

EVENTS	COST	DEATHS
90	$620.6	1,751
18 / year	$124.1B / year	350 / year

Since 1980

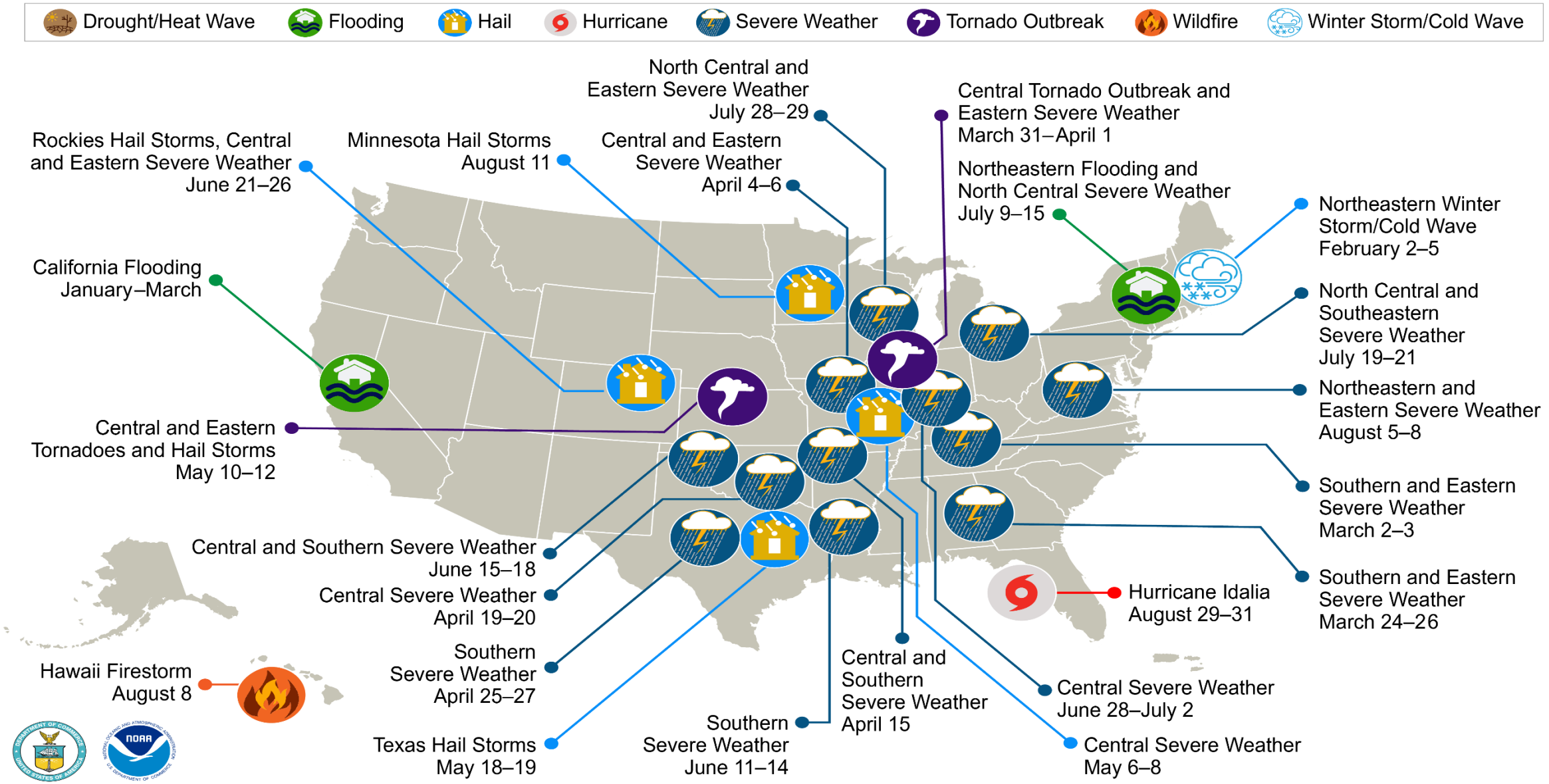
371 Events

Total Cost

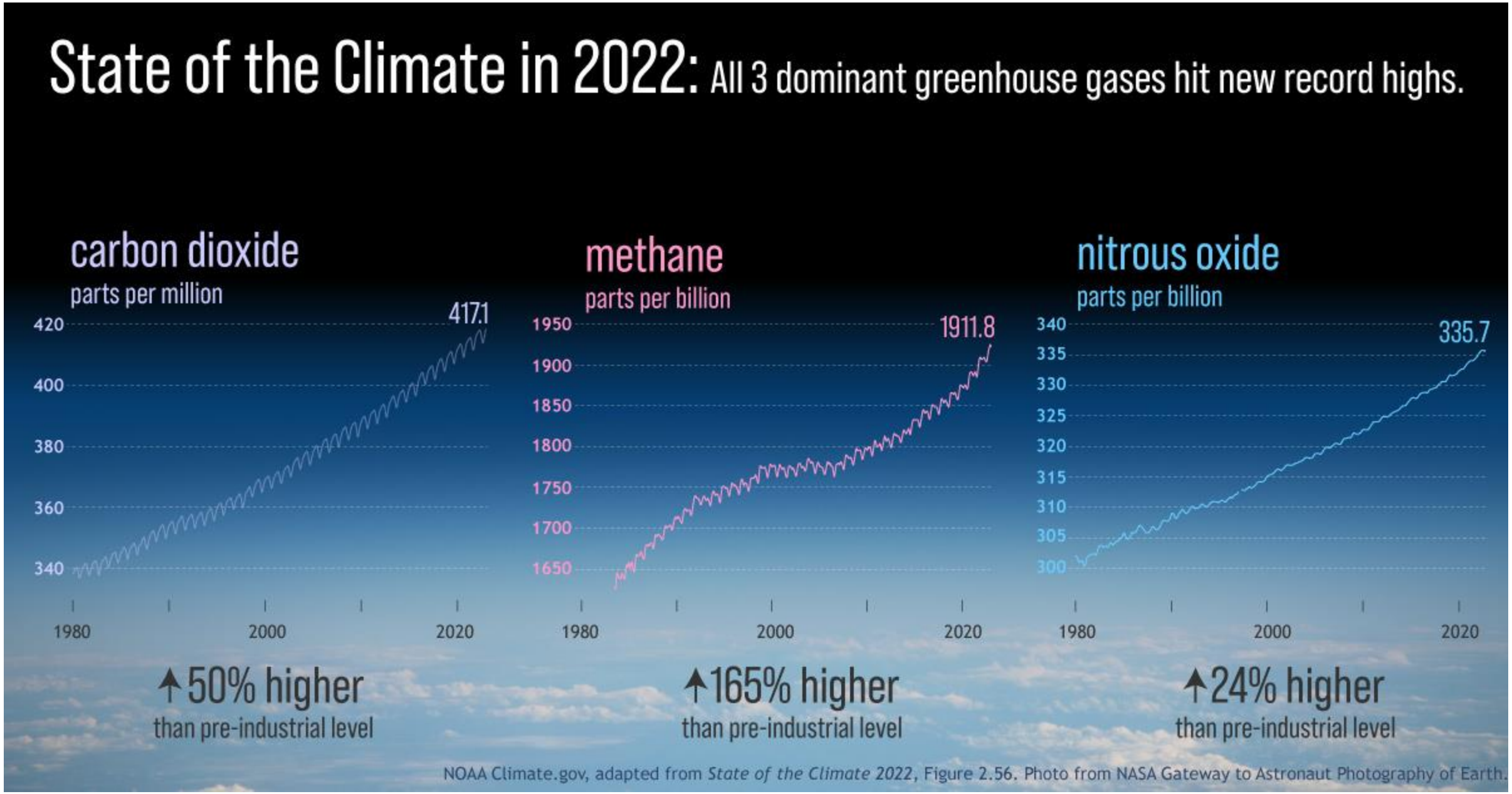
$2.615 Trillion

Source: NOAA National Centers for Environmental Information (NCEI) U.S. Billion-Dollar Weather and Climate Disasters (2022). https://www.ncei.noaa.gov/access/billions/, DOI: 10.25921/stkw-7w73

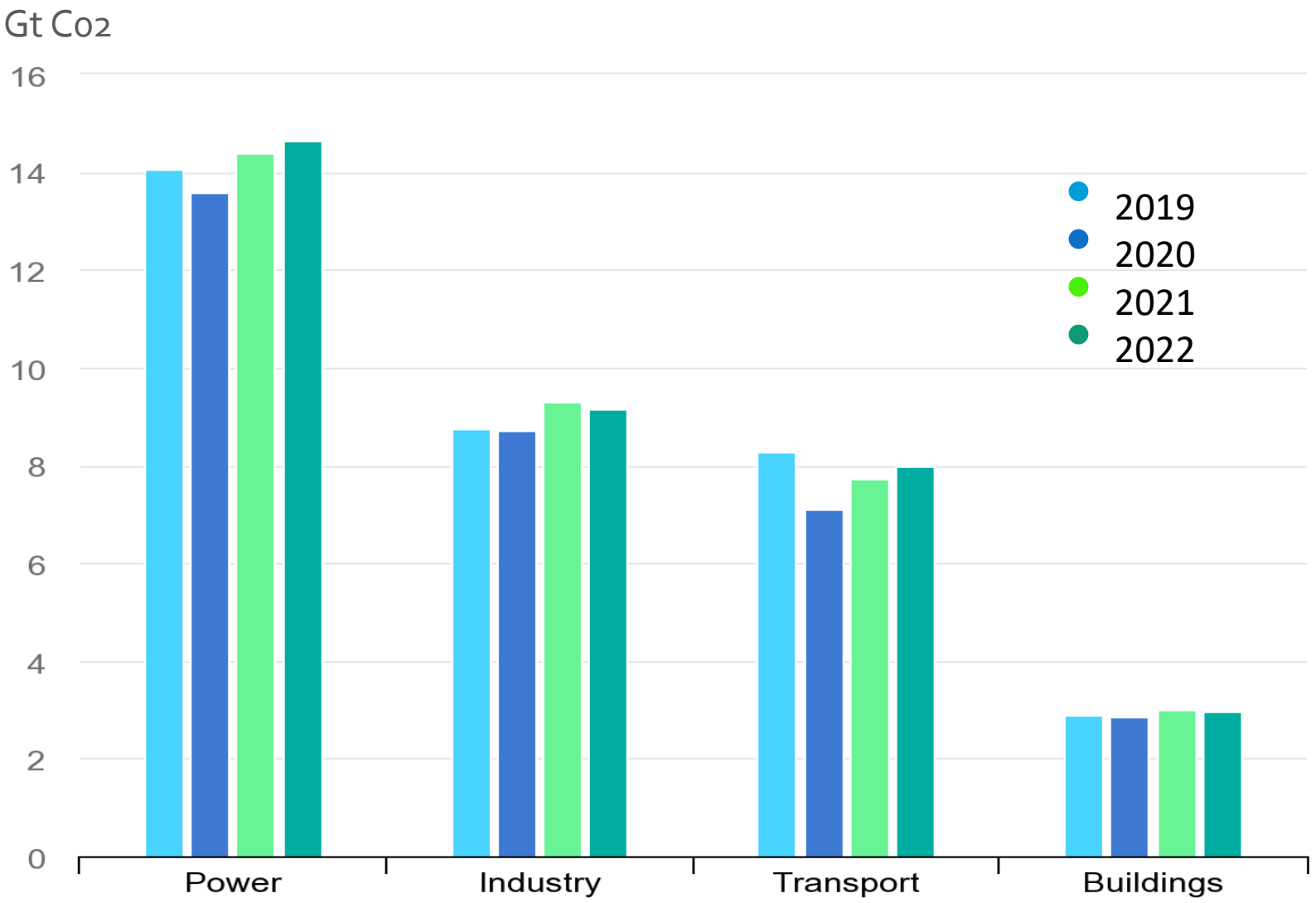
U.S. 2023 Billion-Dollar Weather and Climate Disasters



This map denotes the approximate location for each of the ***23 separate billion-dollar weather and climate disasters that impacted the United States through August 2023.***

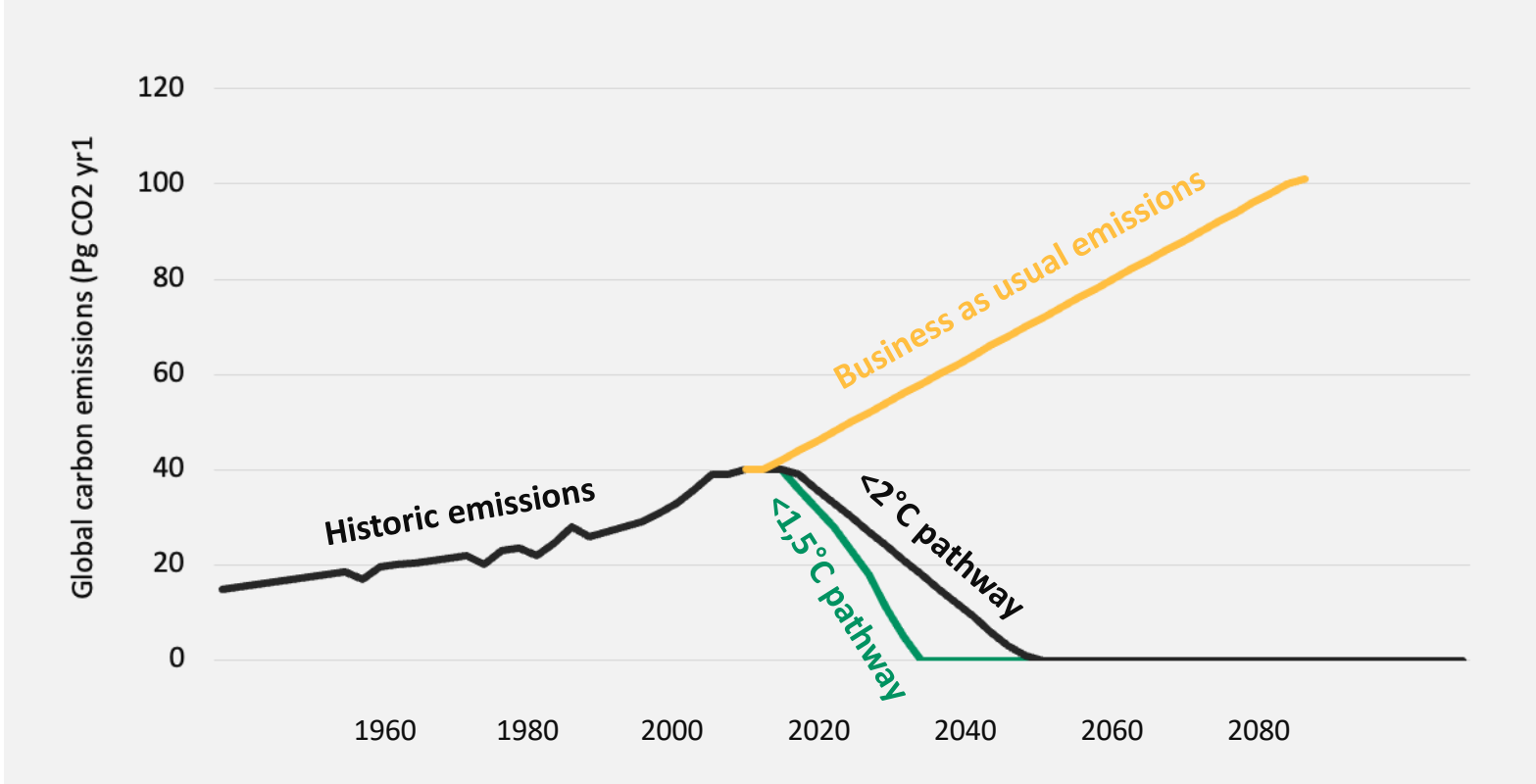

State of the Climate in 2022: All 3 dominant greenhouse gases hit new record highs.
carbon dioxide
parts per million
417.1
420
400
380
360
340
1980
2000
2020
↑50% higher
than pre-industrial level
methane
parts per billion
1911.8
1950
1900
1850
1800
1750
1700
1650
1980
2000
2020
↑165% higher
than pre-industrial level
nitrous oxide
parts per billion
335.7
340
335
330
325
320
315
310
305
300
1980
2000
2020
↑24% higher
than pre-industrial level
NOAA Climate.gov, adapted from State of the Climate 2022, Figure 2.56. Photo from NASA Gateway to Astronaut Photography of Earth.

Global CO2 Emissions by Sector 2019-2022



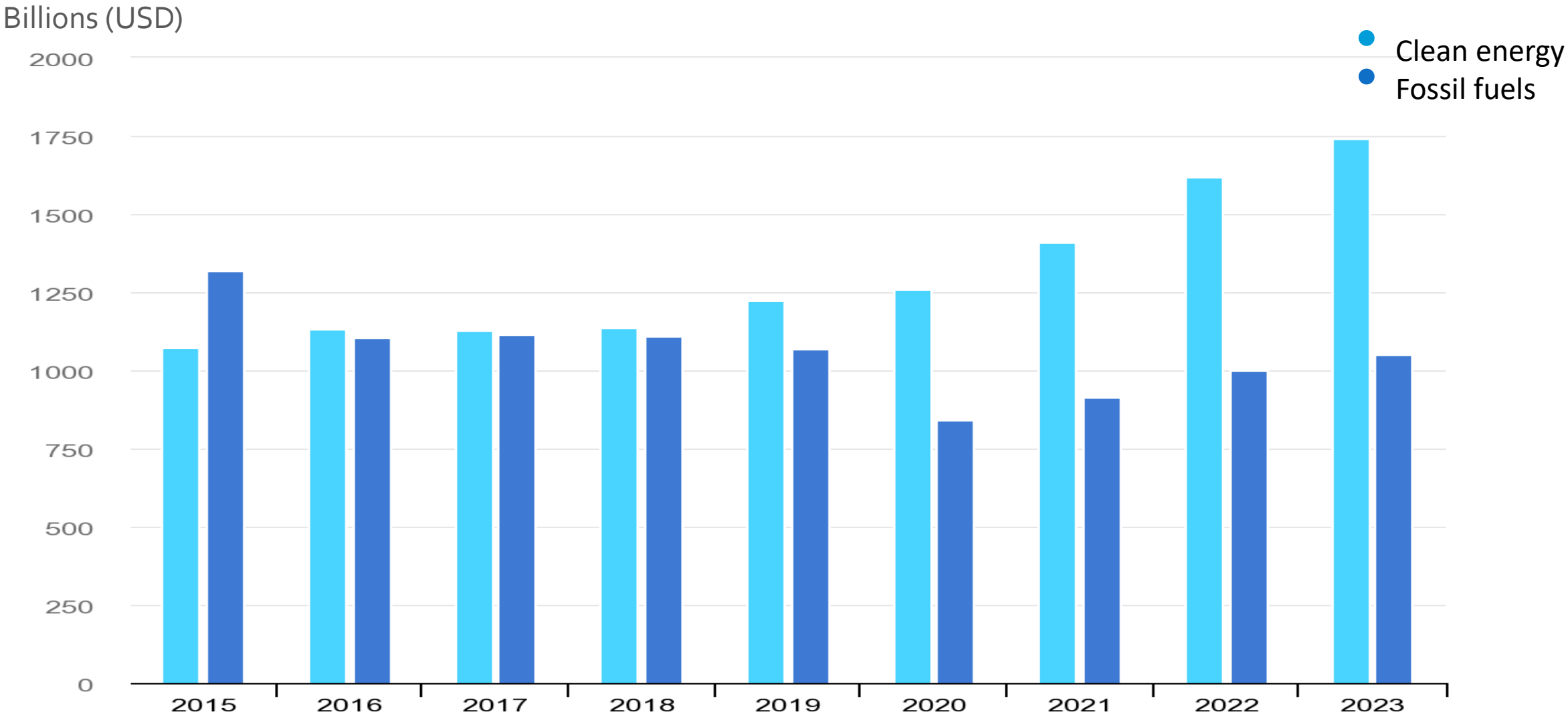
Source: https://www.iea.org/data-and-statistics/charts/global-co2-emissions-by-sector-2019-2022

Global Net Zero Pathways



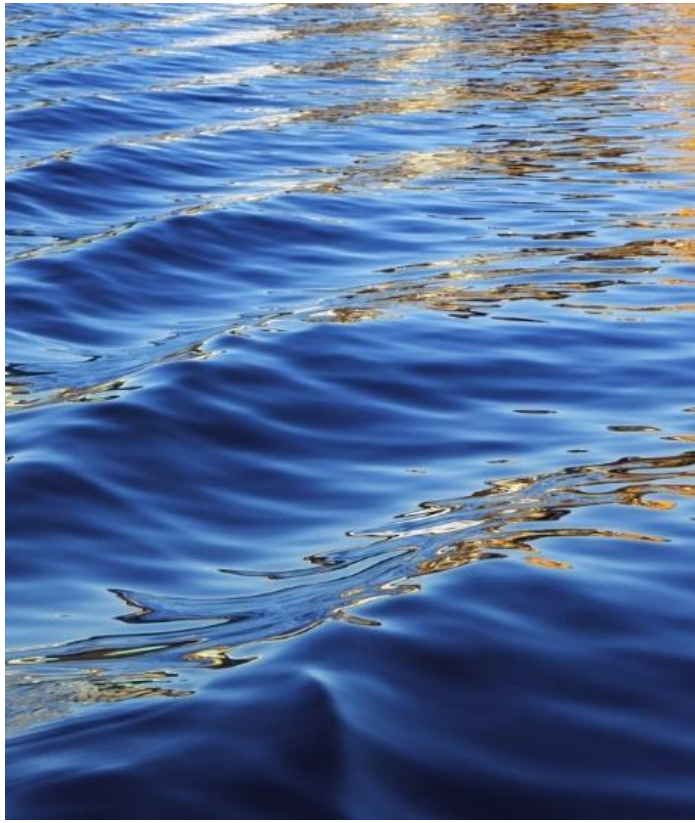
Source: IPCC Special Report 2018

Global Energy Investment in Clean Energy & Fossil Fuels



Source: IEA World Energy Investment 2023 Report www.iea.org

Once-in-a-Generation U.S. Climate & Energy Acts



The Once-In-A-Generation Infrastructure Law

Infrastructure Investment and Jobs Act of 2021	(billions)
Roads, bridges, major transportation projects	110
Passenger, freight rail, and modernization of corridors	66
Grid resilience infrastructure, T&D modernization, and innovation	65
Broadband, digital divide projects, reliable high-speed internet	65
Water infrastructure, clean water access, pipe replacement	55
Power and cyber resiliency, disaster mitigation, and energy security	47.2
Public transportation, power systems, clean and modernized transit	39.2
Airport systems and air traffic control infrastructure	25
Superfund and brownfield sites, plug well sites, abandoned mines	21
Ports, waterways, and coastal infrastructure	16.6
Highways and pedestrian safety programs	11
Western water infrastructure, water storage, and water recycling	8.3
Clean school buses and ferries	7.5
Electric vehicle charging, alternative fuel corridors, national network	7.5
Reconnecting communities, streets grids, parks, other infrastructure	1
Total IIJA Funding Opportunities (excluding cost share mandates)	**545.3**

In November 2021, Congress passed the Bipartisan Infrastructure Deal, Infrastructure Investment and Jobs Act (IIJA), as a once-in-a-generation investment of $1.2 trillion including investment match from the private section to build next generation infrastructure while stimulating national economic growth and fostering global competitiveness.

The historical legislative package will rebuild America's roads, bridges, and rails, expand access to clean water, ensure every American has access to high-speed internet, build resilient infrastructure to mitigate climate and energy security risks, advance environmental justice and a sustainable American workforce.

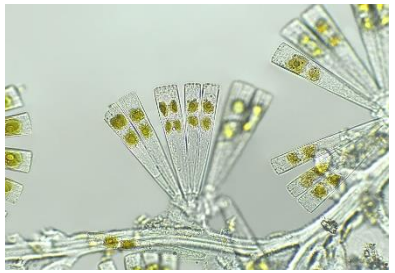
First-of-a-kind public and private collaborations are being formed to unlock market opportunities and generate sustained value creation for all stakeholders by jointly pursuing the IIJA stimulus on targeted portfolio of capital infrastructure investments.

IIJA stimulus coupled with the Inflation Reduction Act of 2022 of $369 billion boosts funding for large-scale climate and clean energy projects across America rural and urban regions.

Inflation Reduction Act (IRA) Tax Incentives

Energy Efficiency
45L – New Energy Efficient Home Credit
179D – Energy Efficiency Commercial Buildings

Carbon-Free Power Generation
45 – Clean Energy PTC
45U – Zero-Emission Nuclear Power PTC
45V – Clean Hydrogen PTC
45Y – Clean Electricity Technology Neutral PTC
48 – Clean Energy ITC
48E – Clean Electricity Technology Neutral ITC



Clean Fuels
40A – Biodiesel & Alternative Fuels Credit
40B – Sustainable Aviation Fuel Credit
45Z – Clean Fuel Production Credit
Alternative Fuel & Low-Emission Aviation Technologies
Biodiesel, Renewable Diesel, and Alternative Fuels

Carbon Sequestration
45Q – Carbon Capture & Sequestration Credit

Transportation Decarbonizaton
30C – Alternative Refueling Infrastructure
30D – Clean Vehicle Credit
45W – Qualified Clean Commercial Vehicles
and Clean Heavy-Duty Vehicles Grant Program

Advanced Manufacturing
45X – Advanced Manufacturing Production Tax Credit
48C – Advanced Energy Project Credit
Domestic manufacturing conversion grants
Advanced Industrial Facilities Deployment Program

Direct Pay Election: Proposed and Temporary Regulations

- The Inflation Reduction Act of 2022 (P.L. 117-169) added a novel "direct pay" provision, Section 6417, to the Internal Revenue Code.
- Section 6417 provides that "applicable entities" may elect to treat certain Applicable Credits as direct payment made against their federal income tax liabilities, thereby allowing such entities a federal tax refund of the among of the direct payment in excess of any tax liability (the "direct-payment election").
- On June 14,2023, the IRS and Treasury released Section 6417 proposed regulations (REG-101607-23) and temporary regulations (T.D. 9975).
- Comments submitted to the IRS and Treasury on Section 6417 by August 14, 2023.

Applicable Entities

Tax-exempt entities, government entities, state or local governments, the Tennessee Valley Authority, Indian Tribal governments or an Alaska Native Corporation can elect "direct pay".

Applicable Credits

30C Alternative Fuel Vehicle Credit
45 Renewable Production Tax Credit
45Q Carbon Oxide Sequestration Credit
45U Nuclear Production Tax Credit
45V Clean Hydrogen Production Credit
45W Commercial Vehicles
45X Advanced Manufacturing
45Y Electricity Technology Neutral PTC
45Z Clean Fuel PTC
48 Energy Investment Tax Credit (ITC)
48C Advanced Energy PTC
48E Electricity Technology Neutral ITC

Transferability of Credits: Proposed and Temporary Regulations

- The Inflation Reduction Act of 2022 (P.L. 117-169) added a novel "transferable credit" provision, Section 6418, to the Internal Revenue Code.
- Section 6418 provides that "eligible taxpayers" may elect to transfer (i.e. sell) certain credits to unrelated taxpayers rather than use the credits against their federal tax liabilities.
- On June 14,2023, the IRS and Treasury released Section 6418 proposed regulations (REG-101610-23) and temporary regulations (T.D. 9975).
- Comments submitted to the IRS and Treasury on Section 6417 by August 14, 2023.

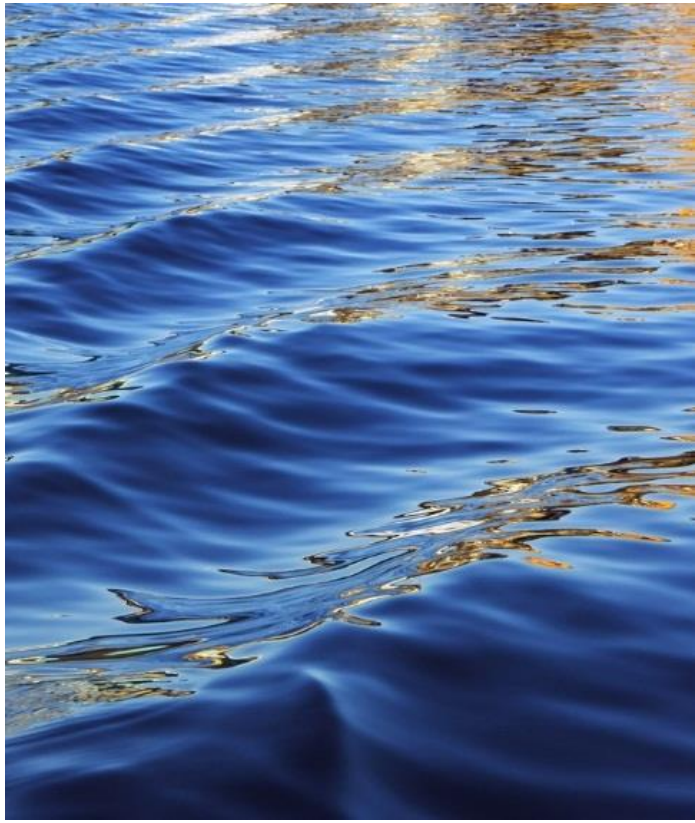
Eligible Taxpayers

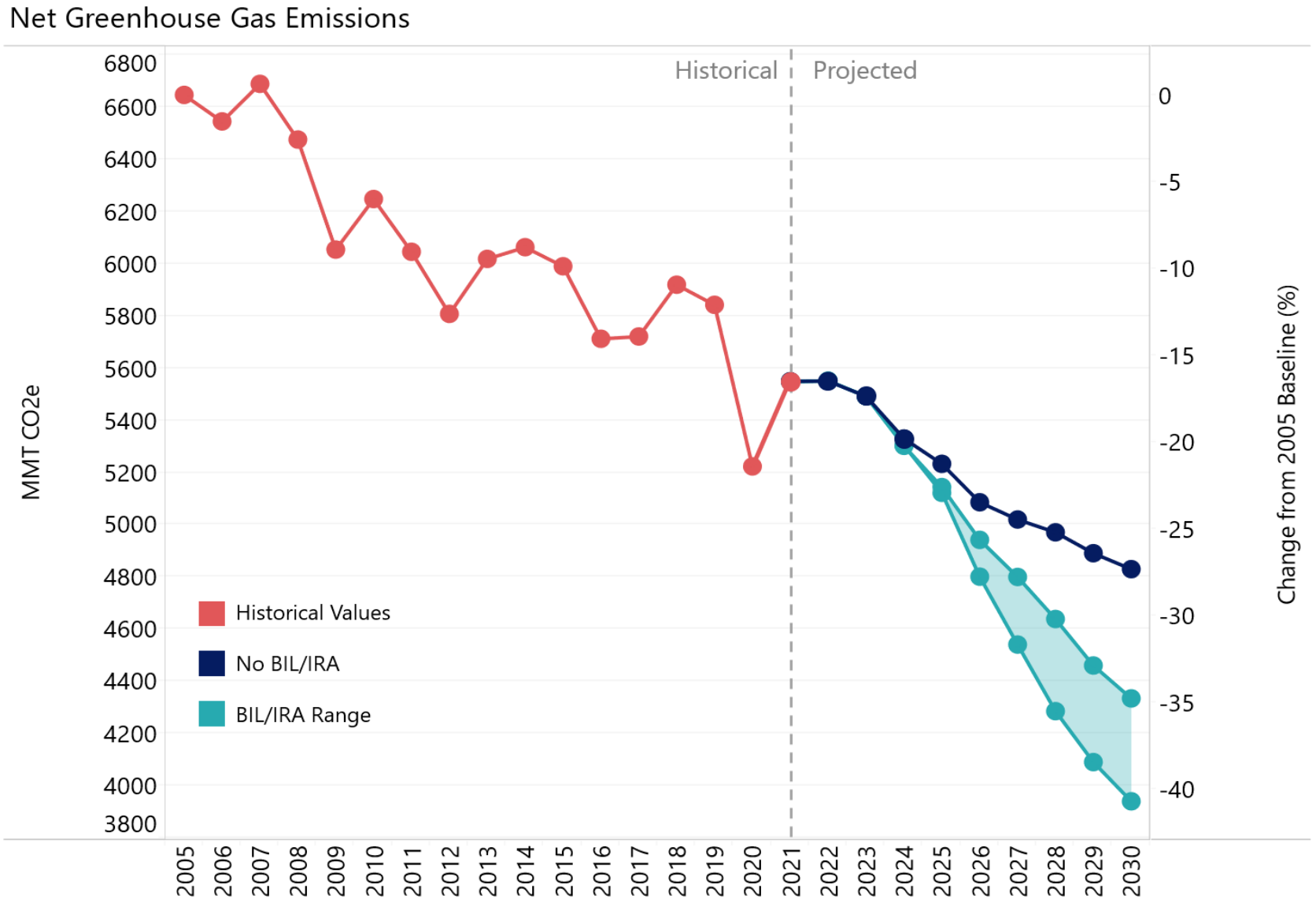
A transfer election must be made by an "eligible taxpayer" is not an "applicable entity" for purposes of making a direct pay election under Section 6417. Generally, an "eligible taxpayer" will be any taxpayer that is not tax-exempt.

Eligible Credits

30C Alternative Fuel Vehicle Credit
45 Renewable Production Tax Credit
45Q Carbon Oxide Sequestration Credit
45U Nuclear Production Tax Credit
45V Clean Hydrogen Production Credit
45X Advanced Manufacturing
45Y Electricity Technology Neutral PTC
45Z Clean Fuel PTC
48 Energy Investment Tax Credit
48C Advanced Energy PTC
48E Electricity Technology Neutral ITC

U.S. Department of Energy
Investing in American Energy





IIJA + IRA
Historic investment modernizing the American energy system
$430 billion

U.S. Net Zero Targets

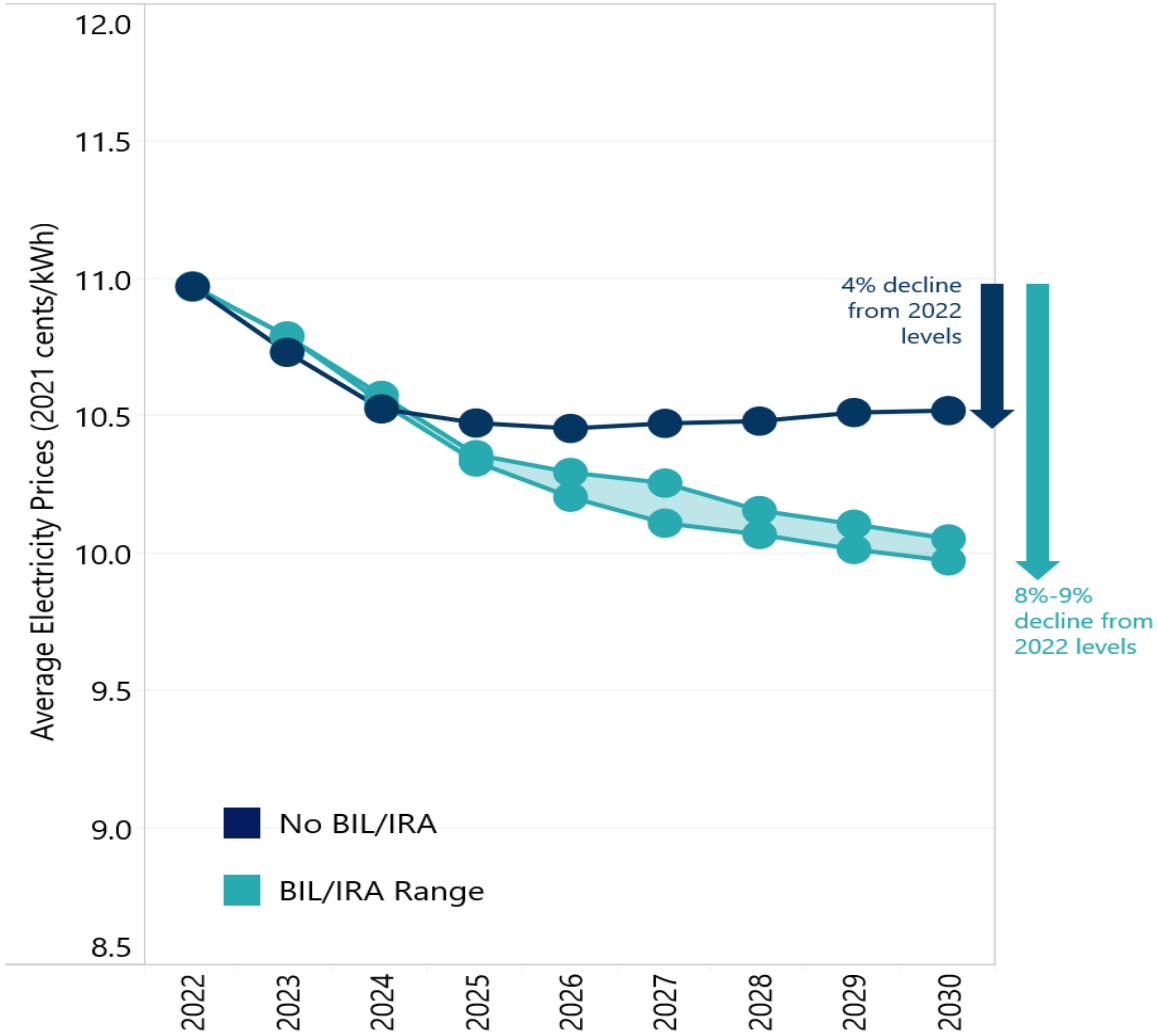
- **50-52% CO2 reductions by 2030** compared to 2005 levels
- 100% carbon-free electric grid by 2035
- U.S. net zero economy by 2050

US CO2 Reductions from IIJA and IRA

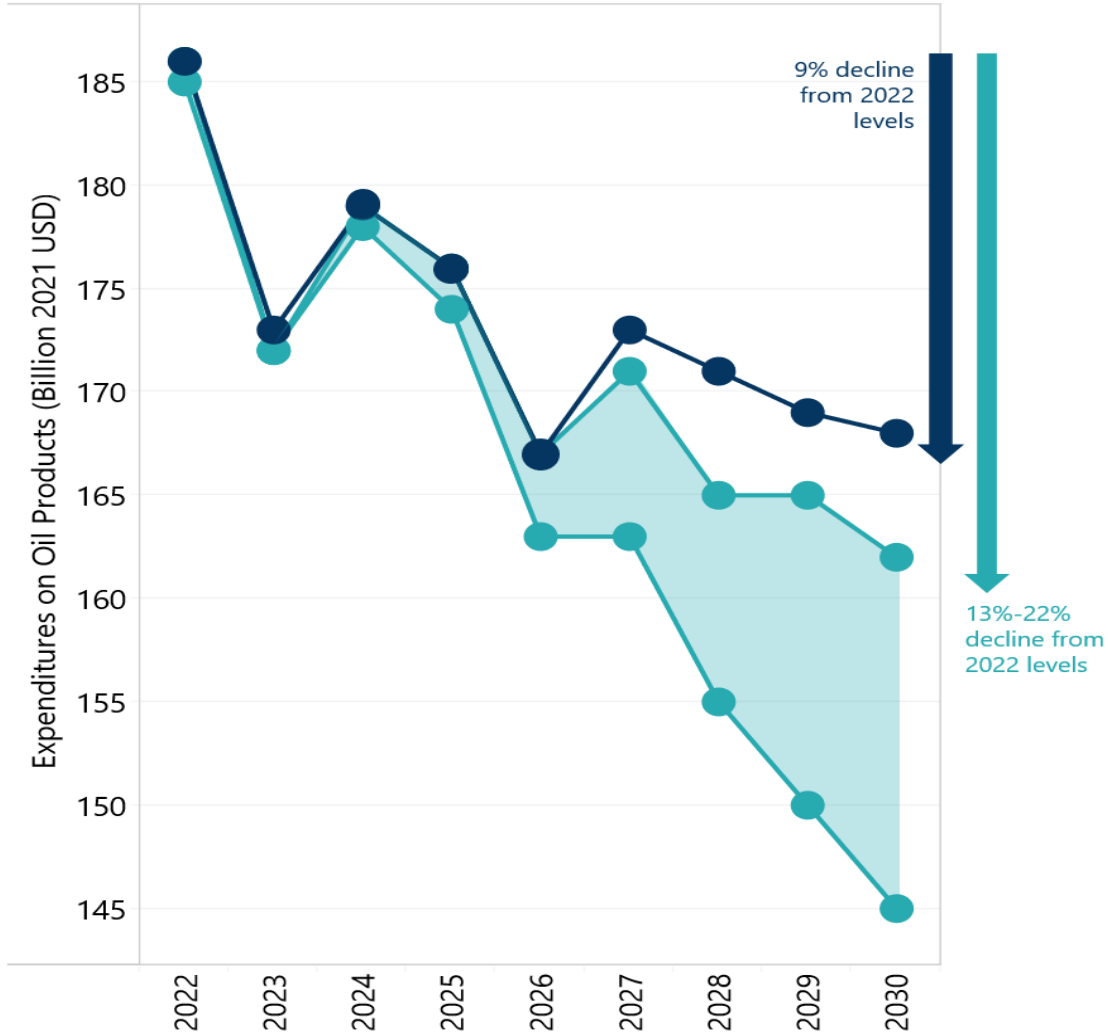
- DOE Analysis **35%-41%**
- Power Sector – **73%-82%**
- Transportation Sector – **19%-24%**
- Industrial Sector – **33%-42%**
- EIA- **33%-34%** (IRA only)

IIJA and IRA Impact on Electricity Prices and Oil Products

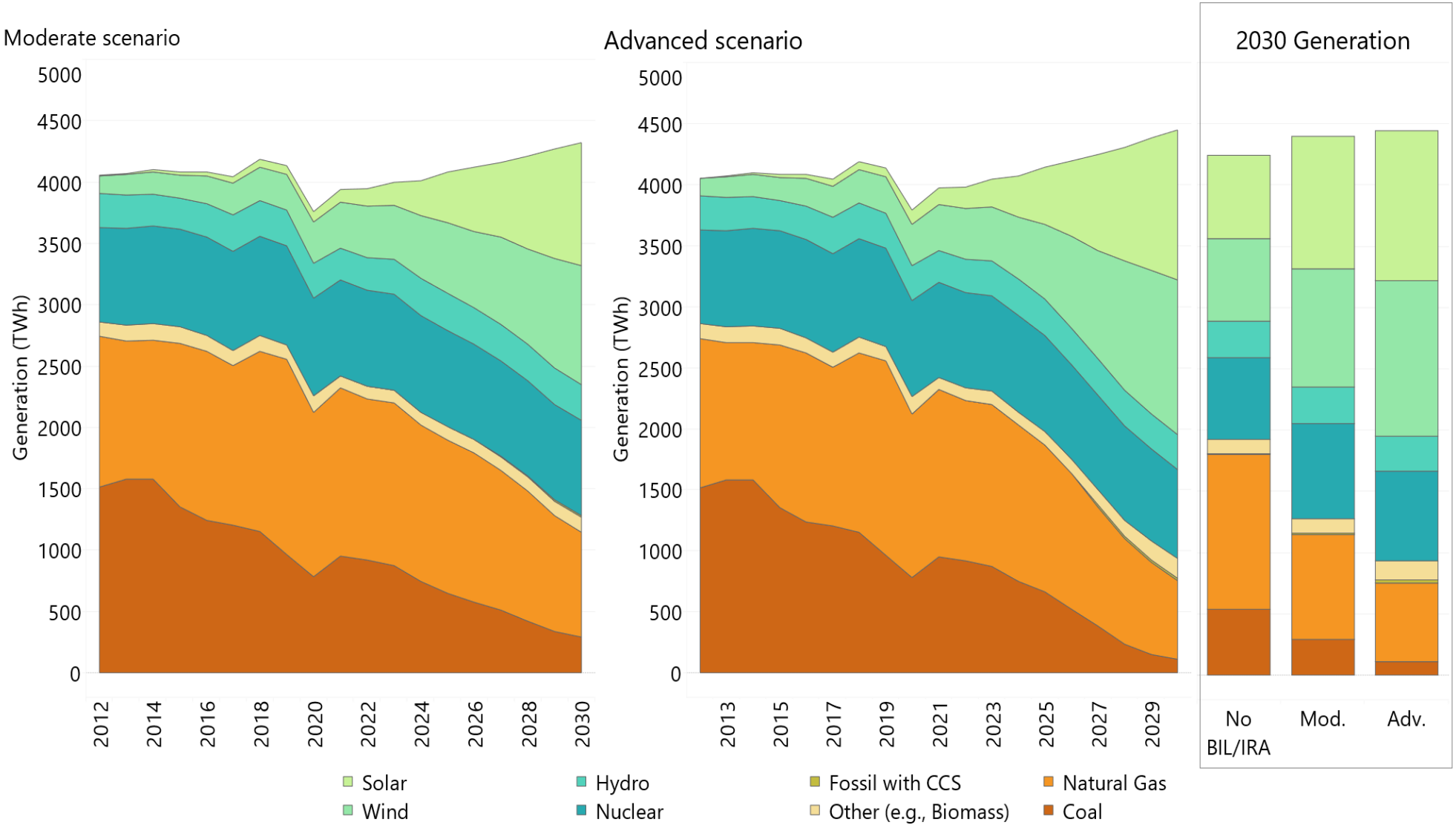
Average electricity prices across sectors



Expenditures on Oil and Petroleum Products



IIJA and IRA Impact on U.S. Power Generation Mix



The U.S. power sector drives the greatest emissions reductions through 2030.

The share of electricity generated from clean sources increases from 42% in 2022 to 72%-81% in 2030.

Scenarios achieve energy-related CO2 emissions reductions that are 73%-82% below 2005 levels.

Power sector contributions to total U.S. energy-related CO2 emissions declines to 13%-18% in 2030, from 31% in 2022.

U.S. Department of Energy BIL & IRA Projections 2022-2023

Electricity

- Electricity burden alleviation $27 billion to $38 billion
- Electricity rates across sectors decline 8%-9%
- Electricity demand projected to be 2%-3% lower in residential and commercial

Clean Energy

- Electricity from clean sources increases from 42% in 2022 to 72%-81% in 2030
- Deployment of 250GW of new wind and 475GW of new solar
- Solar generation increases 7-8x 2022 levels
- American manufactures meet 50% of demand for solar and wind

Transportation

- Manufacture up to 14 million of new light-duty electric vehicles
- Zero emissions vehicle sales reaches 49%-65% up from 8% today

Decarbonization

- Carbon sequestration, low-carbon and green hydrogen
- Low-carbon materials for clean cement and steel
- Industrial processes for ethanol, ammonia, and refining

Improved Energy Efficiencies

Electricity Burden Alleviation

Clean Power Generation

Transportation Electrification

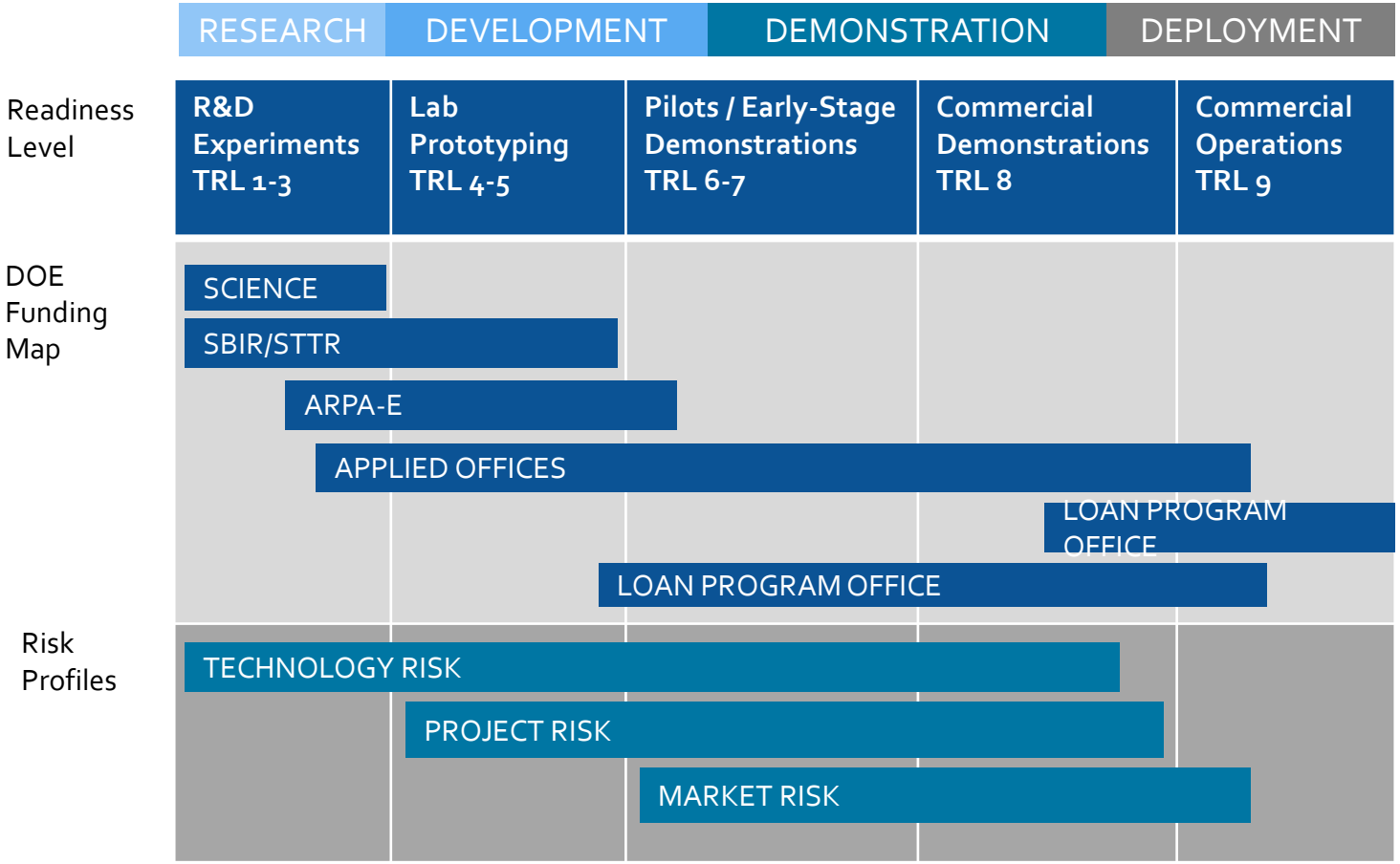
Industrial Electrification

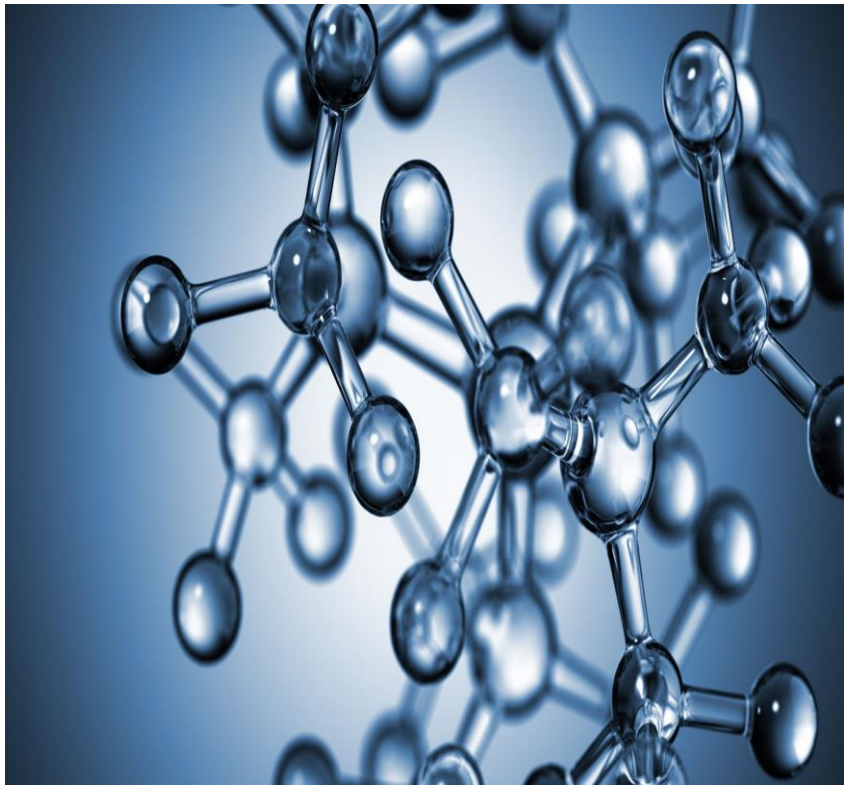
Carbon Capture and Storage

Hydrogen Supply and Use

Source: U.S. Department of Energy Investing in American Energy Report August 2023

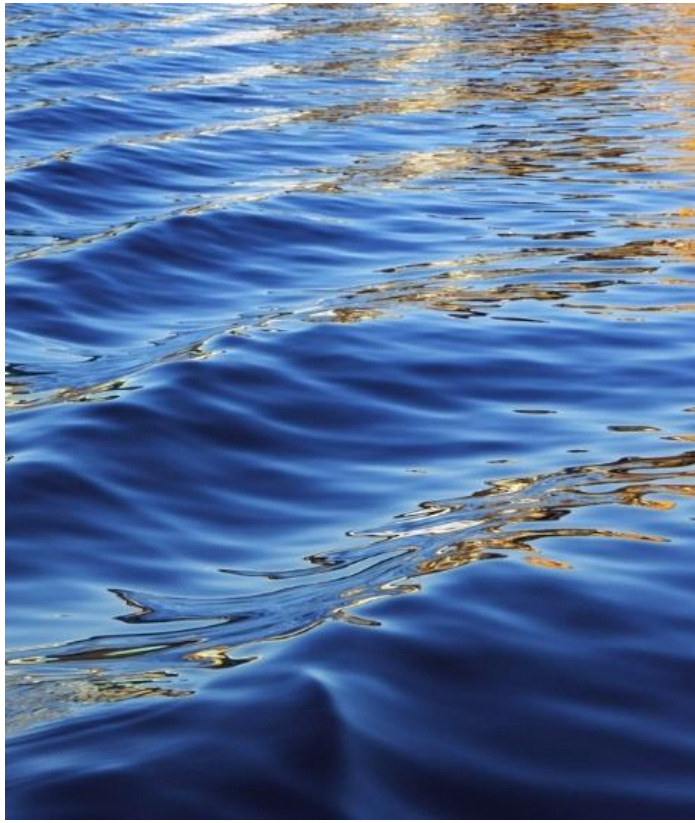
U.S. Department of Energy Technology Readiness Levels





TRL = Technology Readiness Levels as defined by U.S. Department of Energy

Grants to Innovate and Scale Clean Technologies



Public and Private Capital Investments to Innovate and Scale

Carbon-Free Power

Energy Efficiency
Solar and Wind
Advanced Nuclear
Geothermal
Hydropower

Sustainable Economy

Advanced Manufacturing
Domestic Supply Chain
Mining and Minerals
Product Circularity
Advanced Recycling
Building Retrofits

Grid Infrastructure

Carbon-Free Grid
Distributed Energy
Virtual Power Plants
Grid Modernization
Transmission
Advanced Storage

Industrial Decarbonization

Hydrogen Economy
Energy Efficiency
CCUS and CCS
Direct Air Capture
Port Electrification
Low-Carbon Materials
Facility Decarbonization

Climate Mitigation

Greenhouse Gas Emissions
Methane Reductions
Water Conservation
Wildfire Mitigation
Natural-Based Solutions
Coastal Protections

Mobility Electrification

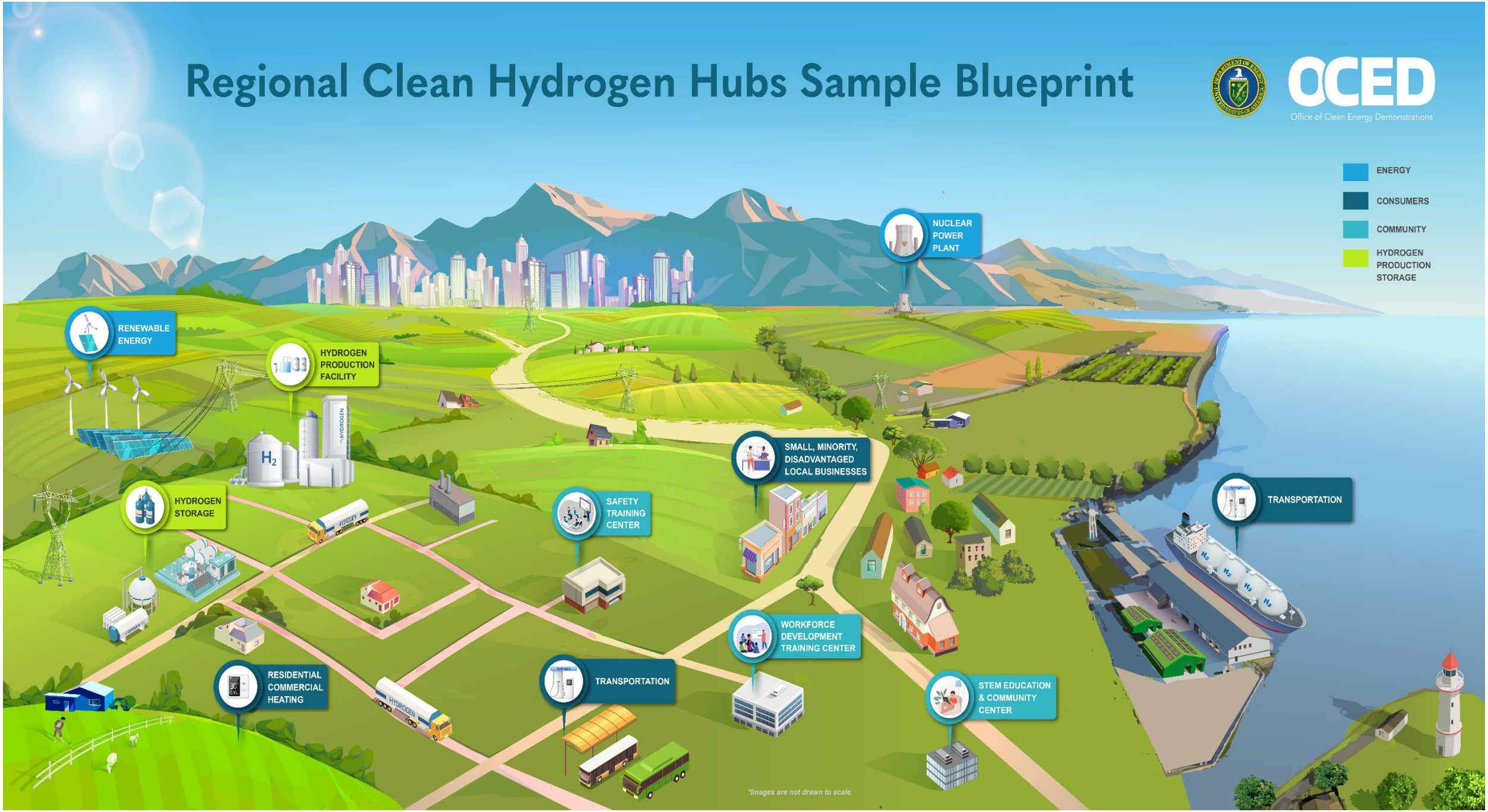
EV Infrastructure
Fleet Electrification
Grid Integration
Hybrid Vehicles
Mobility Storage
Hydrogen Fleets

Note: Illustrative of the sectors and portfolio of investments eligible for U.S. funding opportunities

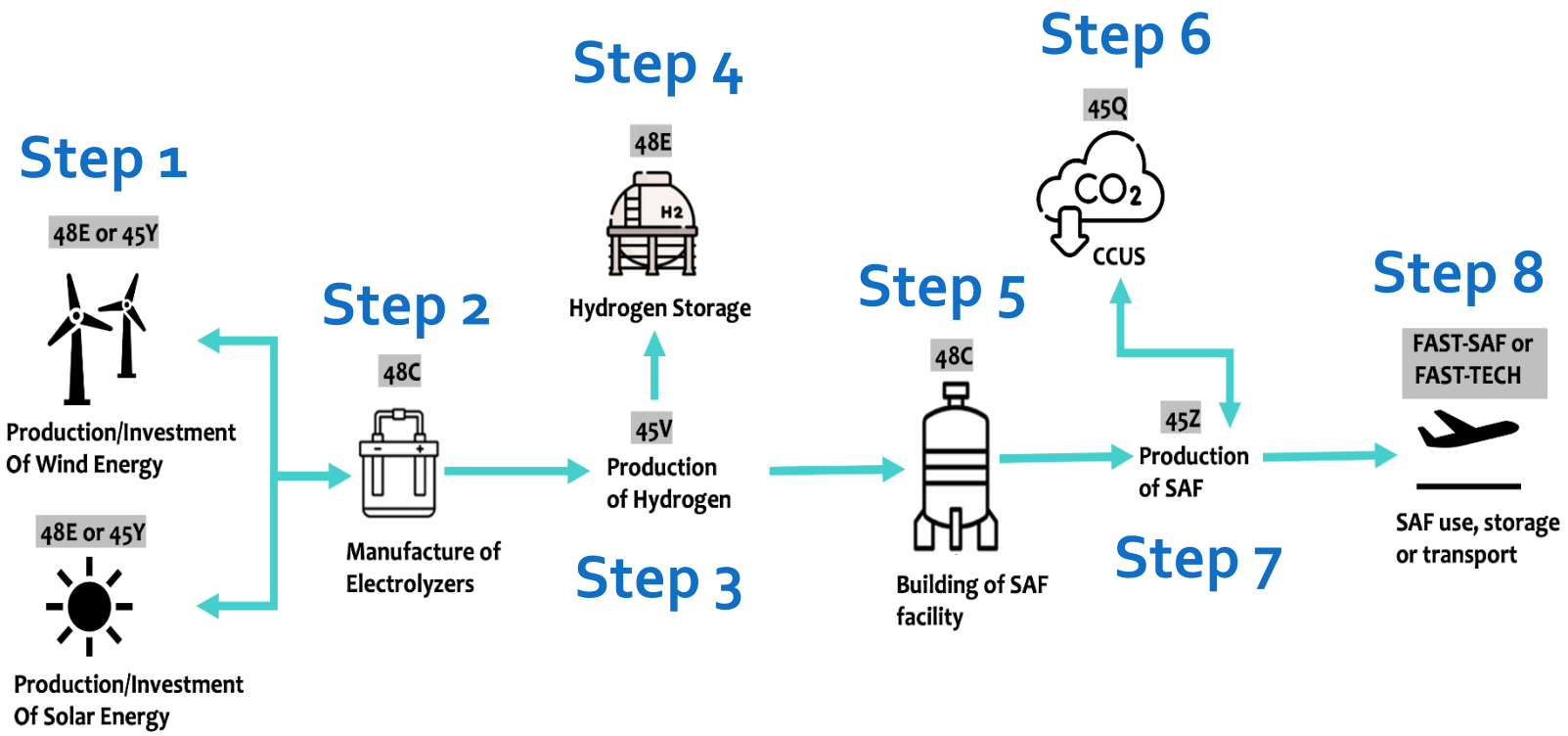
U.S. Department of Energy Regional Hydrogen Hubs

H2Hubs

- Produce nearly 8,000 metric tons of hydrogen tons per day.
- 30% of 2030 goal to produce 10 million metric tons of clean hydrogen per year.
- End users: industrial, steel, synthetic fuel production, residential/commercial heating.
- Transport use: fuel cell vehicles, maritime, heavy-duty fleets
- Power use: Electric power generation, energy storage, backup power.
- Connective Infrastructure: pipelines, storage, refueling stations.
- Societal Economic Benefits


Regional Clean Hydrogen Hubs Sample Blueprint
OCED
Office of Clean Energy Demonstrations
ENERGY
CONSUMERS
COMMUNITY
HYDROGEN PRODUCTION STORAGE
NUCLEAR POWER PLANT
RENEWABLE ENERGY
HYDROGEN PRODUCTION FACILITY
HYDROGEN STORAGE
SMALL, MINORITY, DISADVANTAGED LOCAL BUSINESSES
SAFETY TRAINING CENTER
TRANSPORTATION
WORKFORCE DEVELOPMENT TRAINING CENTER
RESIDENTIAL COMMERCIAL HEATING
TRANSPORTATION
STEM EDUCATION & COMMUNITY CENTER
*Images are not drawn to scale

Sustainable Aviation Fuel (SAF) Supply Chain Incentives



Source: Rocky Mountain Institute Image

Step 1. **48E Investment Tax Credit** (ITC) or **45Y Production Tax Credit** (PTC) Clean Electricity.

Step 2. 48C Advanced Energy Project Tax Credit to manufacture hydrogen electrolyzers.

Step 3. **45V Clean Hydrogen PTC** the production of hydrogen could qualify for the highest tier of $3.00 per kilogram of hydrogen.

Step 4. **48E ITC** worth 50 percent of the facility's investment amount for any extra hydrogen stored in a facility. The unstored hydrogen is sourced by a SAF production plant that combines it with CO_2 to make SAF.

Step 5. **48C Advanced Energy Project Tax Credit** for the construction of a SAF plant.

Step 6. 45Q Carbon Oxide Sequestration Credit on the capture and sale of CO_2.

Step 7. **45Z** on the produced SAF could qualify for up to $1.75/gallon.

Step 8. BIL FAST-SAF and FAST-TECH programs subsidize projects that transport, store, and use SAF in commercial airplanes.

U.S. Department of Energy Building a Better Grid Initiative

- $2.5 billion **Transmission Facilitation Program** to support the development of transmission lines, increase resilience by connecting regions and improve access to clean energy.
- $2.3 billion will provide grants to States, territories, and Tribes to strengthen and modernize America's power grid against wildfires, extreme weather, and other natural disasters exacerbated by climate change through the **Grid Resilience Formula Grants**.
- $10.5 billion **Grid Resilience and Innovation Partnerships program (GRIP)** which includes funding opportunities to improve the resilience of the grid, enhance grid flexibility, and support the development of transmission and distribution infrastructure.
- $760 million **Transmission Siting and Economic Development Grants program**, which provides DOE with authority to issue grants to siting authorities to facilitate their processing of requests to permit and site certain high-voltage interstate or offshore electricity transmission lines.

Building a Better Grid Initiative

- Catalyze the nationwide development of new and upgraded high-capacity electric transmission lines, and
- Support investments to modernize the flexibility and resilience of the distribution system to create a more resilient electric grid.
- Make the U.S. power grid more resilient to the impacts of climate change, increase access to affordable and reliable clean energy, and create good-paying American jobs across sectors

U.S. Department of Energy Open Funding Opportunities

Focus	Program	Deadline
Wind/Solar	Renewable Energy Siting through Technical Engagement and Planning (R-STEP) Program	11/3/2023
Solar	Solar-thermal Fuels and Thermal Energy Storage via Concentrated Solar-Thermal Energy	11/3/2023
Wind	Installation Noise Reduction and Reliable Moorings for Offshore Wind and Marine Energy	11/9/2023
Wind	Innovative Designs for high-performance low-cost HVDC converters (IDEAL HVDC)	11/14/2023
Solar	Bipartisan Infrastructure Law: Silicon Solar Manufacturing and Dual-use Photovoltaics Incubator	11/14/2023
Vehicles	Bipartisan Infrastructure Law: Consumer Electronics Battery Recycling, Reprocessing, and Battery Collection	11/29/2023
Solar	Advancing U.S. Thin-Film Solar Photovoltaics	12/12/2023
Innovation	Community Energy Innovation Prize	2/2/2024
Wind	American-Made Wind Turbine Materials Recycling Prize - Phase 2	7/12/2024
Bioenergy	Sustainable Aviation Fuel (SAF) Grand Challenge: Building Supply Chains	11/2/2023

Note: Limited and for illustration purposes
Source: https://www.energy.gov/

U.S. Department of Energy Open Funding Opportunities

Focus	Program	Deadline
Electric Transmission	Transmission Siting and Economic Development Program Department of Energy	04/05/2024
Clean Energy	Notice of Intent to issue a Funding Opportunity Announcement (FOA) entitled "Onsite Energy Technical Assistance Partnerships"	03/23/2024
Hydrogen	Fossil Energy Based Production, Storage, Transport and Utilization of Hydrogen Approaching Net-Zero or Net-Negative Carbon Emissions	11/14/2023
Grid Infrastructure	U.S. Department of Energy Grid Resilience and Innovation Partnership (GRIP)	Announcement by 01/01/2024
Clean Energy	Distributed Energy Systems Demonstrations Program	11/16/2023
Clean Energy	Clean Hydrogen Demand-side Initiative	11/2/2023
Clean Energy	Energy Improvements in Rural or Remote Areas (ERA) program	10/26/2023
Clean Energy	Energy Improvement in Rural or Remote Areas	To be announced

Note: Limited and for illustration purposes
Source: https://www.energy.gov/

U.S. Environment Protection Agency Greenhouse Gas Reduction Fund

As part of the Inflation Reduction Act, the US Environmental Protection Agency (US EPA) is distributing $27 billion by September 2024 through the Greenhouse Gas Reduction Fund (GGRF). The GGRF has three (3) main objectives:

1. to reduce emissions of greenhouse gases and other air pollutants;
2. to deliver benefits of greenhouse gas- and air pollution-reducing project to American Communities, particularly low-income and disadvantaged communities; and
3. to mobilize financing and private capital to stimulate additional deployment of greenhouse gas- and air pollution-reducing projects.

$7 BILLION

Solar for All Competition

$14 BILLION

National Clean Investment Fund Competition

$6 BILLION

Clean Communities Investment Accelerator Competition

U.S. Environment Protection Agency Climate Pollution Control Grants

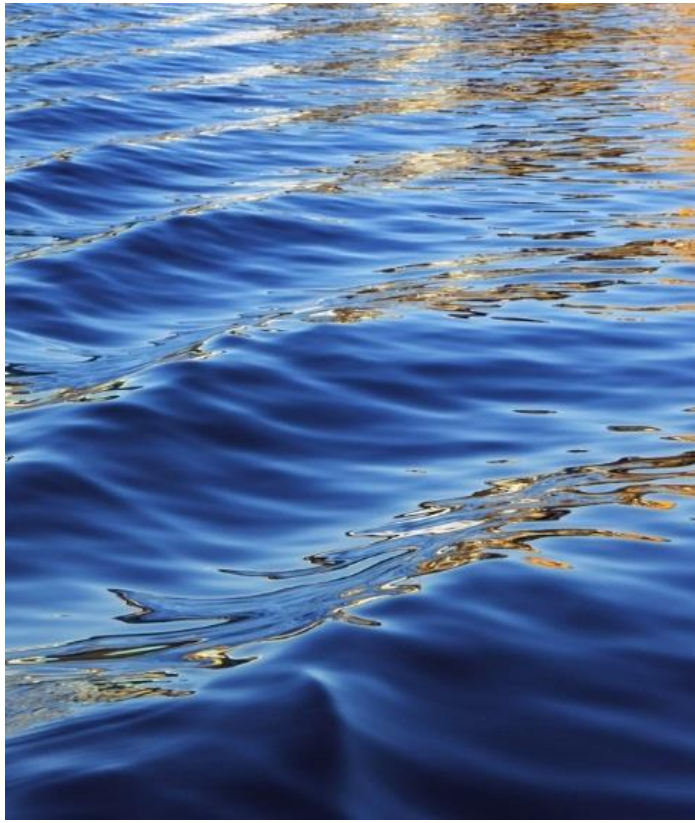
U.S. Environmental Protection Agency (EPA) Climate Pollution Reduction Grants (CPRG), Section 60114 of the Inflation Reduction Act. The two-phase grant program provides funding for:

Phase 1: Planning – $250 million of noncompetitive grants for the climate planning and implementation process to update existing climate, energy, or sustainability plans, or to develop new plans.

Phase 2: Implementation – $4.6 billion of competitive grants to support developing and deploying technologies and solutions that will reduce greenhouse gases and harmful air pollution and transition America to a clean energy economy that benefits all Americans. Individual awards ranging from $2 million to $500 million.

Source: NARUC Resilience Reference Guide February 2023

Leading Practices and Frameworks



P3 Collaboration U.S. Grant Award Program Illustration

Prioritize

Prioritize grants aligned with growth ambitions

- Determine the portfolio of investments in-scope
- Prioritize the U.S. funding programs with regional and private sector strategic fit
- Establish the U.S. funding operating model and processes

In-Scope Grants and Sourcing Roadmap

Design

Design multi-stakeholder consortiums

- Establish governance structure, stakeholder coordination and grant application process
- Identify key partners to form multi-stakeholder consortiums to jointly pursue major grants
- Solidify grant program offerings and metrics

Governance Structure and Program Offerings

Develop

Develop award winning applications

- Design winning value proposition satisfying eligibility requirements and grant investment criteria
- Garner support from national and subnational governments, including community groups
- Develop and submit state level compelling applications

U.S. Grant Applications and Award Notices

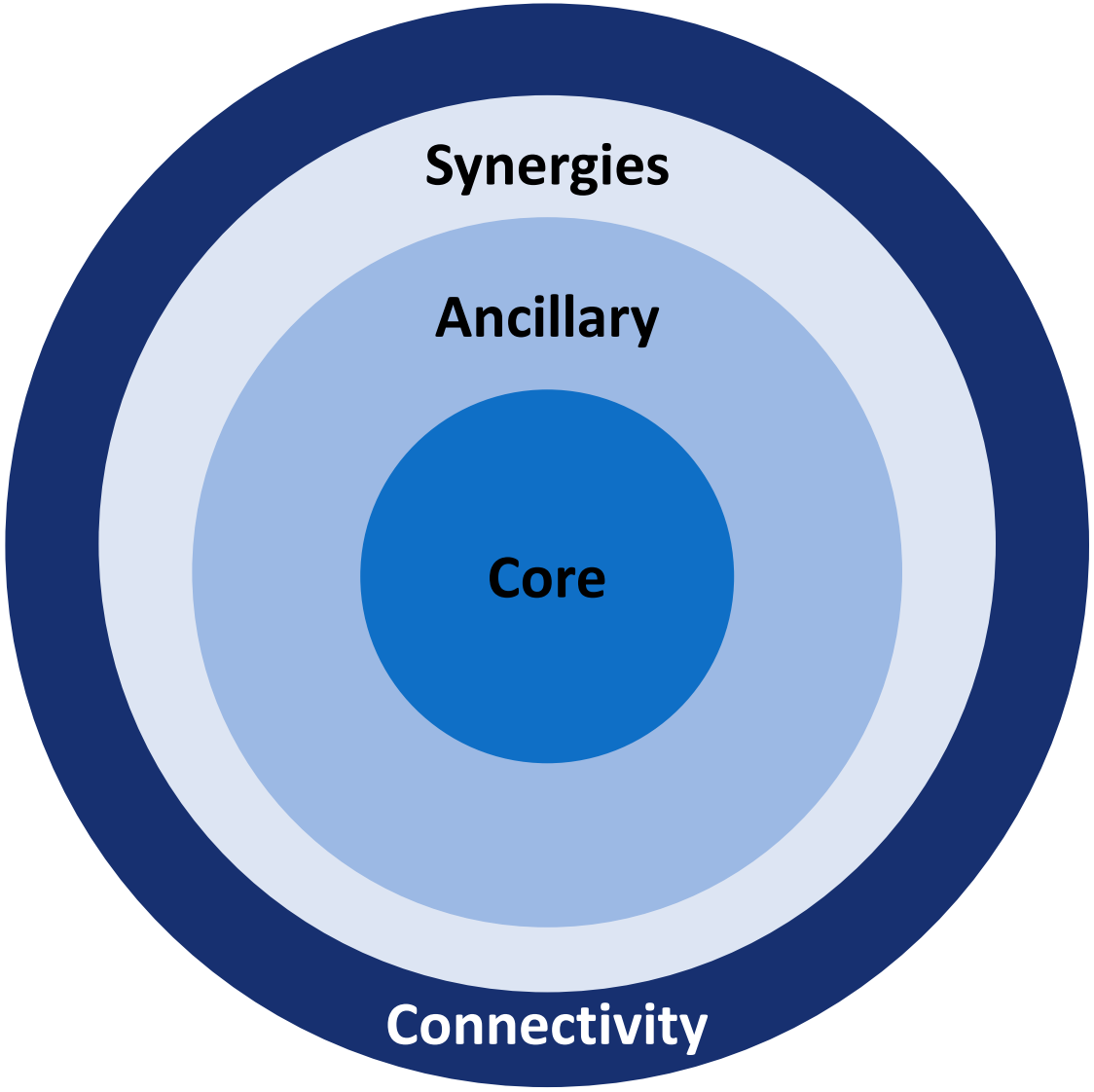
Implement

Implement and deploy replicable models

- Implement award programs to achieve of commercialization
- Support replicable models, peer knowledge sharing, and global competitiveness strategies
- Continuous improvement and learning feedback loops

Deliver Outcomes and Replicable Models

U.S. Grant In-Scope Priority Illustration



Core: Areas of Focus
- Carbon-Free Power Generation
- Grid Modernization and Advanced Storage
- Hydrogen Economy
- Industrial Decarbonization
- Mining and Minerals
- Advanced Manufacturing

Ancillary: Policy Priorities
- Energy Security Actions
- Carbon Reduction Measures
- Sustainable Energy Workforce
- Inclusive Economies
- Resilient Communities
- Environmental Justice

Synergies: Competitive Advantage
- Climate Infrastructure Finance
- Breakthrough Technologies
- Research and Development
- Innovation Hubs

Connectivity: Led by Others
- Ports Electrification
- Advanced Nuclear
- Hydropower

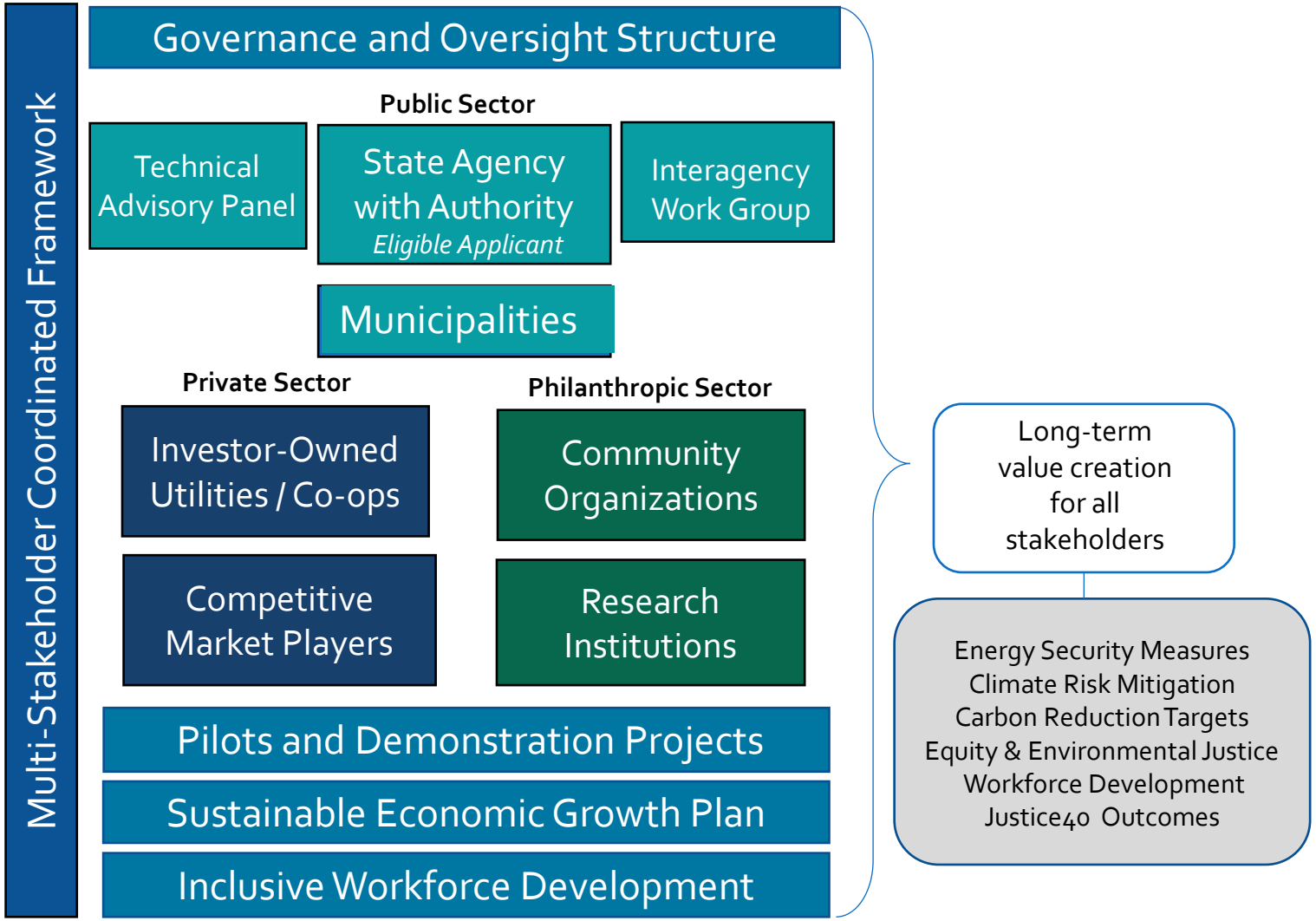
P3 Collaboration U.S. Grant Program Illustration

Comprehensive IIJA Sourcing Strategy
- Catalyze public-private-philanthropic collaborations
- Gain census on grid infrastructure investments
- Co-develop community resilience solutions
- Deliver long-term value creation

Shared Stakeholder Objectives
- Solve energy security challenges
- Achieve carbon reduction targets
- Boost regional and inclusive economies

Aligned Priorities
- Maximize IIJA funding and IRA incentives
- Design forward-thinking regulations and policies
- Build next generation infrastructure
- Design future operating models
- Develop sustainable workforce
- Foster community resilience
- Preserve economic vitality

U.S. State IIJA Consortium Framework Illustration



U.S. Grant Assessment and Application Elements

U.S. Grant Assessment

- Monitor, Prioritize, and Pursue
- Notice of Funding Opportunity (NOFA)
- Eligible Entities and Qualifying Investments
- Formula vs. Competitive Grants
- Cooperative Endeavor Agreements
- Award Level and Funding Distributions
- Cost Share Requirements
- Public-Private Financing Mechanisms
- Inflation Reduction Act and State incentives

U.S. Grant Application Key Elements

- Strategic Priorities and Objectives
- Measurable Success Metrics
- Pilots and Demonstration Projects
- Justice40 Outcomes and CJEST Data
- Community Benefits Plan
- Workforce Development
- Budget and Allocation Criteria
- Prime Grantee and Subgrantee
- NOFA Grant Scorecard Compliant

Key Actions to Catalyze U.S. Clean Energy Markets

1

Foster public-private collaborations

Catalyze public and private capital investment to innovate and scale clean energy and decarbonization solutions

2

Conduct regional energy planning

Integrated energy transition plans across power, transportation, and industrial sectors

3

Put forth forward thinking regulations

Remove market barriers and attract private capital investment through smart polices and regulations

4

Engage cross sector stakeholders

Foster workforce development and community engagement in energy economic development planning

5

Design new commercial operating models

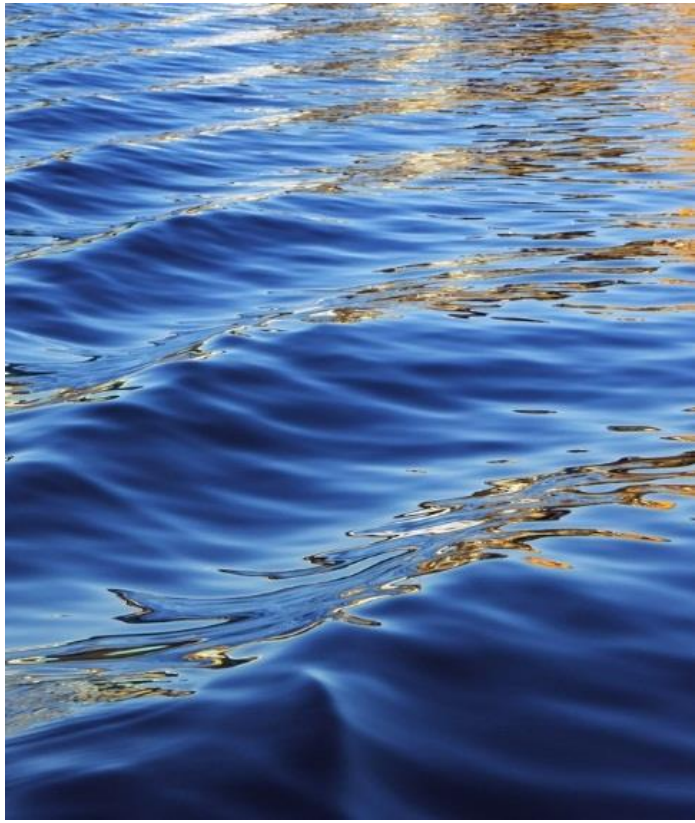
Deploy pilots and demonstration projects to gain economies of scale and achieve commercialization

6

Uphold the promise to serve and deliver

Deliver clean, reliable, and affordable electricity to drive equity, environmental justice, and economic vitality

Thank You



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Kimberly Johnston has 30 years of strategy, finance, policy, and regulations in the energy sector serving in executive roles with Fortune 500 and Big 4. Kimberly is the Founder of NextGen Energy Partners, a global advisory firm, that catalyzes public-private-philanthropic collaborations to implement transformative climate and energy initiatives to achieve energy security, carbon reduction targets, and protect communities from rising climate threats.

Kimberly is a Harvard Climate and Energy fellow. She serves on the U.S. Department of Energy National Consortium for the Advancement of Long-Duration Energy Storage (LDES) Technologies. Kimberly is a frequent speaker at United Nations Climate Change Conference (COP) and National Association of Regulatory Utility Commissioner (NARUC) on clean energy, emerging decarbonization technologies, climate policies, and forward-thinking regulations.

Previously, Kimberly served as EY's Americas Power & Utilities Partner and Global Energy Transition Leader, CenterPoint Energy's Corporate Finance Officer. She was recognized as Houston's Most Influential Woman in 2017 for her efforts focused on solving the United Nations 17 Sustainable Development Goals.

Strategist

- Special advisor to governments, utilities, community-led organizations, research institutes, on transformative climate and energy initiatives.
- Led strategic forums at United Nations COP26 and COP27 on public-private-philanthropic collaborations to accelerate viable net zero pathways.
- Proven track record in mobilizing public and private capital investment to stimulate emerging clean energy and decarbonization markets.
- Launch climate and energy pilots and demonstration projects across the value chain of emerging sustainable energy markets.
- Projects include grid resilience, renewables, hydrogen, industrial decarbonization, transport electrification, advanced nuclear, long-term storage.

Expertise

- Extensive knowledge of regulated electric and gas markets, fully integrated utilities, wholesale generation, and competitive retail energy markets.
- Led U.S. energy policy priorities put forth in Tax Cuts and Jobs Act 2017, Bipartisan Infrastructure Law 2021, and Inflation Reduction Act 2022.
- Instrumental in transition of Texas to a fully regulated to a competitive energy market resulting in ERCOT as the largest wind generation market.
- Served as expert witness on complex ratemaking strategies resulting in billions of rate base value benefiting customers, communities and investors.
- Co-led several major IPOs, M&A transactions, and spin-offs, including consulting private equity firms on U.S. regulated energy markets.