Task Force on Energy Supply
December 2022 Meeting
San Diego, California

December 8, 2022

NCSL- Taskforce on Energy Supply Winter 2022

ACP Summary of the Inflation Reduction Act

Impact:

What does this all mean?

Triple annual clean energy deployment by 2030
Produce enough clean power to fuel every home in America – 142 million households, up from 58 million today

Double the clean energy workforce, creating 550,000 jobs and employing nearly 1 million Americans by 2030

Provide the average American $1,000 in energy savings

Reduce greenhouse gas emissions 40% below 2005 levels.

AMERICAN CLEAN POWER

Highlights of the IRA

10 (plus) years of full-value credits for onshore/offshore wind, solar, storage, and hydrogen.

- **PTC/ITC** (with solar PTC) through the end of 2024; tech-neutral credits from 2025-2032 (or later).

Full value credits tied to prevailing wage and apprenticeship requirements.

Adders/bonuses available for complying with domestic content requirements and investing in projects in certain energy and low-income communities.

Direct pay available for hydrogen and advanced manufacturing PTC for the first 5 years; otherwise mostly limited to tax-exempt entities.

New **transferability** program available for entities unable to elect direct pay—allowing the selling of credits to unrelated parties.

Accelerated depreciation restored for clean energy projects (clean energy tax credits already protected) in corporate minimum tax.

No transmission ITC, but transmission eligible for nearly $10 billion through various programs.

Offshore: Trump offshore wind moratorium lifted; offshore wind leases tied to oil and gas leasing on federal waters/lands.

Funding for permitting resources at DOE, FERC, DOI, NOAA and the Federal Permitting Improvement Steering Council.

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Thank you.

Questions? Contact ekowall@cleanpower.org

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New Federal Energy Programs: What Do State Legislatures Need to Know?

Leah Rubin Shen, Advanced Energy Economy

NCSL Task Force on Energy Supply

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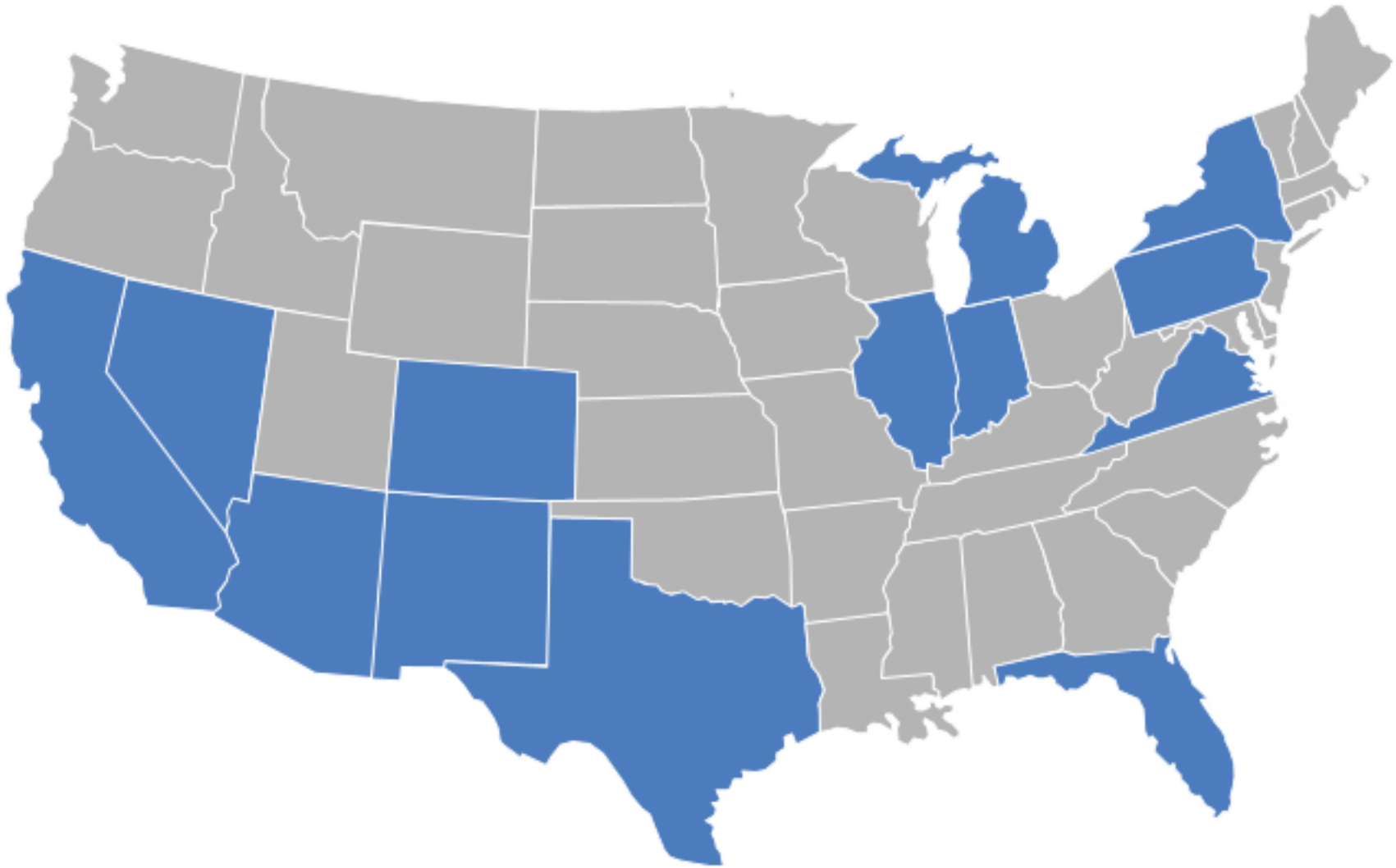
About Advanced Energy Economy (AEE)

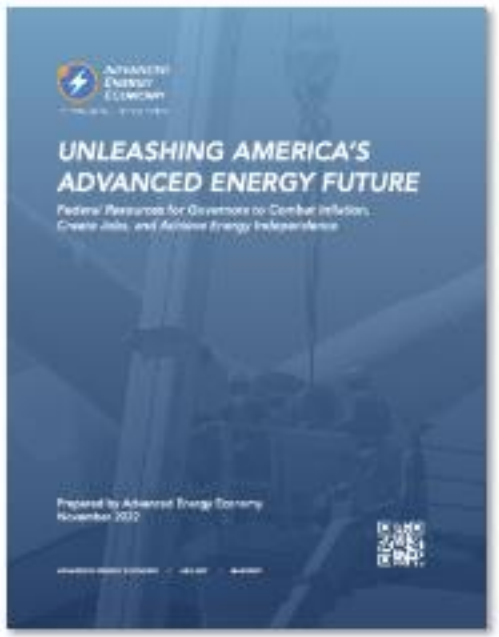
- **Clean Energy Businesses:** AEE is a national association of businesses that are making the energy we use secure, clean, and affordable.
- **Pan-Technology:** AEE represents the full range of advanced energy technologies and services, both grid-scale and distributed. These technologies include energy efficiency, demand response, energy storage, wind, solar, nuclear, electric vehicles, and more.
- **Multiple Venues of Engagement:** AEE pursues policy transformation in the states, in wholesale power markets, and at the federal level via executive actions, legislation, and regulations that expand market opportunities for advanced energy technologies

About Advanced Energy Economy (AEE)



IRA and IIJA guidance documents

- *Unleashing America's Advanced Energy Future: Federal Resources to Combat Inflation, Create Jobs, and Achieve Energy Independence*
- Download: http://www.aee.net/aee-reports/



For Governors

For Regulators

For Lawmakers

IRA and IIJA guidance documents

Nine sections, each with key takeaways:

- Versatile Support for State Advanced Energy and Transportation Actions
- Prioritizing the U.S. Workforce and Domestic Content
- Expanding Access to Advanced Energy and Transportation Tax Credits
- Energy Efficiency and Building Electrification
- Clean Electricity and Storage Incentives
- Transmission and Grid Infrastructure
- Supporting Communities
- Advanced Energy Manufacturing Incentives
- Transportation Electrification

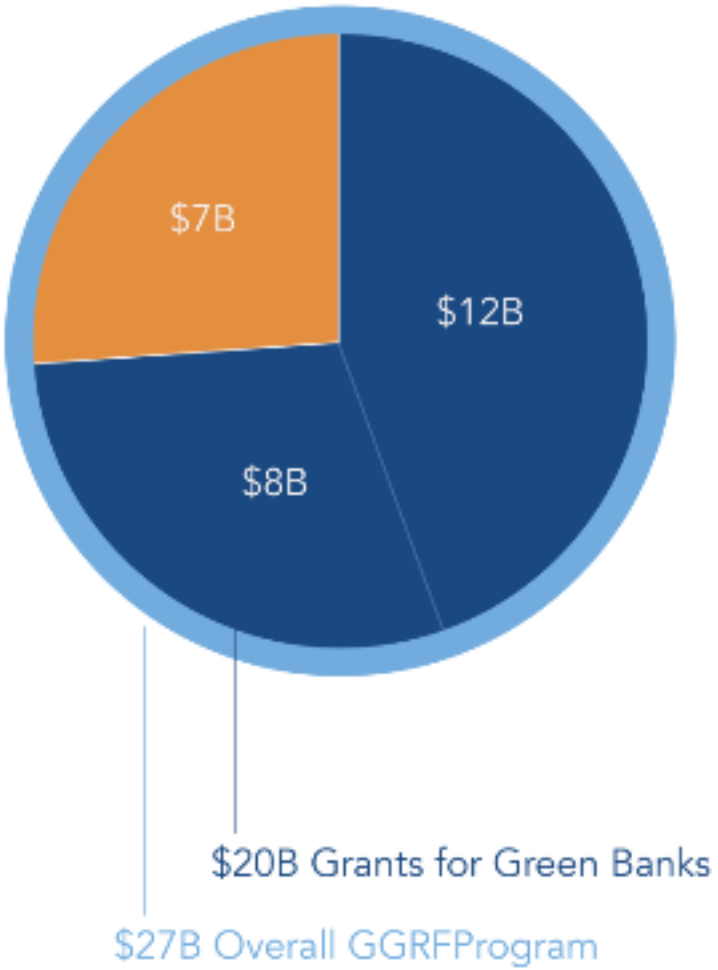
Greenhouse Gas Reduction Fund

EPA program, $27 billion

- $20 billion for green banks, 40% set aside for projects/institutions serving low-income and disadvantaged communities
- $7 billion for deployment of zero-emission tech

Topline Takeaways:

- Establish a green bank



Home efficiency and electrification rebates

DOE programs, $4.3 billion each

- HOMES: rebates for residential energy efficiency retrofits
- HEEHRA: rebates for home electrification for LMI households
- Both programs administered by state energy offices
- Complementary tax credits (25C, 25D)

Topline Takeaways:

- Ensure a well-staffed energy office
- Communicate with constituents about rebate programs and related tax credits
- Authorize a forward-thinking planning process for gas distribution infrastructure
- Streamline and improve DER interconnection and integration

Energy Communities

Multiple overlapping programs

- 10% bonus adder onto tax credits (ITC and PTC) for projects on brownfields, in coal communities, or in economic transition communities
- 10-20% ITC bonus for projects in low-income communities or on tribal land
- $5 billion DOE program for energy infrastructure reinvestment
- Funding for tribal energy projects and rural electricity projects

Topline Takeaways:

- Identify and engage with communities that can benefit from these programs
- Create the ability for communities to designate themselves as “advanced energy development zones”

Advanced energy manufacturing

New and reauthorized tax credits

- PTC for solar, wind, battery, and critical minerals production
- ITC (capped at $10 billion) for investments in clean energy manufacturing
- Complementary programs for vehicle manufacturing, battery manufacturing and recycling, manufacturing investments in coal communities, and emissions reductions at industrial facilities

Topline Takeaways:

- Review and update relevant economic development programs and tax policies
- Require the state to conduct an energy workforce analysis and establish or expand energy workforce training programs
- Consider support for responsible production and recycling of critical minerals

Thank You!

Leah Rubin Shen
Director, Federal and Western States
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Los Angeles Department of Water & Power

NCSL Task Force on Energy Supply: New Federal Energy Programs

Matt Hale, Director of Legislative and Intergovernmental Affairs

November 8, 2022

The Los Angeles Department of Water and Power

- $4.7 Billion annual budget
- Over 4 million residents, over 1.5 million power customer accounts
- 8,000MW Generating capacity, peak demand over 6,500MW
- 34% Renewable Energy by 2019
- Target of 100% Renewable Energy Generation by 2035

KEY FEDERAL PROGRAMS FOR LOS ANGELES

2022 Key Legislation

- **Infrastructure Investment and Jobs Act (IIJA)**
  - Power and Grid: $73B for grid reliability and resiliency; critical minerals and supply chains for clean energy technology;
    - LADWP is pursuing funding for a Hydrogen Hub and also for Grid Resiliency funding in support of LA100.
- **Inflation Reduction Act (IRA)**
  - Makes the Production and Investment Tax Credits for energy projects available to Publicly-Owned Utilities for the first time – with a catch.
  - $27 billion to the Greenhouse Gas Reduction Fund
    - Includes DOE loan guarantees and grants to utilities undergoing upgrades to decarbonize

OPPORTUNITIES FOR IIJA GRANTS

Hydrogen Hub

- LADWP is a key signatory to the ARCHES partnership that Governor Newsom's office formed to pursue Hydrogen fuel development grants.
- LADWP would produce, store and use Hydrogen using electrolysis and deploy it in coastal generating stations to eliminate GHG emissions and reduce NOX to less than half of current levels.

Grid Resiliency and Innovation Partnerships ($10.5B)

- Topic Area 1: Grid Resilience Utility and Industry Grants, that fund "…activities that will modernize the electric grid to reduce impacts from extreme weather and natural disasters."
- Topic Area 2: "Smart Grid Grants support activities that will increase the flexibility, efficiency, and reliability of the electric power system."
- Topic Area 3: "Grid Innovation Program provides financial assistance … to deploy projects that use innovative approaches to transmission, storage, and distribution infrastructure to enhance grid resilience and reliability"

LADWP IS WELL POSITIONED FOR PARTNERSHIP WITH DOE…

…BECAUSE LADWP IS ALREADY PARTNERS WITH DOE.

- National Renewable Energy Lab Partnerships:
  - LA100 Study
  - LA100 Equity Strategies Study

LESSONS FOR STATE LEGISLATURES

- Adopt State Sustainability and Equity Policies:
  - Eliminates a huge area of risk
  - Aligns with Corporate Partner programs
  - Unlocks the full range of grant opportunities from federal policymakers
- LADWP is seeking support from the CA Legislature to streamline construction processes
  - Allows us to achieve even more aggressive local mandates than exist statewide.

THANK YOU!

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NERC

NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

2022 Long-Term Reliability Assessment

Preview of the 2022 LTRA Report

Mark Olson, Manager, Reliability Assessments

NCSL Task Force on Energy Supply

December 8, 2022

RELIABILITY | RESILIENCE | SECURITY




NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Long-Term Reliability Assessment

- 10-year assessment of resource capacity and energy risks
- Demand, generation, demand-side resources and transmission projections
- Coordination and Review with Regional Entities and Stakeholder Groups
- ***2022 LTRA* Publication on December 15, 2022**

- MISO *(Midcontinent Independent System Operator)*
- PJM

MRO – Midwest Reliability Organization
- MRO-Manitoba Hydro
- MRO-SaskPower
- SPP

NPCC – Northeast Power Coordinating Council
- NPCC-Maritimes
- NPCC-New England
- NPCC-New York
- NPCC-Ontario
- NPCC-Québec

SERC – SERC Reliability Corporation
- SERC-East
- SERC-Central
- SERC-Southeast
- SERC-Florida Peninsula

Texas RE – Texas Reliability Entity
- Texas RE-ERCOT *(Electric Reliability Council of Texas)*

WECC
- WECC-CA/MX *(California/Mexico)*
- WECC AB *(Alberta)*
- WECC BC *(British Columbia)*
- WECC WPP *(Western Power Pool)*
- WECC-SRSG *(Southwest Reserve Sharing Group)*

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Preliminary

Capacity and Energy Risk Assessment

California

- New resources and delayed retirements are alleviating near-term capacity shortage
- Energy risks persist from resource and demand variability

MISO

- Generation retirements are projected to outpace new resource additions
- 1,300 MW capacity shortfall next summer grows over the 10-year period

Ontario

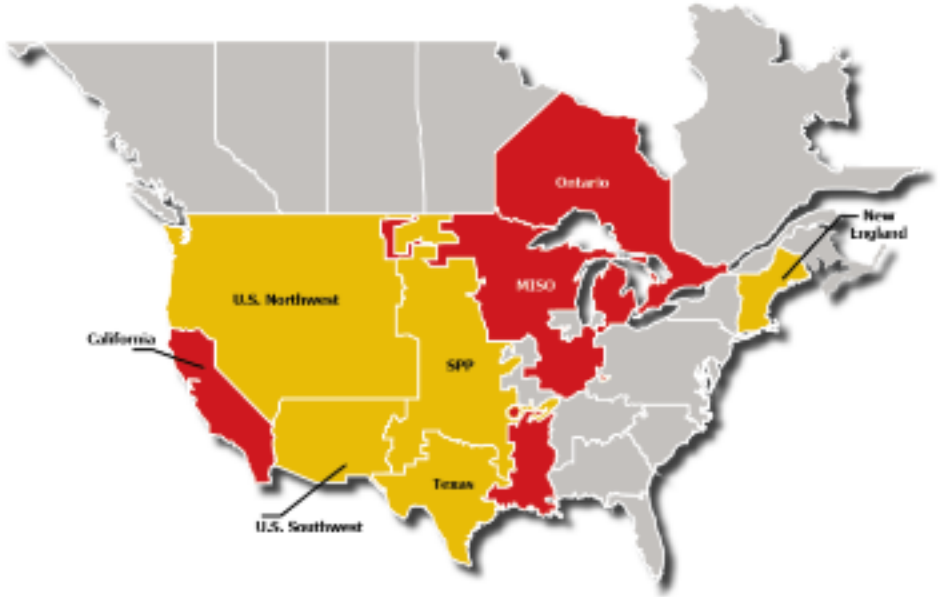
- Planned retirements and nuclear work result in a projected capacity shortfall

U.S. West

- Unserved energy projections are increasing in summer months

New England

- Fuel risk in extended cold weather



High Risk – Shortfalls occurring in normal peak conditions
Elevated Risk – Shortfalls occurring in extreme conditions

ERCOT

- Reliability continues to be at risk in severe winter weather from generator and fuel issues
- Steps taken since 2021 help mitigate impacts

SPP

- Energy shortfalls likely during low-wind and high demand periods

Key Trends and Implications

Changing resource mix

- Projected retirements total over 88 GW (nuclear, coal, gas-fired)
- New generation in development is solar, wind, and hybrid

Sufficient energy and reliability services must be maintained

Peak Electricity Demand

- Demand growth rate is increasing for the first time in recent years

Electric vehicle and energy transition programs will have big impact

Transmission Development

- 10-year projections remain flat
- Less than 15% of projects are initiated for new resource connection

Large-scale regional projects are needed to connect the volume of wind and solar generation in development

Selected Recommendations

- **Regulatory and policy-setting organizations:** use available tools to manage the pace of change in the resource mix
  - Reserve margins are not a good measure of resource adequacy in most areas
  - Consider energy analysis and extreme weather risks
  - Apply mechanisms to prevent the retirement of needed generators
- **NERC and industry:** prioritize the development of Reliability Standard requirements to address emerging resource risks
  - Energy assessments and corrective actions
  - Inverter-based resource performance issues and coordination
- **Energy stakeholders:** solve reliability issues from interdependent natural gas and electricity infrastructure
  - NERC and industry can enhance guidelines and develop standards
  - Regulators can take steps to promote coordination

NERC
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Questions and Answers

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AFPM

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American Fuel & Petrochemical Manufacturers

The Refining Industry's Economic Impact

1 **$477 billion to the national GDP**

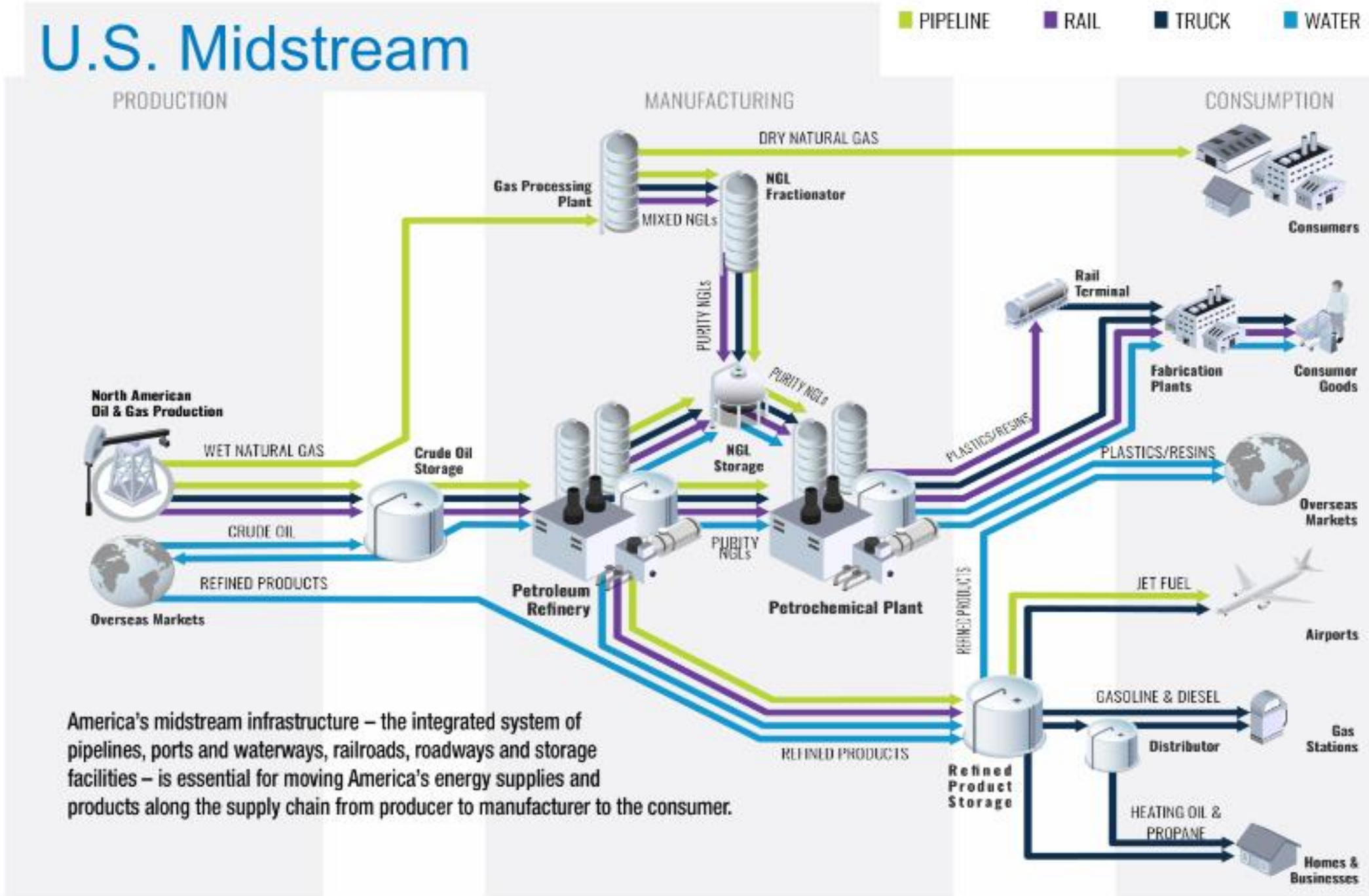
2 **$51 billion in federal taxes**

3 **$54 billion in state/local taxes**

4 **Supports 2.5 million jobs, with an average compensation of ~$220,000 per year**

Source: Oxford Analytics analysis of IMPLAN 2019 data

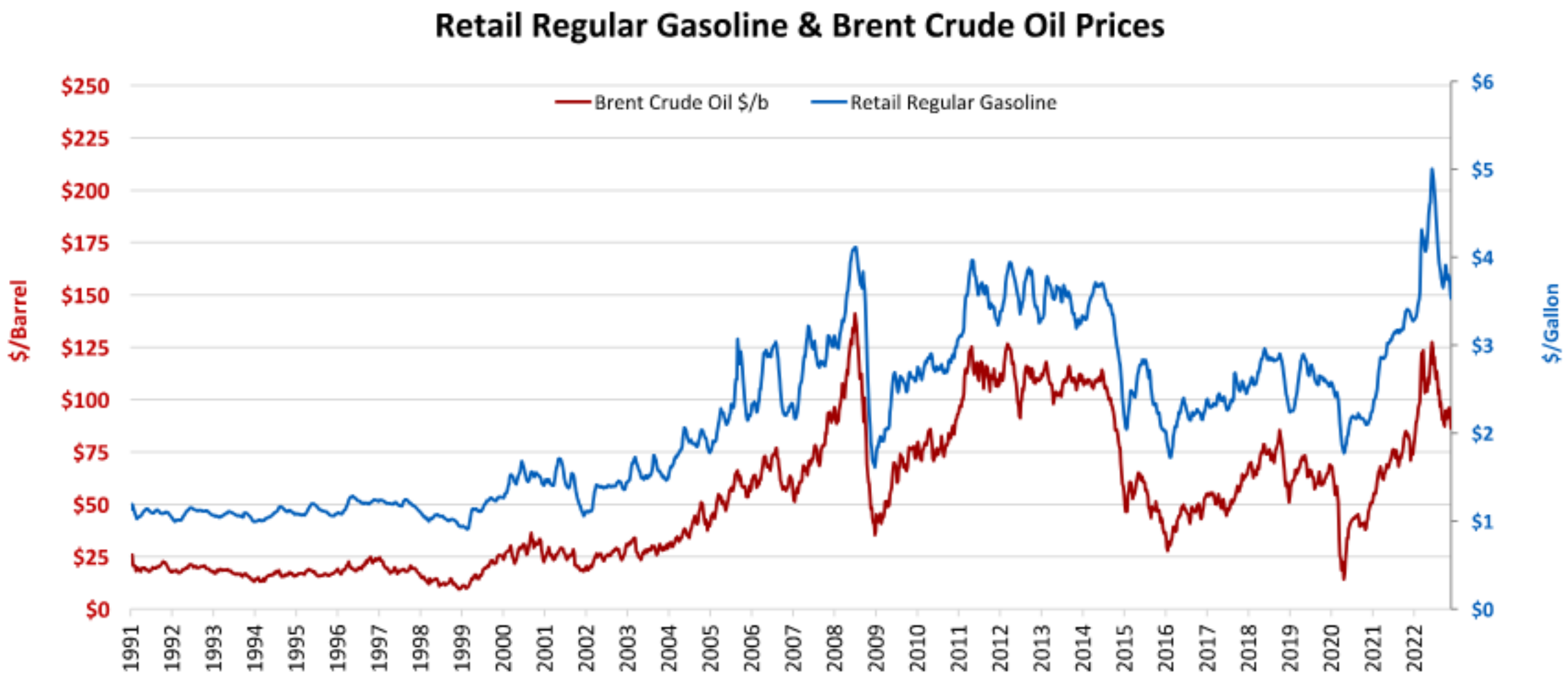
U.S. Midstream



America's midstream infrastructure – the integrated system of pipelines, ports and waterways, railroads, roadways and storage facilities – is essential for moving America's energy supplies and products along the supply chain from producer to manufacturer to the consumer.

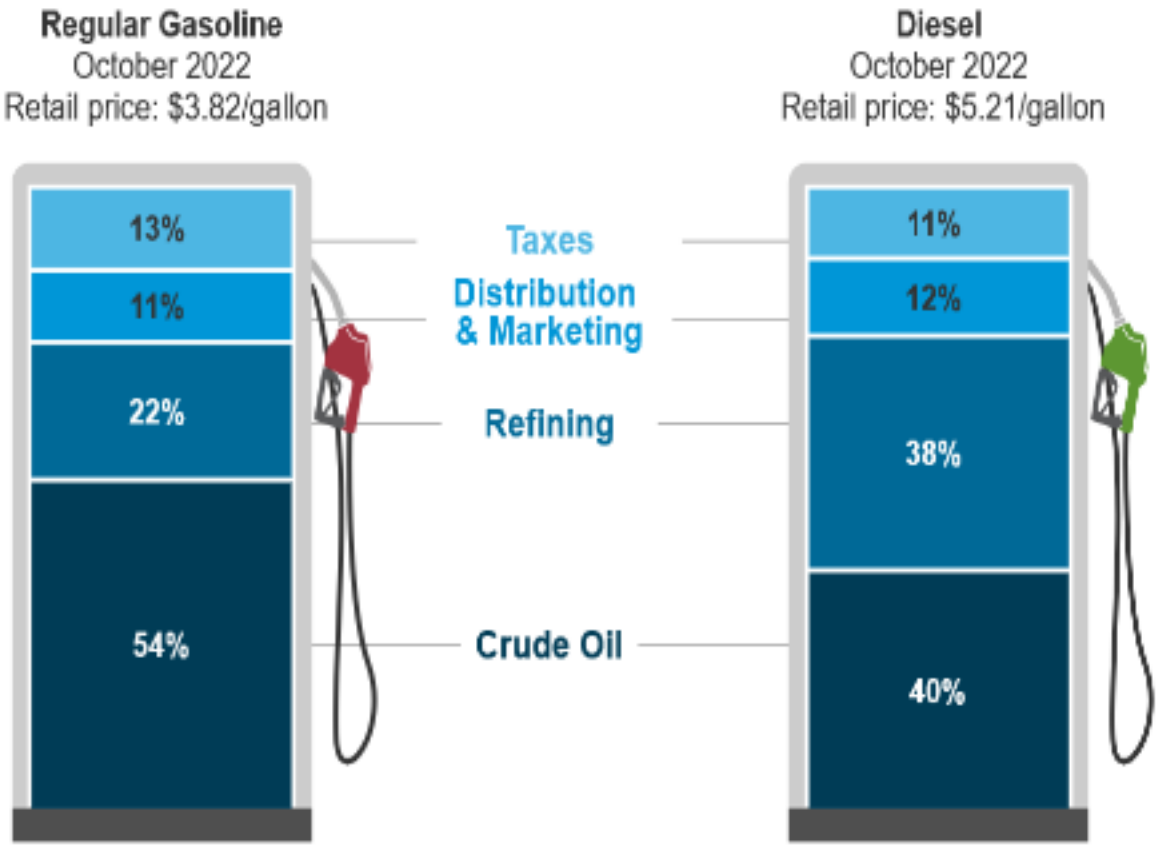
AFPM
American Fuel & Petrochemical Manufacturers

U.S. Retail Gasoline & Crude Oil Prices



Source: AFPM analysis of U.S. Energy Information Administration data

Pump Prices of Gasoline and Diesel



Crude Oil - the monthly average cost of crude oil purchased by all U.S. refiners

Refining Costs & Profits - the cost for refineries to produce gasoline and other products plus the refinery profit. Cost includes fixed and variable refinery operating costs, like labor, other materials like catalysts, fuel, and the cost of compliance with the Renewable Fuel Standard and Low Carbon Fuel Standards.

Distribution & Marketing Costs & Profits - distribution costs are those for the delivery of gasoline along the supply chain to the consumer - by pipeline, rail, marine and truck; marketing costs are those that support the sale of gasoline by refiners, distributers, and wholesalers

Taxes - a monthly national average of federal and state taxes applied to gasoline

Source: AFPM analysis of U.S. Energy Information Administration October Gasoline and Diesel Fuel data