# Federal Investments in Programs and Infrastructure

*"What do new historic federal funding opportunities mean for Oregon?"*

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# Backdrop of Underinvestment

- Contaminated drinking water
- Crumbling bridges & transportation infrastructure
- Inadequate broadband
- Slow transition to sustainable economy

# Infrastructure Investment and Jobs Act

- Bipartisan Infrastructure Bill
- Provides $1.2 trillion investment in infrastructure for water, transportation, energy, communications, etc.
- Enacted Nov. 15, 2021

# Infrastructure Investment and Jobs (IIJA) Act

Public Law 117–58

- **Roads, Bridges, & major projects: $110 Billion**
- **Passenger and Freight Rail: $66 Billion**
- **Safety: $11 Billion**
- **Public Transit: $39.2 Billion**
- **Broadband: $65 Billion**
- **Ports and Waterways: $16.6 Billion**
- **Airports: $25 Billion**
- **Water Infrastructure: $55 Billion**
- **Power and Grid: $65 Billion**
- **Resiliency: $47.2 Billion**
- **Clean School Buses & Ferries: $7.5 Billion**
- **Electric Vehicle Charging: $7.5 Billion**
- **Reconnecting Communities: $1 Billion**

# 60% of IIJA Funding Delivered Through States

## Oregon Investments Infrastructure Investment and Jobs Act

- **$1 billion in additional funding for roads— a 38% increase**
- **$200 million in transit funding— a 35% increase**
- **$268 million to repair and replace Oregon's aging bridges**
- **$45 million to invest in transportation safety**
- **$52 million for EV charging infrastructure**
- **$30 million in additional funds for bicycle and pedestrian projects**
- **$82 million to Oregon to invest in transportation projects that reduce greenhouse gas emissions**
- **$94 million to increase the transportation system's resilience to earthquakes, natural disasters and adapt to climate change**
- **$100 million + for broadband buildout (plus $100 million from ARPA)**
- **$5.6 million for Oregon's State Energy Program**
- **$50 million for grid resilience**
- **$20-$27 million in additional funding annually for clean water infrastructure**
- **$24 million in additional funding annually for drinking water infrastructure**
- **$37 million annually for lead service line replacement**

# IIJA Funding Not Necessarily Delivered Through States

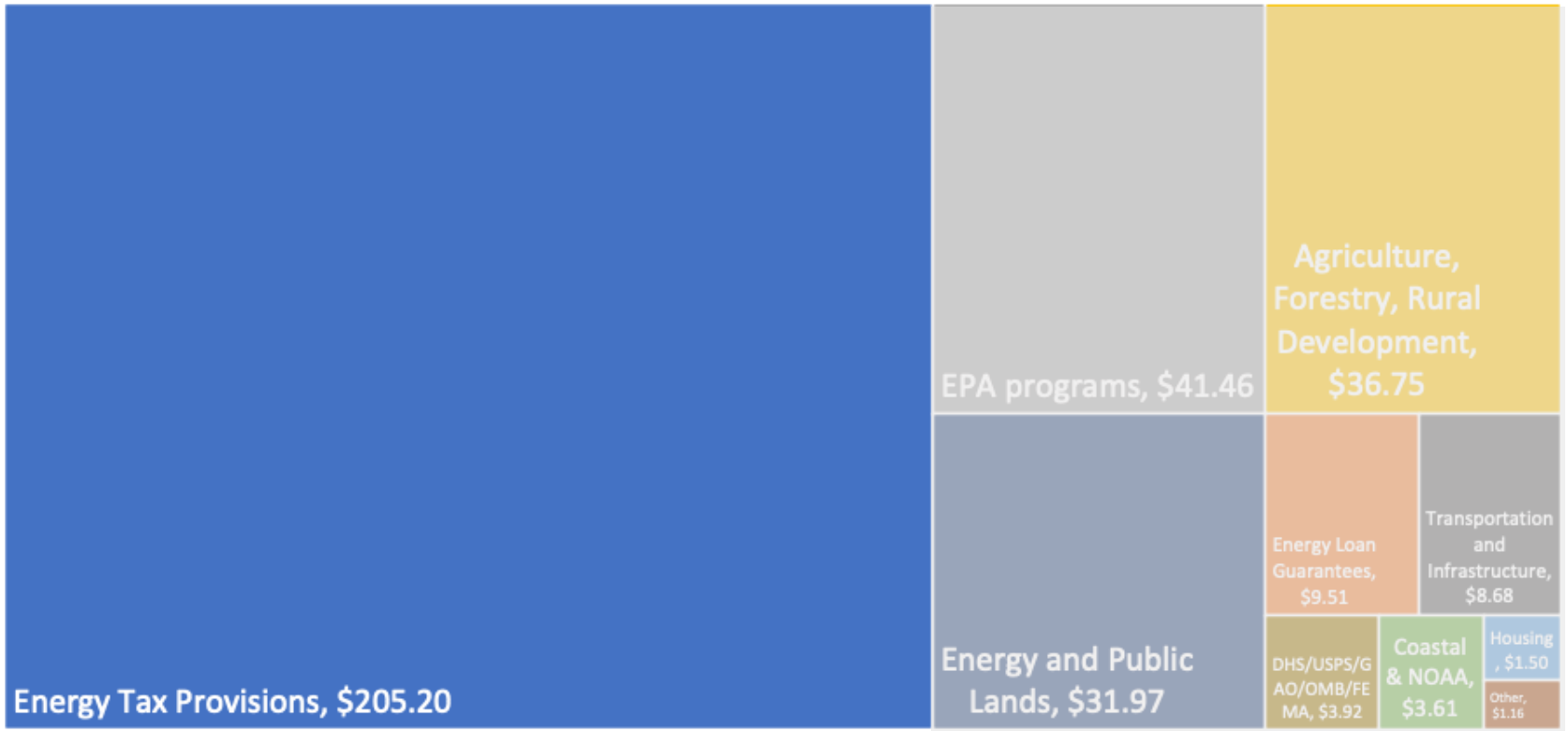
- **Transportation**
  - Up to $15 billion funding for road, rail, transit, and other surface transportation of local and/or regional significance
  - $5 billion for Safe Streets for All
  - $2.5 billion competitive EV charging
  - $5 billion clean school bus program
  - $2 billion for rural surface transportation
  - $1 billion reconnecting communities
- **Climate, Energy and Environment**
  - $1 billion for hazard mitigation (FEMA)
  - $3.5 billion for flood mitigation
  - $1.2 billion for Brownfields remediation
  - $550 million for energy efficiency and conservation block grants
  - $550 million for EE and RE in schools
  - $8 billion for clean hydrogen hubs
  - $1 billion for community wildfire defense grants
- **Broadband**
  - $2 billion for rural broadband
  - $1 billion for state and local cybersecurity grants
- **Water storage and other**
  - $1 billion for water storage

# Inflation Reduction Act

- Budget Reconciliation Bill
- Provides $370 billion in incentives for climate change investment
- Also addresses drug prices and healthcare premium support
- Enacted Aug. 16, 2022

# Funding Through the Inflation Reduction Act

In US $ Billions




~~$370 Billion~~

~~$970 Billion~~

Goldman Sachs

$1.2 Trillion

$2.9 Trillion investment opportunity by 2032

$11 Trillion by 2050

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# How IIJA and IRA Incentives Are Delivered

## With Examples

### Federal Grant/Loan Programs

- Grid Resilience (Apply to U.S. DOE)
- Carbon Pollution Reduction Grants (Apply to U.S. EPA)

### Traditional State Channels

- State Revolving Loan Funds for Water (U.S. EPA --> ODEQ)
- Transportation Formula Funding (U.S. DOT --> ODOT)

### Tax Policy

- Home Energy Efficiency
- Direct Pay

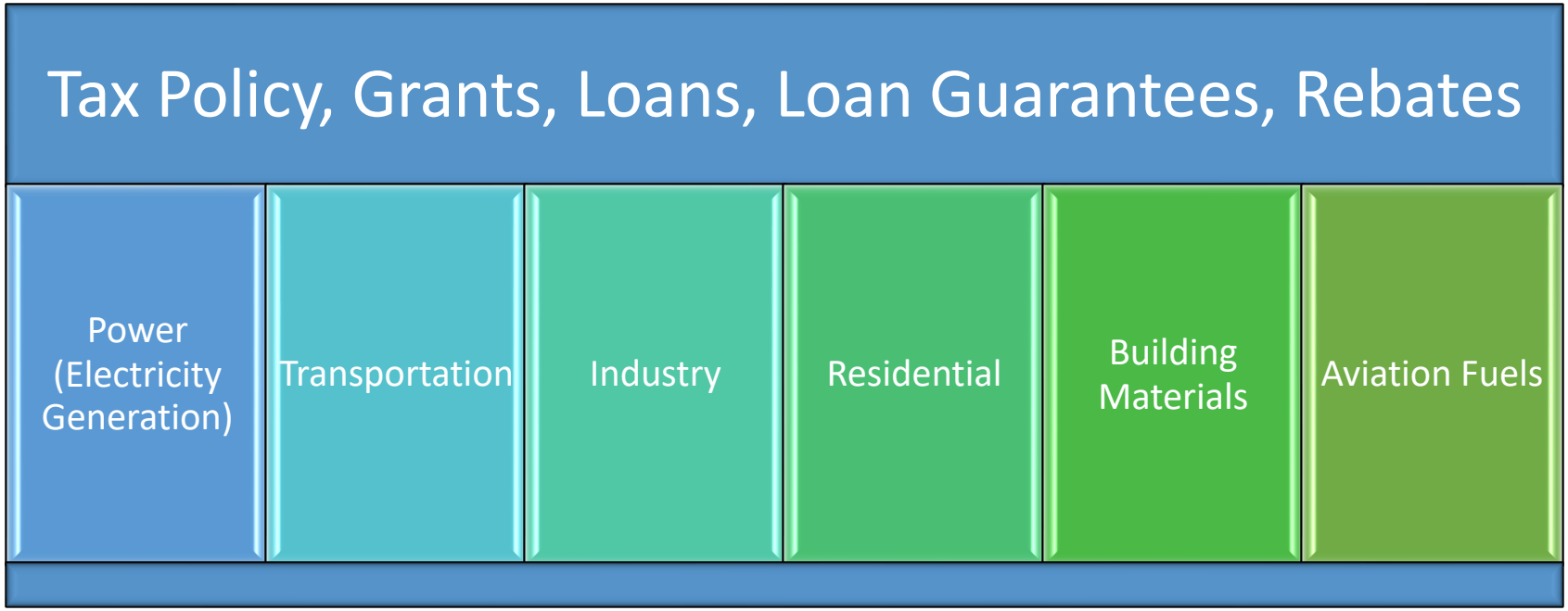
# Direct Pay

- New Internal Revenue Code Sec. 6417 allows an "applicable entity" to elect a direct payment instead of receiving a tax credit.
- Eligibility extended to tax exempt entities: nonprofits, states and political subdivisions, Indian tribes, and community-owned utilities.
- Creates incentives for tax exempt entities that haven't previously existed.

**Direct Pay is Available for the Following Tax Credits**

- Sec. 48 energy credits
- Electric vehicle charging infrastructure
- Renewable electricity production
- Carbon dioxide sequestration
- Electric vehicles
- Clean electricity production
- Advanced energy project credit
- Clean electricity investment credit

# Sectors of Investment in IRA



Transportation Sector

# Transportation in the IIJA and IRA

- State formula funding program for EV charging
- Community charging grant program
- Tax credits for
  - Electric vehicles assembled in the U.S.
  - Commercial electric vehicles
  - EV charging equipment
  - Battery manufacturing
- New EPA grant program for heavy-duty zero emission vehicles
- Electric school bus program
- Funding for electric postal service vehicles

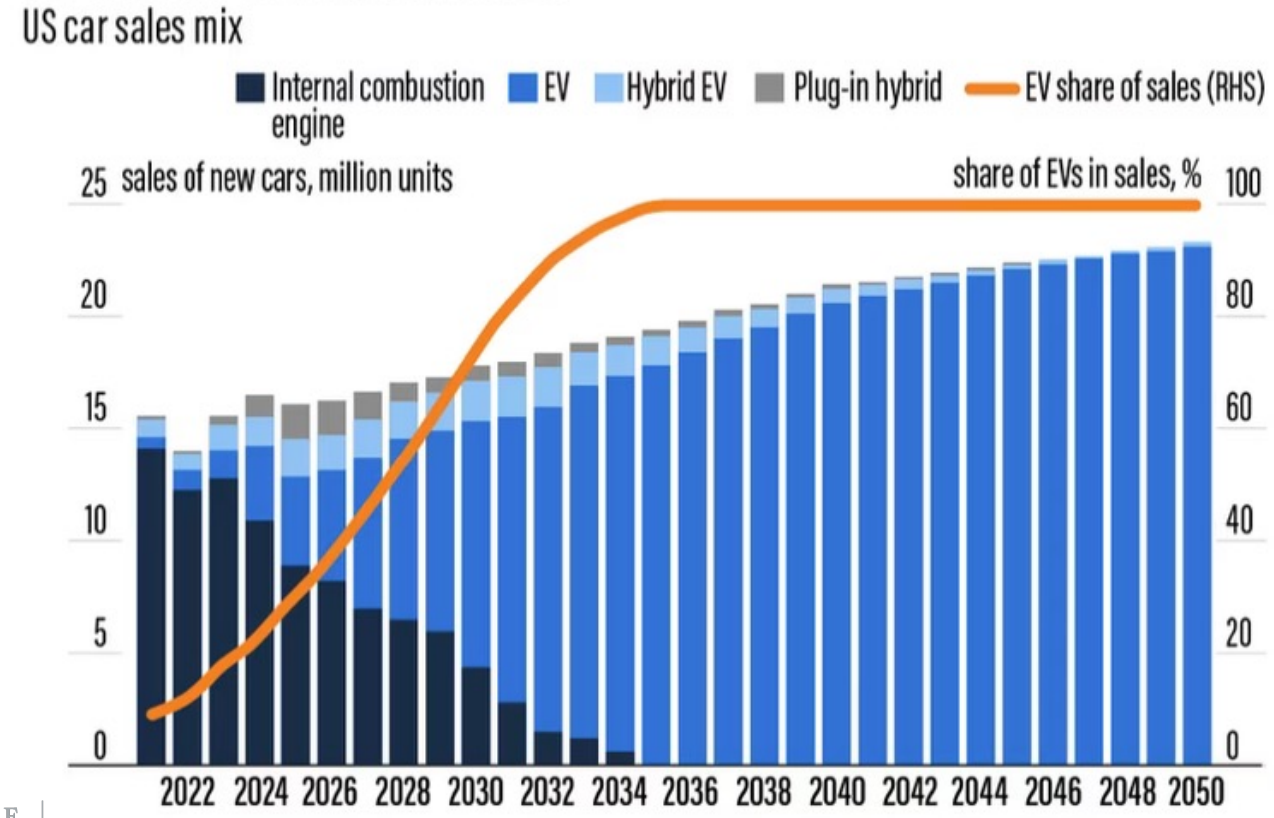
Transportation Sector

# Since Enactment of the IIJA and IRA …

- $90 billion+ in EV and battery manufacturing have been announced since early 2021.
- US passenger vehicle sales declined in 2022 by 8% …
- But the EV sales increased by 65 percent.
- EVs accounted for 5.8 percent of all new cars sold in the US in 2022, an increase from 3.1 percent the year before.

Transportation Sector

# Share of EV Sales will Grow Significantly




Source: US Bureau of Transportation Statistics, Goldman Sachs

Power Sector

# The Power Sector in the IIJA and IRA

- The law includes tax incentives for clean power, scored at nearly $200 billion, but likely totaling much more.
- $18 billion in Department of Energy loan authority to support economic opportunities to tribes through energy projects.
- $40 billion in loan authority to help technologies like energy storage, battery and building efficiency technologies reach commercial deployment.
- $250 billion to reduce consumer electricity costs by retooling, repurposing or replacing retired energy infrastructure like power plants.
- Bonus tax incentives to develop clean energy resources in low-income communities and areas experiencing a transition away from fossil fuels.
- More than $10 billion to support renewable buildout in rural areas through loans and assistance for electric cooperatives.

Power Sector

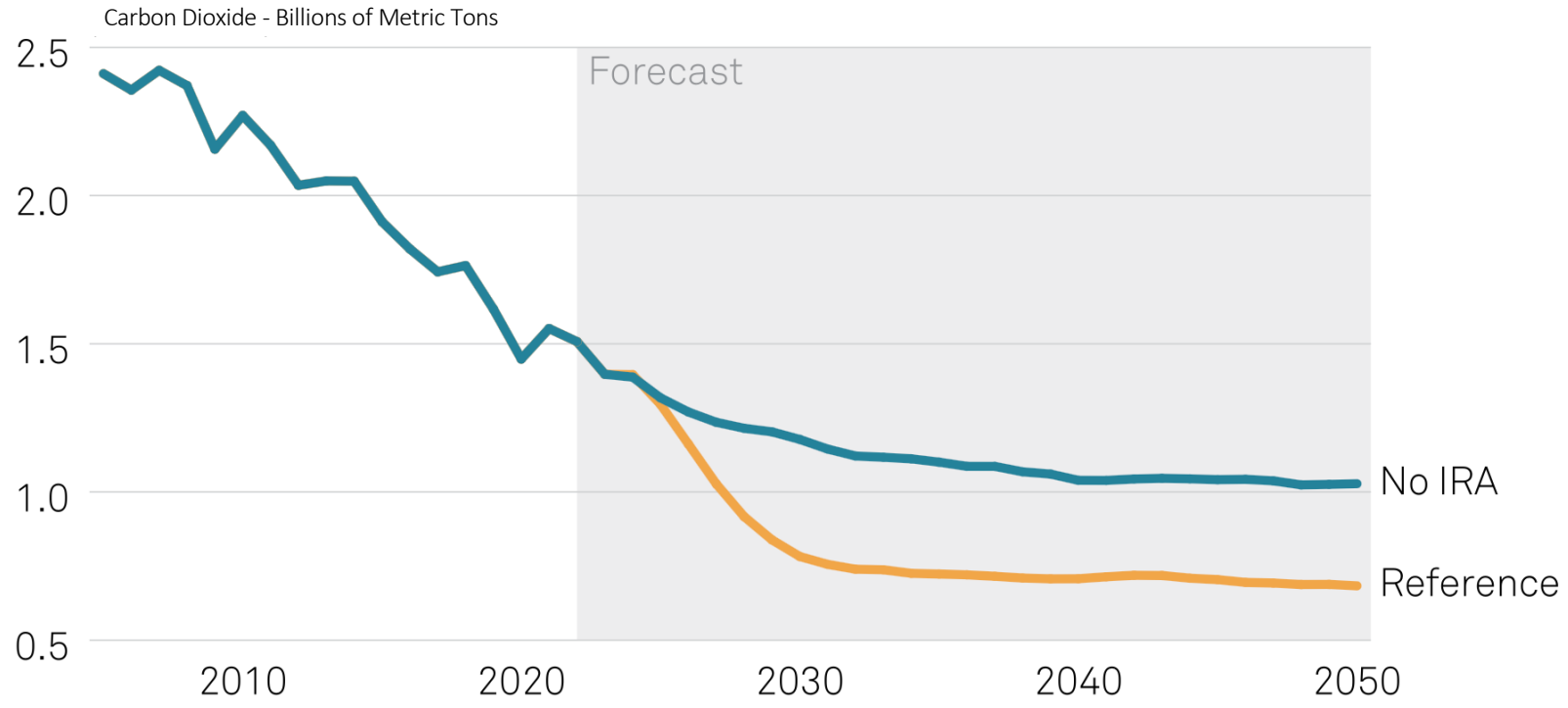
## NEW REPORT: Five Years' Worth of Clean Energy Investments Announced in Less Than Nine Months

- **46** announcements of new, expanded, or re-opened utility-scale manufacturing facilities:
  - **26** solar manufacturing facilities
  - **10** battery storage manufacturing facilities
  - **8** wind manufacturing facilities
  - **2** offshore wind manufacturing facilities
- **18,000** new American manufacturing jobs
- **$150 billion+** in announced capital investment
- Nearly **96,000 MW** of announced clean energy capacity
- **$4.4 billion** in announced consumer savings
  - **24 million** Americans served by utilities who announced consumer savings

Source: American Clean Power, Apr. 17, 2023

Power Sector

# IRA accelerates power sector decarbonization

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Source: EIA Annual Energy Outlook 2023
Chart: S&P Global

Industry

# Industry Decarbonization in the IIJA and IRA

- **Expansion of Clean Energy Manufacturing**
  - $10 billion in 48C Clean Energy Manufacturing tax credits.
  - Advanced manufacturing tax credits.
  - Domestic content/assembly requirements in clean energy tax credits.
- **Incentives for hard to decarbonize industries**
  - While many industries will benefit from the emerging clean grid, clean hydrogen will be an important resource in decarbonizing industrial sectors that can't easily electrify.
  - The IIJA includes $8 billion to establish up to 10 regional clean hydrogen hubs and expand the use of hydrogen. Tax credits in the IRA are expected to reduce the cost of green hydrogen by one-half.
  - Carbon capture utilization and sequestration tax credit.

Residential

# The Residential Sector in the IIJA and IRA

- 25C provides a capped 30 percent tax credit for
  - Heat pumps, (up to $2000)
  - Heat pump water heaters (HPWHs) (up to $2000),
  - Qualifying electrical panel upgrades (up to $600),
  - Select weatherization measures, and
  - Energy audits.
- 25D provides an uncapped 30 percent tax credit for
  - Rooftop solar,
  - Battery storage (for the first time), and
  - Geothermal heating.
  - Electrical panel upgrade installed in conjunction with and enables another eligible energy installation.
- Up to $14,000 per household in Electrification Rebates for point-of-sale consumer discounts to enable low- or moderate-income households across America to electrify their homes. ($4.3 billion in total)
- Up to $8,000 per household for energy saving investments scaled to amount of energy saved and household income. ($4.3 billion in total)



Source: U.S. DOE, Rewiring America

Residential

# The Residential Sector in the IIJA and IRA


Source: RMI, Preliminary estimate

Building Materials

# Building Materials in the IRA

- Embodied carbon in building materials account for 11% of global annual emissions.
- $5 billion included in the IRA to incentivize the use of low-carbon building materials in public projects.
- Less than 1% premium can reduce emissions by 19% - 46%.


Source: RMI, Graphic

Aviation Fuels

# Sustainable Aviation Fuels in the IRA

- **Grants.** $297 million over 5 years for a new Alternative Fuel and Low-Emission Aviation Technology competitive grant program to scale up the production of Sustainable Aviation Fuel (SAF) in the United States.

- **Tax Credits.** New tax credit of $1.25 for each gallon of SAF in a qualified mixture that reduces lifecycle greenhouse gas emissions by at least 50%. There is also a supplemental credit of one cent for each percent that the reduction exceeds 50%.

- The Administration's Sustainable Aviation Fuel Grand Challenge aims to boost SAF production from 15.8 million gallons in 2022 to at least 3 billion gallons/year by 2030 and wean the sector off petroleum-based jet fuel completely by producing 35 billion gallons/year of SAF by 2050.

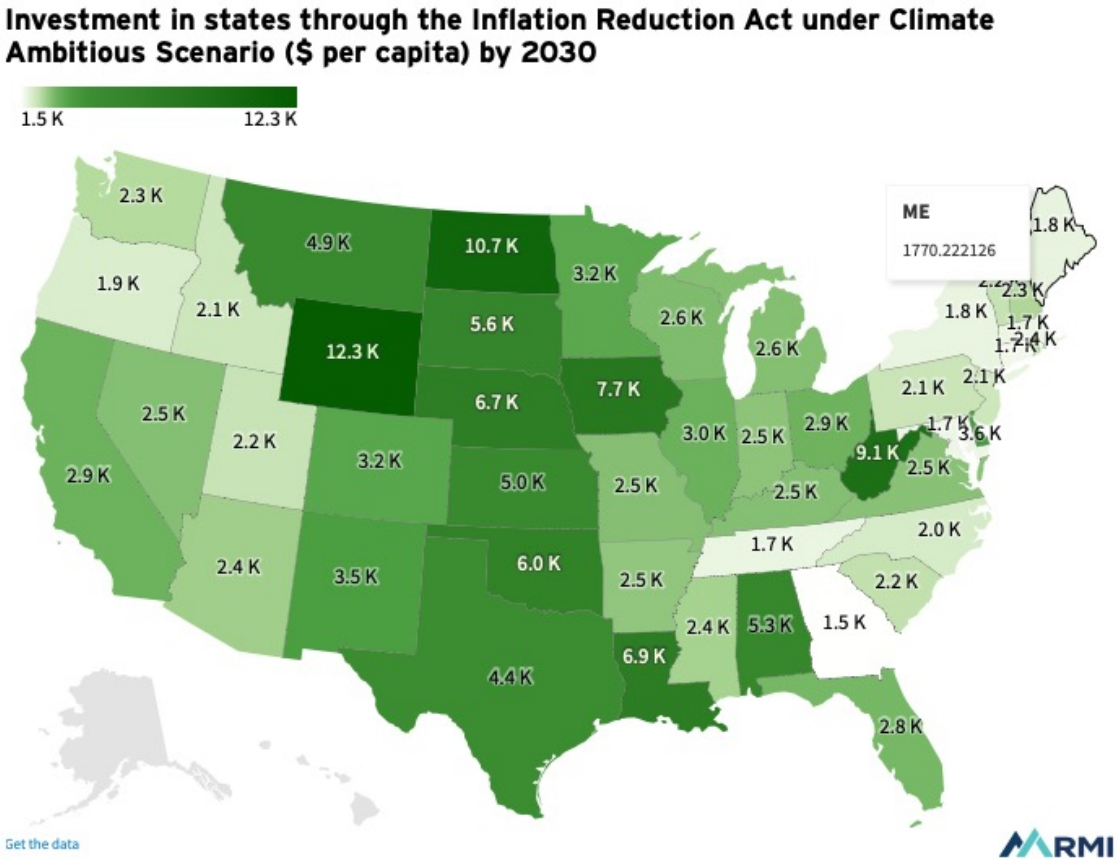


Source: WH, U.S. Treasury

# Investment in Oregon

One analysis projects:

- $8 Billion Federal investment in Oregon by 2030
- $1,900 Per Capita in Oregon by 2030
- 16,000 new jobs in Oregon by 2030



# Conclusion

- Entering period of historic funding opportunity for clean energy.
- Early signs show industry and investment flows are responding to policy signals encouraging climate action.
- Impact in Oregon depends on decisions made by private sector, individuals, nonprofit organizations, and state, tribal, and local governments.

# Thank You!

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