

BREAKOUT SESSION #4

Federal Incentives: Infrastructure, CHIPS & Inflation Reduction Act

MODERATOR: Robert Hess, Vice Chairman, Newmark

PANELISTS: Chris Lloyd, Director, McGuire Woods Consulting; Gregory Burkhart, Managing Director, KROLL; Ulrich Schmidt, Principal, KPMG (healing at home)



Unprecedented U.S. Investment



It took awhile, but the sleeping giant again has awakened, big time!

Vs.



Federal Program	Approved Allocations	Program Duration
Infrastructure	\$1,200,000,000,000	5 Years, 2026
CHIPS and Science	278,000,000,000	5 Years, 2027
Inflation Reduction	<u>369,000,000,000*</u>	<u>10 Years, 2032</u>
GRAND TOTAL	\$1,937,000,000,000	\$250 Billion Per Year

\$1 Trillion

\$143 Billion

\$75 Billion EV**
(2010 to 2022)

Source: Statista,
Bloomberg and Dezan Shira
& Associates

* Also includes \$64 billion investment in Affordable Care Act

** A twelve year head start in the EV sector; dominates EV market in 2023 still

SSG 2023 Annual Conference

Perspectives and Pointers

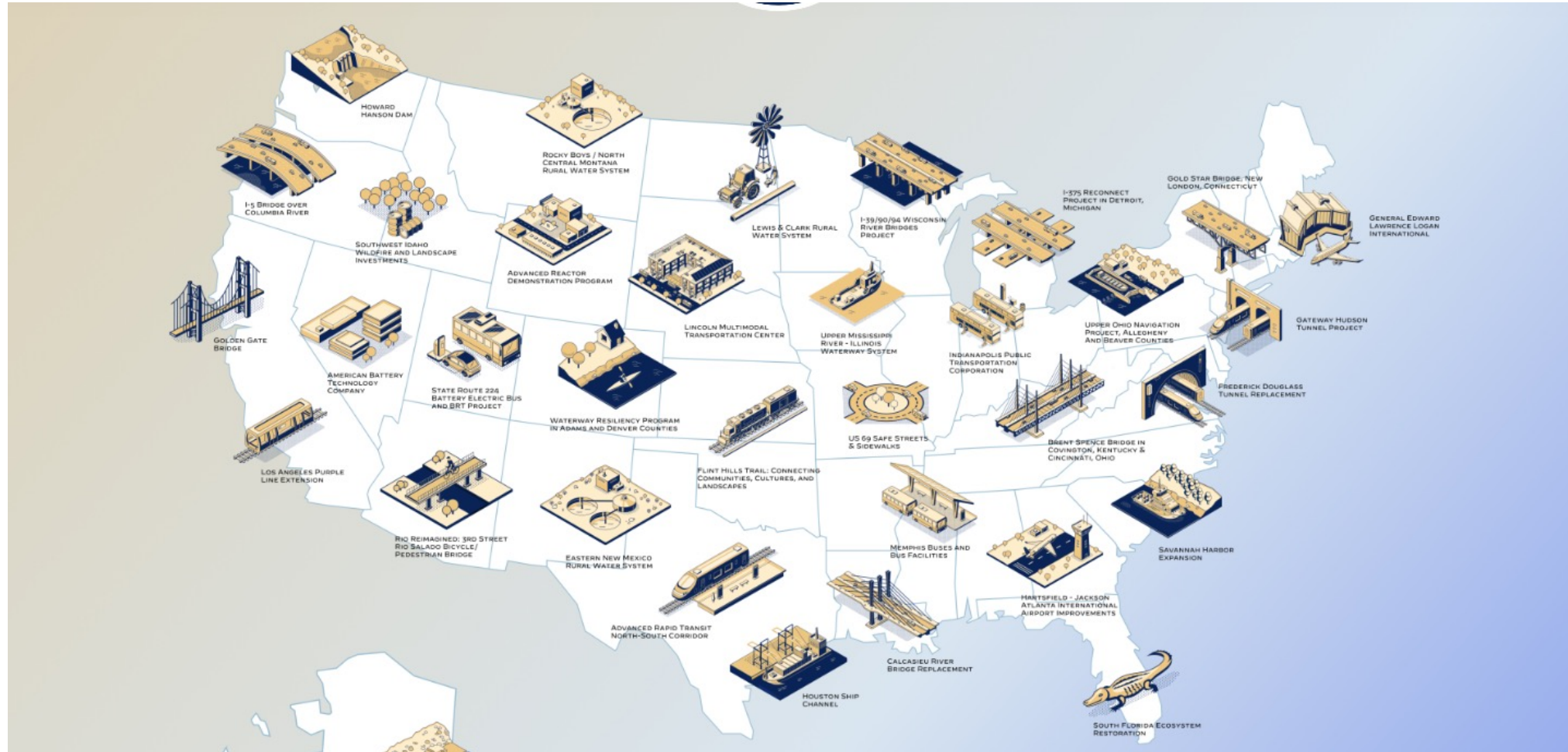


- Wet Cement: These new federal incentive programs, still are “wet cement,” re: who and how to access, optimize and/or maximize funding; streamline the programs through amendments, productize them better vs exceptions, and get them it into small and medium enterprises also.
- Directional Value: The big projects are not yet sure how the \$ will flow into their P&Ls and budgets (others than at feasibility level and maybe with letters of commitment that are subject to legislative tweaking; be wise to have an advisor and law firm involved on claw backs, etc.
- Future Funding: Clients and EDOs would be wise to seek funding alignment with phasing of a project; and to not preclude themselves from receiving future funds that will likely be allocated to CHIPS and certain sections and industries of IRA (EV for sure, suppliers lobbying) of national interest and strategic nature to FDI competitiveness
- System Thinking and Preparation: MUST demonstrate a holistic approach to economic development and how an application of funds will not just benefit the end user; any procurement has to involve ALL OF YOU, AND THOUGHTFUL AND SUSTAINABLE PPPS WILL WIN THE LION'S SHARE \$\$\$ OF THESE PROGRAMS.



The **INFRASTRUCTURE
INVESTMENT
and JOBS ACT**

Something for Everyone!



The Basics



- Signed by President Biden in November 2021
- Allocates \$1.2 trillion across 350 funding streams and programs
- Built on the \$350 billion allocated through the American Rescue Plan (COVID stimulus funding)
- Focused on projects in transportation, climate/energy/environment (including resilience), and broadband
- Also includes funding for regional development commissions, fisheries, recycling, etc.



Major Infrastructure Programs

- **\$8 billion INFRA program, \$7.55 billion in RAISE grants, \$5 billion for “MEGA” projects – part of \$326 billion roads package +\$37 billion for highway safety**
- **Rail safety funding, railroad crossing elimination funding, Intercity rail enhancement – part of \$63 billion rail package**
- **Public transportation \$82 billion package**
- **\$25 billion for airports**
- **\$16.7 billion for ports (including \$2.5 billion for port infrastructure grants)**
- **\$7.5 billion for EV charging infrastructure**
- **\$62.5 billion for water and wastewater infrastructure**



Major Infrastructure Programs

- \$50 billion for climate resiliency programs and cybersecurity
- \$21 billion for environmental remediation including Superfund site cleanup, brownfield redevelopment funding, abandoned mined land reclamation
- \$65 billion for broadband – deployment, middle mile, rural, affordability, planning grants



Major Climate Programs

- **\$75 billion in grants for major clean energy programs including:**
 - \$8 billion for regional hydrogen hubs
 - \$3 billion for battery manufacturing and recycling grants
 - \$2.5 billion for carbon capture grant programs
 - \$1 billion for energy storage in rural and remote areas
 - \$750 million for energy manufacturing and recycling grants
 - Funding for workforce training
 - Funding for grid reliability and resiliency



Project Requirements

- Prevailing wage requirements
- Union and apprenticeship requirements
- Buy America/Build America provisions
- NEPA
- SWAM/MBE/DBE
- Equity

Community Preparation



1. Prioritize your community's capital needs and develop a project pipeline – taking time to think about the projects previously considered impossible due to lack of funding or regional coordination.
2. Download the Bipartisan Infrastructure Law Guidebook to identify federal funding streams to target.
3. Ensure all transit, railway, road, highway, and bridge projects are a part of your Metropolitan Planning Organization's Transportation Improvement Plan.
4. Begin mapping sites for electric vehicle and alternative fuel charging stations.
5. Work with your state's broadband agency to ensure your city or region's needs are appropriately mapped and inventoried.
6. Establish relationships with the regional offices for key federal agencies, who can help direct you to resources and provide technical assistance.



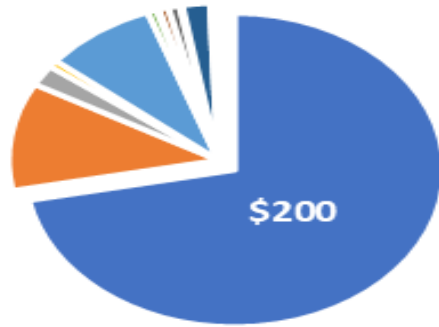
How EDOs can help

- Letters of support for grant applications
- Clearinghouse for information
- Coordination of local/state permitting agencies to speed project approvals
- Marketing yourself as an eligible community
- Align local incentives with IIJA requirements and timelines



The CHIPS and Science Act

CHIPS: Semiconductors & Science



Funding: \$278B

- STEM, R&D Workforce and Econ Dev
- Loan Program
- Advanced Mfg Tax Credit
- America Int'l Tech Sec & Innov Fund
- Nat'l Advanced Packaging Mfg Program
- NIST Semiconductor Programs
- American Workforce & Education Fund

2023 Omnibus Approp Bill: \$1.8 B

\$500M Reg'l Innov Tech Hubs

\$200M Recompete PILOT

\$188M Mfg Extension Partnerships

\$51M Mfg USA

- Appropriations
- Legacy Chip Production
- American Defense Fund
- Nat'l Semiconductor Tech Ctr
- Microelectronics R&D Mfg Institute
- Public Wireless Supply Chain Innov Fund

CHIPS: Partner with Investors



- **Global Growth: \$1T industry by 2032**

- US market share is ~12% (vs. 37% in 1990's)
- Announcements: 40 projects ~\$200B

National Governors' Association:
[CHIPS Implementation & Resources](#)

- **Eligibility:**

- Applicants: For profit, non-profit and/or consortia
- Activities: fabrication, assembly, testing, packaging, production and/or R&D
- Products: semiconductors, materials and manufacturing equipment

- **Guidance for Applicants:**

- Leverage collaborations to build out ecosystems
- Create inclusive opportunities for businesses and communities
- Expand the workforce pipeline
- Secure additional incentives and support to build clusters
 - Statutory requirement; encourages performance-based incentives
 - Focus on ecosystem development, ex. shared utility, logistics, and production capacity
 - Workforce-related incentives
 - Concessions with respect to real property
 - Funding For R&D



CHIPS: Compete for Facilities

- **Bricks & Mortar**

- DOE Fusion Pilot Plant (Sec. 10105)
- DOE Electron Ion Collider (Sec. 10107)
- DOE Emerging Infectious Diseases High Performance Computing Research Consortium (Sec. 10112)
- DOE Foundation for Energy Security & Innovation (Sec. 10691)
- DOE Microelectronics Science Research Centers (Sec. 10731)
- NIST Manufacturing USA Institutes (Sec. 10261)
- Commerce Regional Innovation Hubs (Sec. 10621)



CHIPS: Develop Workforce & Talent Pipeline

- **Workforce Initiatives**

- NSF STEM Competitive Awards including Veterans separating from active duty (Sec. 10312)
- NSF Cyber Workforce (Sec. 10315)
- NSF Microelectronics (Sec. 10318)
- NSF Advanced Manufacturing, AI, ML and Rapid Printing (Sec. 10358)



CHIPS: How do you get it?

- **Funding Application Process**
 - Announced in February 2023
 - Proposals considered on a rolling basis
 - Read the Implementation Strategy
 - Join mailing list
- **Identify areas of interest**
- **Develop value proposition**
- **Create awareness with legislators and contract officers**
- **Join mailing list and monitor CHIPS.gov**
- **Respond!**



CHIPS: Strings Attached

- **Child Care**
 - Employees
 - Construction Workers
- **US DOC & DOL Good Jobs Principles**
 - Recruiting and hiring
 - Benefits
 - DEIA (including 100% renewable power)
 - Empowerment and Representation
 - Job Security and Working Conditions
 - Organizational Culture
- **Profit and CF Sharing**
- **Investment Restrictions**
 - Stock buy backs
 - International investments

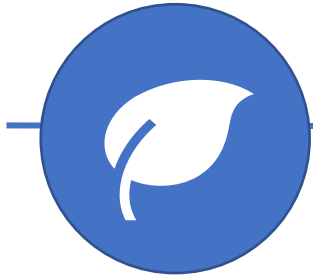


IRA: Broadly



- Specific industry objectives in mind, including accelerating investments in the domestic production of clean energy; the procurement of key supplies and components from domestic and/or free-trade partners; and the R&D associated with the commercialization of cutting-edge technologies reducing carbon emissions.
- Allocates over \$390 billion in federal funding to clean energy initiatives, which are available to corporations, individuals, and state and local governments and may be offered in the form of tax incentives, grants, or loan guarantees.
 - Nearly 55% (over \$215 billion) of the total federal funding allocation is available to the corporate end user in the form of various tax credits designed to encourage the private investment in clean energy, transportation, and manufacturing. Credit amounts vary based on the type of energy investment being made, project location, and American made components and supplies.
 - For corporations pursuing these benefits, it is critical to understand the hiring and domestic procurement requirements that must be achieved to maintain compliance and/or maximize potential benefits. In the case of manufacturers, certain bonus credits are only available when and if the company is meeting prevailing wage and scaling domestic production and procurement requirements.
 - Independent of the tax credits is an additional \$67 billion in discretionary funding that isn't as widely talked about. These funds will flow through the Environmental Protection Agency and the Department of Energy Loan Programs Office in the form of competitive grants and low interest loans.
- The IRA funds will be distributed by more than a dozen federal agencies. The Treasury Department will administer a majority of funds due to the pervasiveness of tax credits throughout the law, but you can expect to see other departments (the Departments of Energy, Agriculture, and EPA administering funds and establishing programs as well).

IRA: Corporate credit extensions / modifications



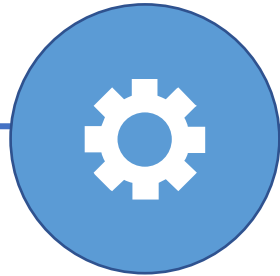
Renewable Energy

§ 45 Production tax credit

§ 48 Investment tax credit (wind, solar, geothermal, etc.)

§ 179D energy efficient comm

Producer or property investor



Advanced Manufacturing

§ 48C Credit for manufacturing energy property (EV components, fuel cells, electric grids, etc.)

Property investor



Transportation

§ 30D Clean vehicle credit

§ 30C Credit for EV charging stations

Property investor

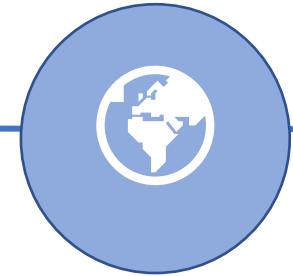


Alternative Fuels

§ 40 Second-generation biofuel credit

§ 40A and § 6426 Biodiesel and renewable diesel; biodiesel mixture credit; alternative fuel credit

Producer

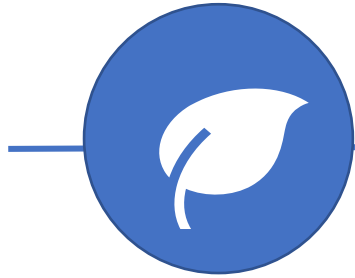


Carbon Capture

§ 45Q Credit for carbon oxide sequestration (increased rates)

Property investor

IRA: Corporate New Credits

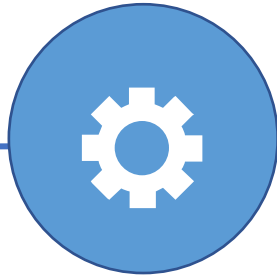


Renewable energy

§ 45U Zero-emission nuclear power production credit

§ 45Y and 48E Technology neutral clean electricity production and investment tax credits

Producer or property investor



Advanced manufacturing

§ 45X Advanced manufacturing production credit for solar & wind components, batteries, and critical minerals

Property investor



Transportation

§ 45W Qualified commercial clean vehicles
§ 25E Previously owned clean vehicle credit

Property investor



Alternative fuels

§ 40B Sustainable aviation fuel
§ 45V Clean hydrogen production credit
§ 45Z Clean fuel production tax credit

Producer

New Credit Requirements



Prevailing Wage and Apprenticeships

- Significantly higher credit rates available for projects which satisfy certain wage and workforce requirements during the construction and operation of the projects
- Generally, projects that begin construction prior to 60 days after the date (November 30, 2022) that guidance on prevailing wages and apprenticeship requirements is issued are eligible for bonus rates even if they do not satisfy the prevailing wage and apprenticeship requirements
- Curing process

Domestic content

- Additional credits available in some cases if projects are constructed using domestically sourced steel and iron as well as manufactured products
- Effective for projects placed in service after 2022

New Credit Requirements (Con't).



Other Targeted Credit Enhancements

- Additional credit amounts available in some cases for projects located in low-income communities, brownfield sites, and communities formerly reliant on coal and fossil fuel industries
- Effective for projects placed in service after 2022

EV Battery Value Proposition



Three Main Elements:

- **Demand side tax incentives**
 - e.g., point of sale for passenger and commercial vehicles, new and used
- **Production tax incentives**
 - e.g., on \$/kWh or percent cost-add for cells, packs, active materials, critical minerals, and green hydrogen
- **Investment tax incentives**
 - e.g., for greenfield and brownfield manufacturing projects as well as ESS and EV charging stations

Six Main Impacts:

- **Accelerates customer adoption**
- **Expands participation**
- **Better business case feasibility to investors**
- **Incentivizes regionalization**
- **Emphasizes an equity focus**
- **Promotes new supply chain optimization**

IRA introduces multiple battery-related tax credits

Tax credits

	Area	Tax credit
Input materials	Critical minerals*	10% of costs
	Battery electrode active materials	10% of costs
Batteries	Battery cells	\$35/kWh
	Battery modules**	\$10*/kWh
Applications	EVs***	\$7,500**
	Energy storage****	6% (base credit) Up to 30% + 10%

Source: BloombergNEF. Note: *Critical minerals require mining or refining of the material in the US at specific purity levels. ** Battery module tax credit can go up to \$45/kWh for modules which do not use battery cells. ***EV credits include additional incentives for used clean vehicles and commercial clean vehicles, which are not directly tied to battery manufacturing in certain locations so have been removed from this table. ****Energy storage is eligible for additional credits of 10% energy community adder and 10% or 20% environmental justice adder, under specified provisions that will be further clarified by December 31, 2022.

Select production tax credits are phased out in 2032

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Production tax credits' timeline for battery electrode active materials, cells and modules



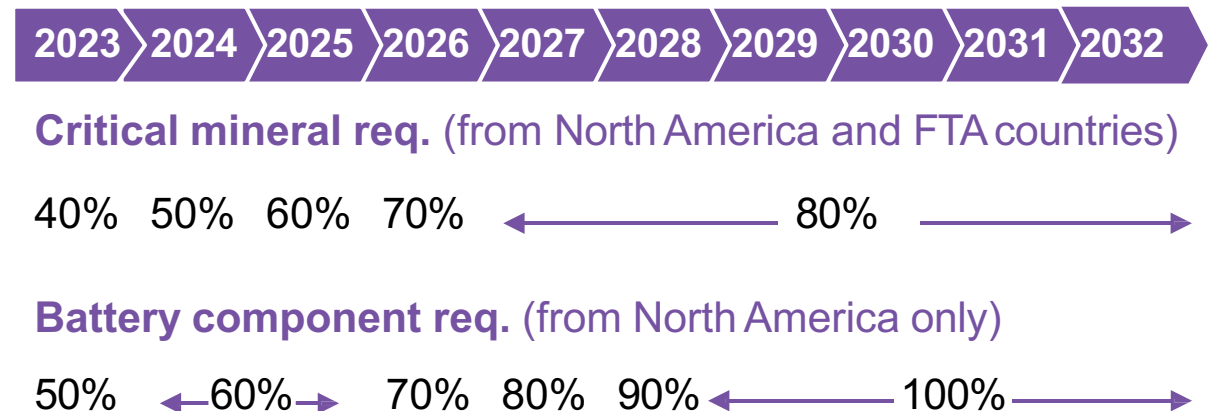
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To access the full \$7,500 EV tax credit, automakers need to satisfy two requirements

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Requirements to access EV credit




Source: BloombergNEF. Note: *Critical minerals require mining or refining of the material in the US at specific purity levels. ** Battery module tax credit can go up to \$45/kWh for modules which do not use battery cells. ***EV credits include additional incentives for used clean vehicles and commercial clean vehicles, which are not directly tied to battery manufacturing in certain locations so have been removed from this table. ****Energy storage is eligible for additional credits of 10% energy community adder and 10% or 20% environmental justice adder, under specified provisions that will be further clarified by December 31, 2022.

The challenge: IRA origination requirements will be hard to meet

Origination requirements for battery supply chain tax credits

Production tax credits

Battery electrode active materials, cells and modules requirement Manufactured in:  US

EV tax credit

Critical mineral requirement	Extracted or processed in:		US		
			FTA countries*	Australia, Bahrain, Canada, Chile, Colombia, Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras, Israel, Jordan, Mexico, Morocco, Nicaragua, Oman, Panama, Peru, Singapore and South Korea	
	Recycled in:		North America**		US
					Canada
					Mexico
Battery component requirement	Manufactured or assembled in:		North America**		US
					Canada
					Mexico

Source: BloombergNEF, state.gov. Note: *US has free trade agreements (FTA) in force with 20 countries. **Table includes selected large countries in North America region.

Closing Comments



- Many companies in your region/locality will apply or take advantage of the new federal tax credits
- Review what types of industries may be a good match for your region and sites
- Prepare sites to be “project ready” to reduce project development timelines
- Projects will be evaluated competitively based on their “readiness” and “economic impact”
- Be aware of prevailing wage requirements
- Think holistically and show industry and ecosystem linkages, alignment and also state and local \$ contributions...the fed money will run out at some point

A wooden signpost with two directional signs. The top sign is a wooden arrow pointing right with the word 'QUESTIONS' in bold black capital letters. The bottom sign is a wooden arrow pointing left with the word 'ANSWERS' in bold black capital letters. The signpost is made of weathered wood and is set against a bright blue sky with scattered white clouds.

QUESTIONS

ANSWERS