Inflation Reduction Act Considerations

for

Nebraska Power Association

NEBRASKA POWER ASSOCIATION

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Inflation Reduction Act – Topics

Overview

Economics

Diversions

Decisions

Summary and Q&A

Inflation Reduction Act - Overview

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Federal Funding Legislation Overview

- Coronavirus Aid Relief and Economic Security Act (CARES Act - March 2020), $2.2 trillion in stimulus funding & relief
- American Rescue Plan Act (ARPA - March 2021), $1.9 trillion, including $350 billion to state & local governments for **infrastructure, education, public health, human services** & **housing**
- Infrastructure Investment & Jobs Act (IIJA - November 2021), $1.2 trillion for **surface transportation** ($110 bn), **broadband** ($65 bn), **water** ($55 bn), **transit** ($39 bn), **airport** ($25 bn) & **ports** ($17 bn)

103
NEW PROGRAMS
AVAILABLE
TO STATE AND LOCAL
GOVERNMENTS

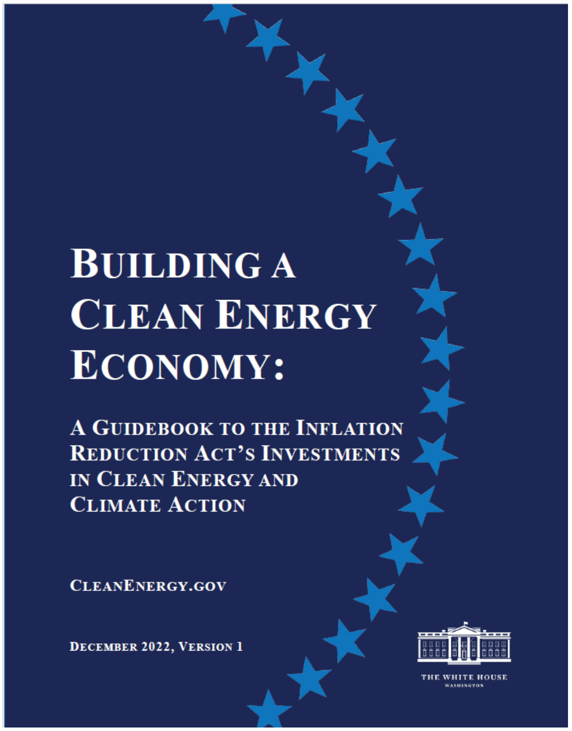
$756B
ACROSS ALL AVAILABLE
PROGRAMS
TO STATE AND LOCAL
GOVERNMENTS

- The Inflation Reduction Act of 2022 (IRA August 2022), includes $369B relating to the transition to **cleaner energy**

Sources: https://www.congress.gov/bill/116th-congress/senate-bill/3548/text; https://www.congress.gov/bill/117th-congress/house-bill/1319/text; https://www.congress.gov/bill/117th-congress/house-bill/3684/text; Inflation Reduction Act, Pub. L. No. 117-169, 136 Stat. 1818 (2022),

Inflation Reduction Act (IRA) – Overview

- Signed into law in August 2022
- $369 billion for new and existing programs, through tax incentives and direct investment, loans and guarantees
- Goals of reducing emissions by ~40%
- Incentives touch multiple aspects of your operations and community
  - Installation of energy facilities (e.g., wind, solar…)
  - Conversion of vehicle fleets to electric/hybrid
  - Electric Vehicle (EV) charging station deployment
  - Use of renewable fuels, such as biodiesel
  - Energy efficient building design & construction
- Many/Most important details not resolved
  - Some guidance issued, more to come



IRA Renewable Energy Incentive Summary

Renewable Energy Facilities – PTC *OR* ITC		
Incentive	**Production Tax Credit (PTC)** • Funds received over time • 10 yrs, $26/per MWh, adjusted for inflation assuming fair wage & apprenticeship requirements are met • **15% "haircut" if tax-exempt financing is used** • **Governmental entities eligible for Direct Payment**	**Investment Tax Credit (ITC)** • Funds received tax year after COD (reimbursement) • 30% of eligible costs of a renewable facility assuming fair wage & apprenticeship requirements are met • **15% "haircut" if tax-exempt financing is used** • **Governmental entities eligible for Direct Payment**
Eligible Projects	Solar, wind, landfill gas, geothermal, biomass, trash, qualified hydropower, marine & hydrokinetic resources	Solar, fuel cells, waste energy, combined heat & power, small wind, energy storage, qualified biogas property, electrochromic glass, microgrid controllers, geothermal
Bonus Credits ("Stacking")	• 10% for meeting domestic content requirements • 10% for projects located in energy communities	• 10% for meeting domestic content requirements • 10% for projects located in low-income communities • 20% for projects in qualified low-income residential • 10% for projects located in energy communities
Timing Considerations	Eligible projects are those completed after 2022 or *start construction* by Dec 31, 2032 (geothermal to 2035)*. **Direct payment eliminated for projects starting after 2025, unless meeting domestic content.** ***IRA also includes new "technology neutral" Clean Energy Production and Investment Tax Credits, which effectively extend PTC and ITC for the next decade.***	
Implication	*Munis can finance renewable projects with tax-exempt debt & claim 85% of the Production Tax Credit.*	*Can finance renewables projects with tax–exempt debt & receive a direct payment from the IRS for up to ~25.5% of eligible construction costs (after "haircut").*

Sources: Congressional Research Service, "The Renewable Electricity Production Tax Credit: In Brief (R43453)," April 29, 2020; https://crsreports.congress.gov/product/pdf/R/R47202

IRA Key Provisions – Investment and Production Tax Credits

	Base Credit	Wage & Apprenticeship	Domestic Content Bonus	Energy Community and Low Income	
Inv. Tax Credit	6% of Costs	to 5X Base	Additional 10%	Additional 10%s	
Credit as % of Qualifying Capital Costs				10%	Total to 60+% of Costs
				10%	
Transferable Tax Credit for Taxpayers			10%	10%	
Paid Directly to Muni Utilities		24%	24%	24%	
	6%	6%	6%	6%	
Prod. Tax Credit	~$5/MwH	to 5X Base	Additional ~$3.00		
Credit per MwH Produced over ~10 Yrs	Inflation Adjusted				
Transferable Tax Credit for Taxpayers			~$3.00	~$3.00	Total to ~$29 per MwH
Paid Directly to Muni Utilities		~$21.00	~$21.00	~$21.00	
	~$5.00	~$5.00	~$5.00	~$5.00	

Inflation Reduction Act – Other Provisions

- Existing nuclear PTC
  - 1.5 cents per KwH, declining after 2.5 cents “sale price”
  - Structured more for organized markets than serving retail load
- Alternate fuels
- Vehicle fleets
- Energy efficiency
- Alternate fuel charging

Inflation Reduction Act – IRS/Treasury Guidance

- Guidance has been coming out gradually with focus on meeting statutory deadlines and other “urgent” guidance
- Guidance has been published at steady pace, but far from definitive:
  - Prevailing wage and apprenticeship
  - Energy communities
  - Various releases related to electric vehicles
  - Advanced energy projects (related to manufacturing)
  - Low-income communities bonus credit program
  - Energy efficient homes
  - Domestic content
  - Direct pay

Inflation Reduction Act - Economics

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Inflation Reduction Act (IRA) – Initial Reactions

- The Economics?
  - How bad is the 15% TE bond "haircut"?
    - 85% of 30% leaves 25.5% - penalizing munis by ~4.5% of project cost
    - Equivalent to having to borrow at ~60 basis points higher than normal TE rates
    - But avoidable for some munis by allocating revenue funding to renewables
  - ITC vs PTC?
    - Depends on:
      - capital costs
      - capacity factor
      - TE debt haircut
      - discount rates …

Assumptions:
NPV discount rate of 5%
Solar output degradation of 1% per year
Project meets W&A, but not DC
PTC @ $26/MwH escalating @2.5% for 10 yrs
30% ITC on 90% eligible project cost
No tax-exemption "haircut"

Comparison of NPV Benefit for 100 MW Solar Project				
PTC Benefit as a Function of Capacity Factors			ITC Benefit as a Function of Project Cost	
Capacity Factor	PTC NPV (MM)		ITC (MM)	Cap Cost (MM)
16%	$29.9		$27.0	$100.0
18%	$33.6		$29.7	$110.0
20%	**$37.4**		$32.4	$120.0
22%	$41.1		$35.1	$130.0
24%	$44.9		$37.8	$140.0
26%	$48.6		**$40.5**	**$150.0**
28%	$52.3		**$43.2**	**$160.0**
30%	$56.1		$45.9	$170.0
32%	**$59.8**		$48.6	$180.0
34%	$63.6		$51.3	$190.0
36%	$67.3		$54.0	$200.0

IRA Key Provisions – lots of Devil in the Details…
Areas of Concern and Uncertainty

Base Credit	Wage & Apprenticeship Bonus	Domestic Content Bonus	Energy Community and Low Income
Qualifying Costs	Ability	Availability	Practicality
Uncertainty	Complexity	Complexity	Complexity
Technologies	Documentation	Documentation	Planning
Penalties	Contractors	Cost Pressures	
Timing	Planning	Planning	
		Muni Penalty	

15% "Haircut" for Using Tax-Exempt Debt
ITC vs. PTC - Up-Front vs Over Time (remember BABs?)
Munis Tax Filing to Receive Benefit - in the Year After COD or Production
For Munis, No Domestic Content = Reduced Benefits after 2025

Inflation Reduction Act (IRA) – Initial Reactions

- Impact on, and Use by, Public Power is more than a Math Exercise
  - Not just PTC vs ITC, and to Haircut or not to Haircut
  - The Algebra is Important, but Probabilities will be deciding factors

1 - TE financing benefit will outweigh Haircut

2 – PTC may produce better POTENTIAL outcomes than ITC

But have more risk and uncertainty:

Production

Sequestration and other potential reductions

Up-front $$ is always appealing

Debt structure accommodation of payment patterns

3 – To Own or Not to Own will be the bigger question

Plenty of risk and uncertainty remain in the ownership model

Inflation Reduction Act – Diversion

Down the Direct Pay and Domestic Content Rabbit-Hole

Direct Pay Tax Incentives for Tax-Exempt Entities

- For tax-exempt entities - direct payments from US Treasury
  - Investment Tax Credit - upfront subsidy % of qualifying project costs
  - Production Tax Credit - subsidy over 10 yrs based on energy generated
  - Payments received in the “tax year” after COD (ITC) or energy generated (PTC)
- Opportunities to significantly enhance base credits (by 5X) by:
  - Meeting Fair Wage and Apprenticeship requirements
- For the Renewable Energy Facilities
  - Using tax-exempt debt can reduce incentives by 15%
  - Bonus ITC credits can add incentives, reaching 50+% of project costs
  - Over time, the value of incentives is reduced & more requirements apply
- IRA “gross-up” provision to prevent Direct Pay subsidy reduction under sequestration (not yet tested by courts)
- Major Concern – Direct Pay requires compliance with Domestic Content requirements after 2025 – maybe impossible?
  - Exceptions possible if domestic content unavailable or costly (>25%)

Domestic Content Bonus – and Penalty for Public Power

- **Penalty for Public Power: if DC rules are not met, PTCs/ITCs reduced/eliminated depending on construction start date:**

  10 % for 2024, 15% for 2025, and **100% after 2025**.

  - Only applies to refundable credit beneficiaries; taxable entities either get the full 10% bonus or a 2% bonus if the rules are not met

- Steel, iron, or manufactured product must be produced in the US
- Certain % of manufactured products and costs of components and subcomponents must be mined, produced, or manufactured in the US.
  - Starting at 40% pre-2025, moving to 55% post-2026
  - Lower for offshore wind
- Treasury authority to waive domestic content requirement if materials are too expensive (25%+ higher) or unavailable

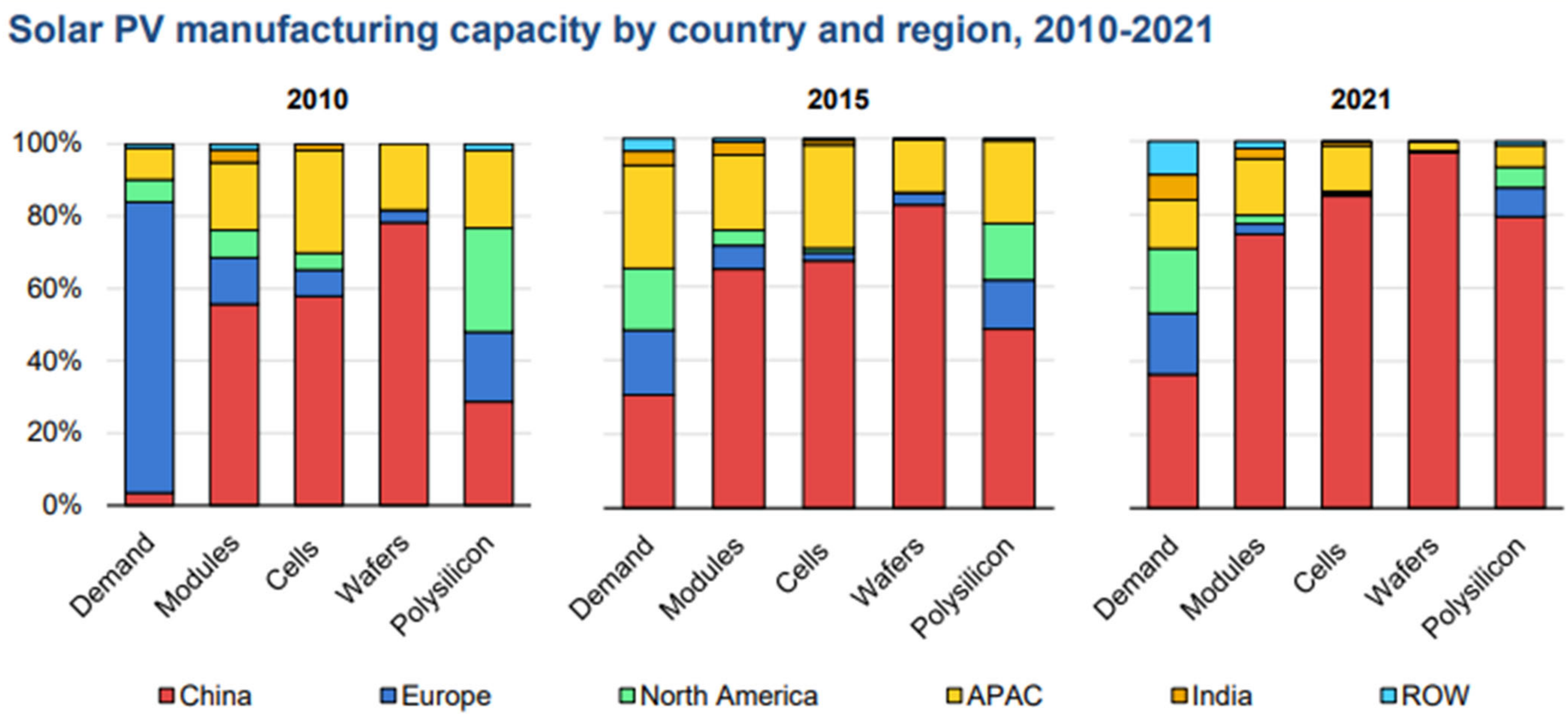
Domestic Content Bonus – and Penalty for Public Power

- The domestic content penalty - loss of all tax credits - creates enormous risk and disadvantage for public power
- Initial Guidance issued on May 12, 2023
  - Contained challenging guidance on calculations and record keeping
  - Nothing on Public Power big issue
- LPPC, APPA and NRECA have made clear to Treasury, IRS and DOE the serious problems in the domestic content rule for direct payments
- LPPC proposed safe harbors to provide certainty at the time a contract for a project is entered into:
  - applicable entity obtains independent information supporting domestic content requirement will be satisfied;
  - commercially reasonable efforts to satisfy the rules; and
  - failure to satisfy the rule due to unavailability of the product, and/or delayed availability preventing timely project completion.

Domestic Content – there isn't much

- China dominates solar supply chain manufacturing:

80% of global panel production | 85% or solar cells
88% of solar-grade polysilicon | 97% of silicon ingots/wafers



Source: IEA

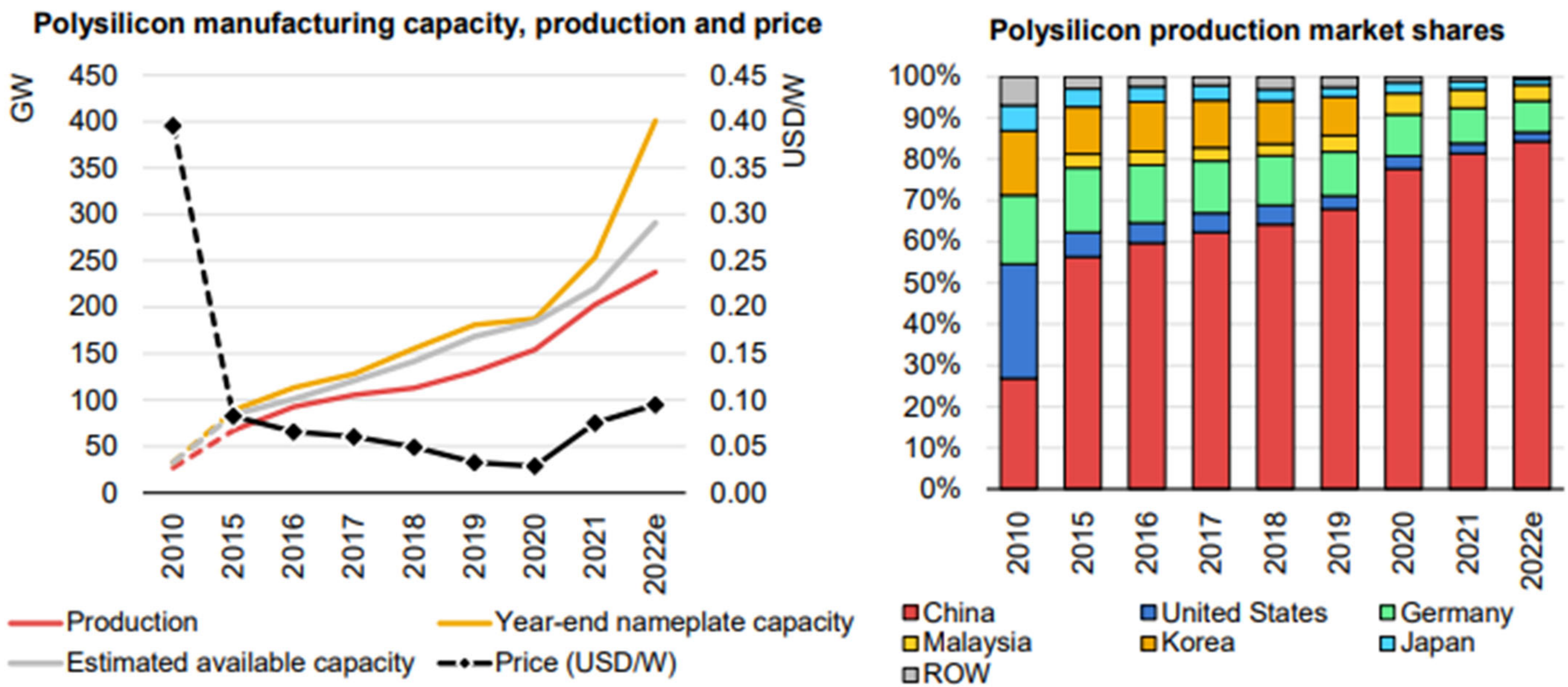
APAC = Asia/Pacific

ROW = rest of world

Domestic Content

- China dominates solar supply chain manufacturing:

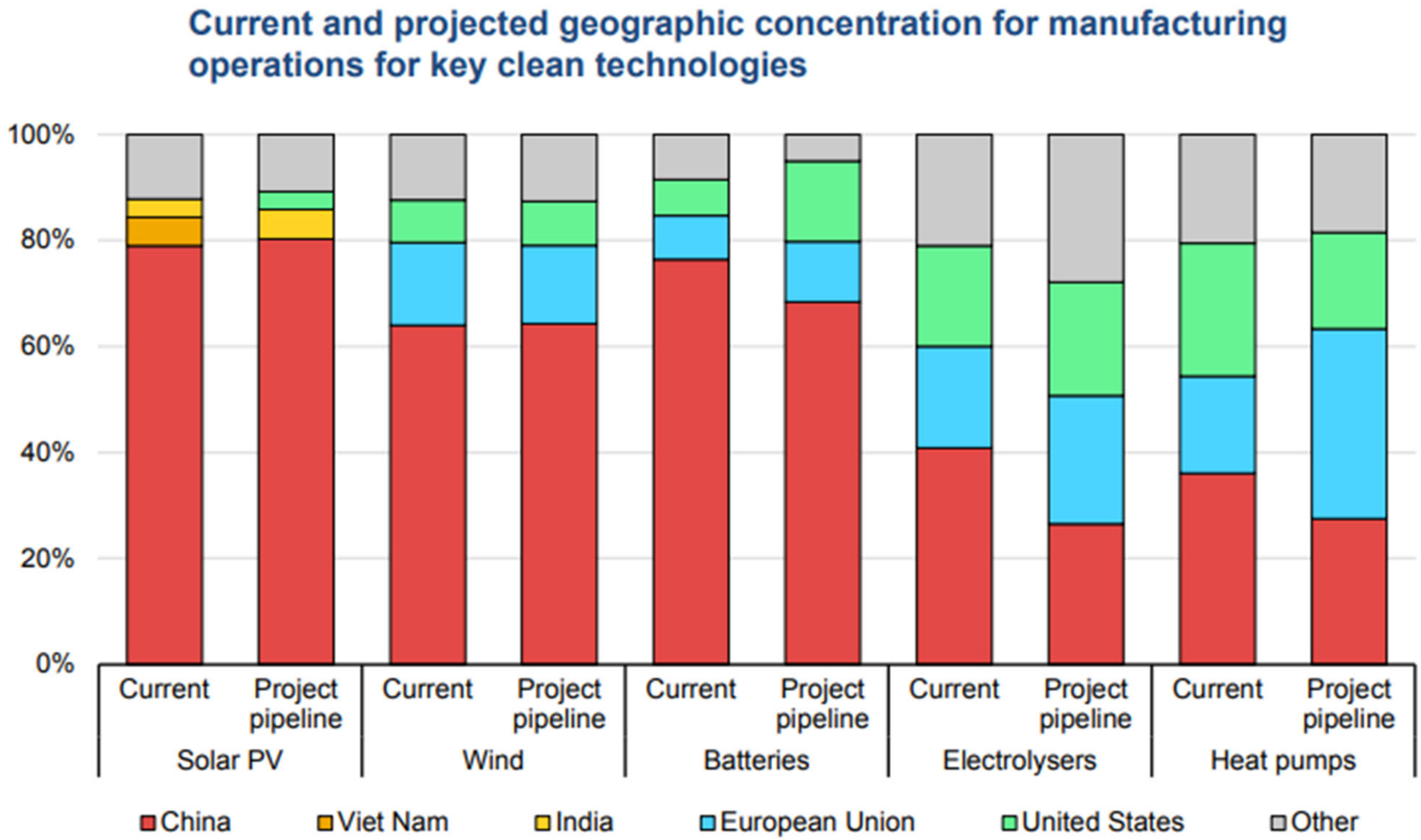
Global polysilicon manufacturing capacity, production, average price and market shares, 2010-2022



Source: IEA

Domestic Content

- And its not just solar dominance – also ***manufacturing*** capacity



Source: IEA

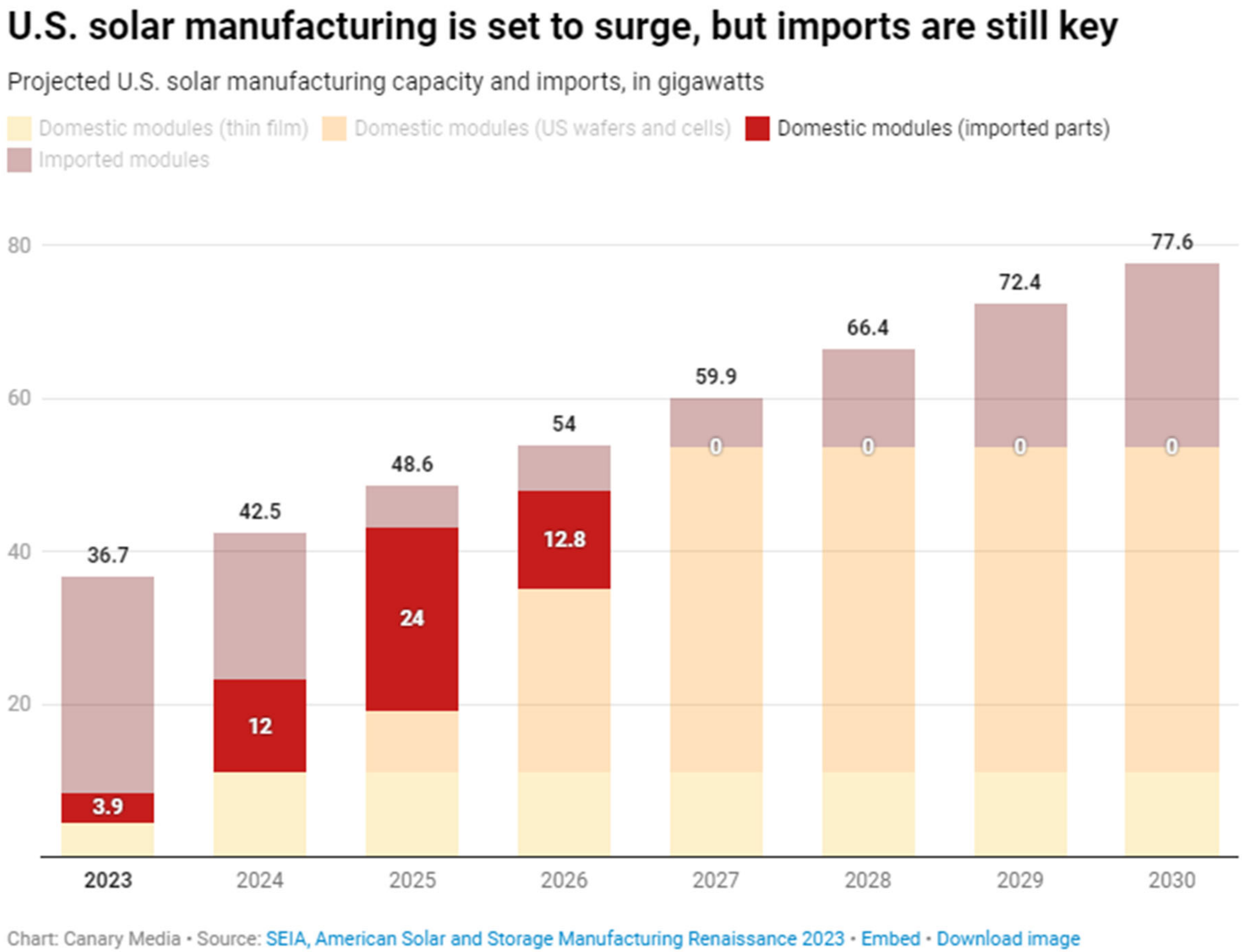
"Current" refers to installed capacity for 2022 and Q1 2023 where available.
"Project pipeline" refers to sum of current and announced capacity additions through to 2030.

IRA Fix for Domestic Content Capability in the US

- PTC and ITC for clean energy manufacturing is stimulating investment in domestic capabilities:
  - 30% ITC, with $10 billion cap
  - PTC with $$ assigned to each component
- US solar production expected to move from 8 GW/yr in 2022, to over 50 GW/yr by 2027

IRA Fix for Domestic Content Capability in the US

IRA Fix for Domestic Content Capability in the US



Inflation Reduction Act - Decisions

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Inflation Reduction Act (IRA) – Decisions

- How will Public Power use and benefit from the IRA?
- Financing Renewable Energy - recent practices
  - Most muni utilities have acquired renewables via competitive RFPs for long-term Power Purchase Agreements ("PPAs") from private, for-profit utilities and project developers
  - For-profit, tax-paying entities had access to tax incentives (ITC, PTC, depreciation) which provide considerable advantages, a portion of which have been passed through in the form of lower-priced RFP bids
  - Public power has access to low-cost, tax-exempt debt. However, the economics of for-profit tax-benefits outweighed the financing cost advantage
  - PPAs also allocate certain project ownership and performance risks to the developer/owner and provide risk mitigation for PPA buyers

Inflation Reduction Act (IRA) – Decisions

- Initial reactions to IRA provisions were hopes for large reductions to already low renewable RFP prices
- Can public power utilities expect big declines in renewable prices as a result of the IRA? Probably not
- Why?
  - Private, tax-paying developer-owners were already receiving tax benefits, some of which were being incorporated into RFP bid prices
  - Bids were often based on developer and tax equity return/profit targets
  - If bids are driven by return/profit targets, INCREMENTAL tax credits <u>*should*</u> be incorporated into new bid pricing
  - Private tax benefits will increase considerably, and transferability will increase efficiency
  - Which <u>*should*</u>, at least partially, be reflected in future RFP bids??

Inflation Reduction Act (IRA) – Decisions

- Why? Continued…
  - However…
  - New benefits are **at risk** to achieving wage/apprenticeship and domestic content provisions over the course of a multi-year construction project
  - And **at risk** to later IRS interpretation and approval for payment
  - Bid responses are unlikely to price in 100% of **potential** incremental benefit
  - **Inflation, interest rates, supply chain and supply/demand imbalance are already driving up construction and labor costs for renewables**

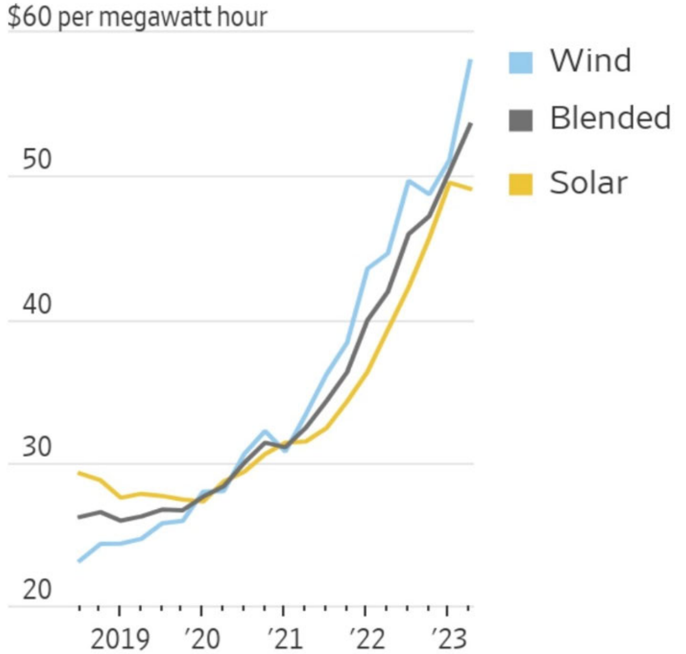
Inflation Reduction Act (IRA) – Decisions

- **Inflation, interest rates, supply chain and supply/demand imbalance are already driving up construction and labor costs for renewables**

Green Power Gets Pricier

U.S. renewable-power developers are charging big buyers more for their electricity.

Power purchase agreement prices, quarterly

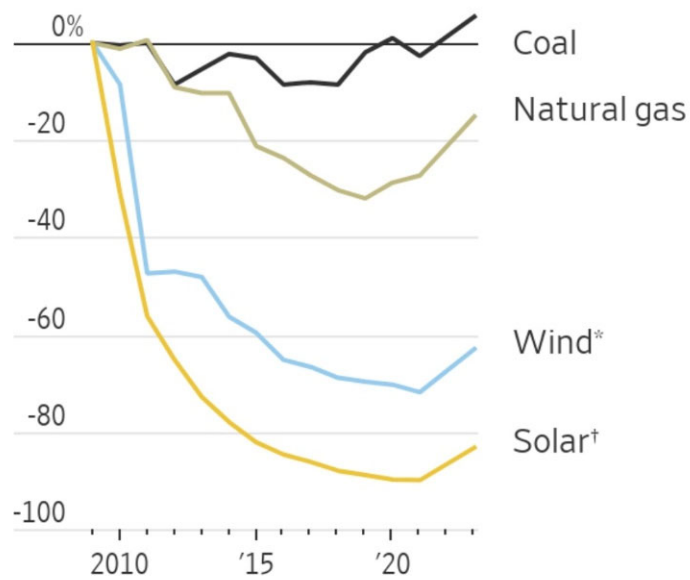


Market-Averaged P25 Continental Index for North America

Source: LevelTen Energy

After years of declines, the cost of renewable power over the lifetime of a plant is ticking up.

Change in cost per megawatt hour since 2009



*Onshore †Utility scale

Notes: Unsubsidized U.S. LCOE values; 2022 figures not calculated due to volatility.

Source: Lazard's Levelized Cost of Energy+ report

Inflation Reduction Act (IRA) – Decisions

- Why? Continued…
  - However…
  - New benefits are **<u>at risk</u>** to achieving wage/apprenticeship and domestic content provisions over the course of a multi-year construction project
  - And **<u>at risk</u>** to later IRS interpretation and approval for payment
  - Bid responses are unlikely to price in 100% of **<u>potential</u>** incremental benefit
  - **Inflation, supply chain and supply/demand imbalance are already driving up construction and labor costs for renewable projects**
- Net result
  - IRA will a big impact on renewable costs, but do not expect RFP bids to come in lower than or near 2020-2021 levels

Inflation Reduction Act (IRA) – Decisions

- Will Public Power build/own and get IRA direct payments?
- Which way will the scales tilt? Ownership or PPA?
- Base Case:

  No IRA benefits

  Private taxable and equity financing

  Straight line depreciation

<u>Private</u>

30% ITC
10% DC Bonus
5% Acc Depreciation

Net = 45.0% Savings v Base Case

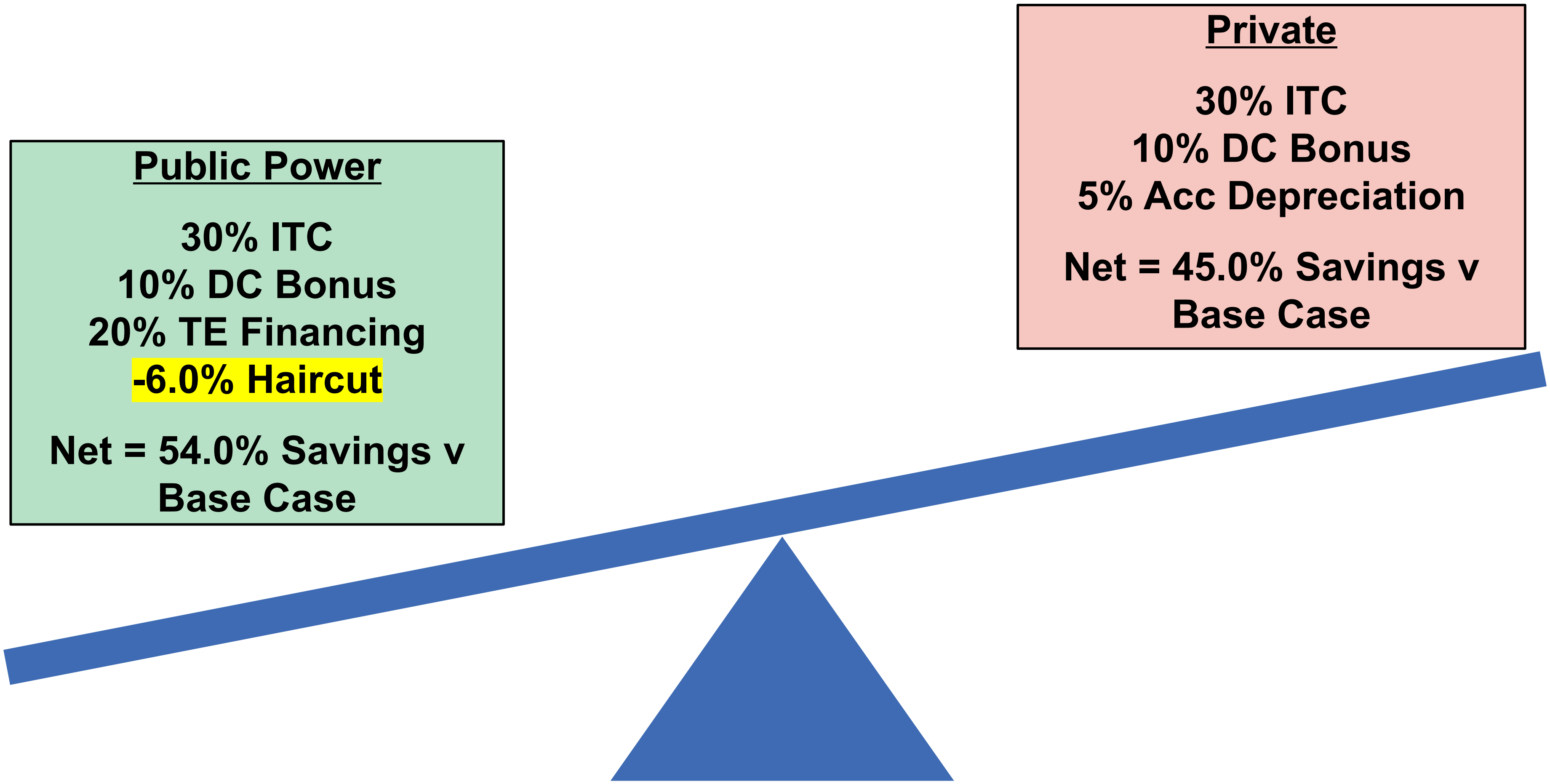
<u>Public Power</u>

30% ITC
10% DC Bonus
20% TE Financing

Net = 60.0% Savings v Base Case

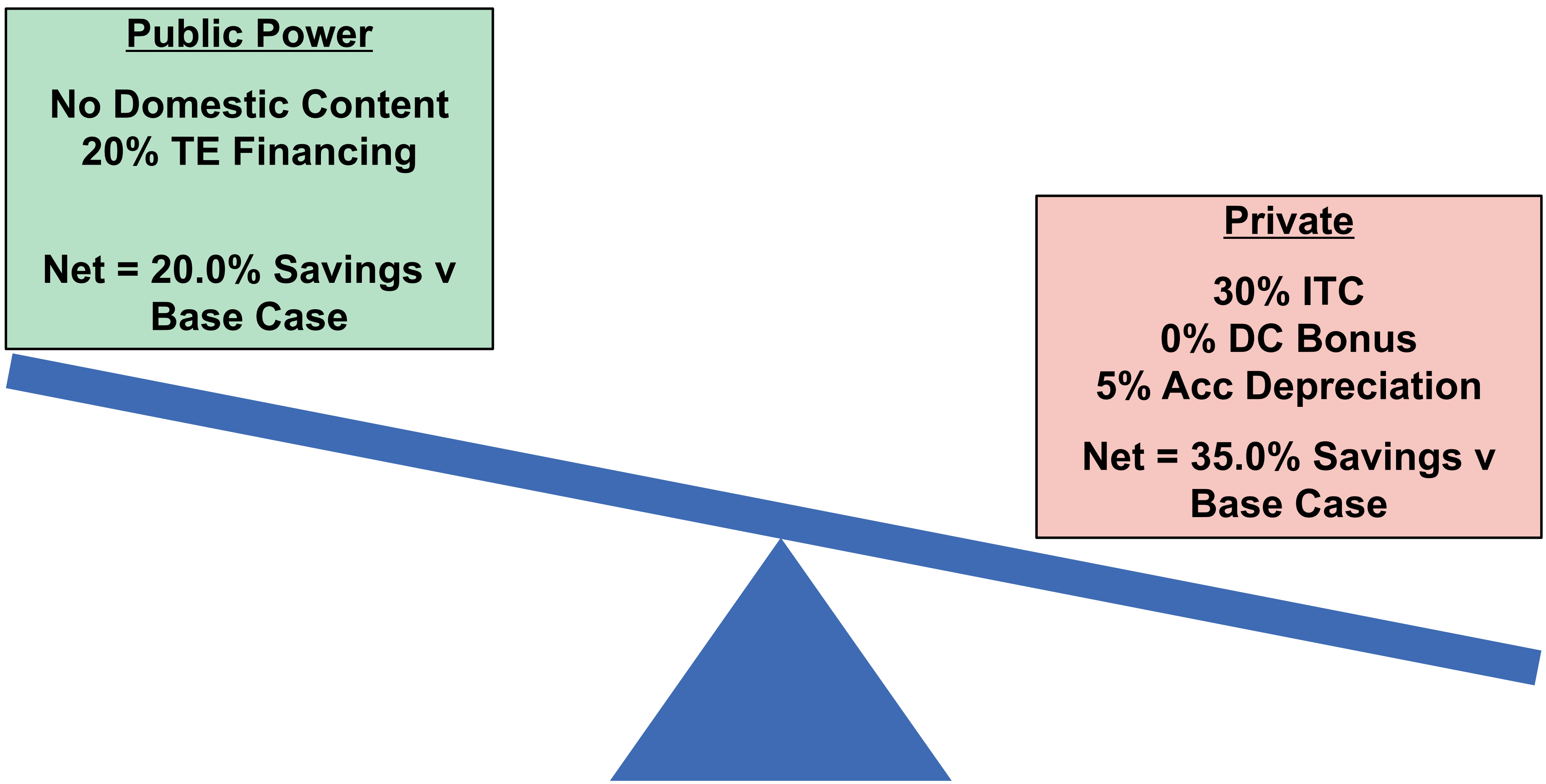
Inflation Reduction Act (IRA) – Decisions

- Which way will the scales tilt?   Ownership or PPA?
- TE financing Haircut:



Inflation Reduction Act (IRA) – Decisions

- Which way will the scales tilt? Ownership or PPA?
- No Domestic Content:



Inflation Reduction Act (IRA) – Decisions

- Will Public Power build/own and get IRA direct payments?
  - Recent renewable energy core competencies

Public Power	For-Profit Developers
bidding and negotiating PPAs, finance	***siting***, permitting, contracting, design, engineering, constructing, finance, schedule, interconnection, tax credits, operation, maintenance, risk management and allocation

  - New benefits would be **at risk** to wage/apprenticeship and domestic content provisions over the course of a multi-year construction project
  - And **at risk** to later IRS interpretation and approval for payment
  - PTC and even ITC could be at risk to project performance and US Gov't payments – similar to Build America Bond credit payments
- ***If W&A and DC are "at risk", how does Public Power quantify them against "firm" RFP responses today?***

Inflation Reduction Act (IRA) – Financing Implications

- Public Power renewable acquisition will migrate (slowly and not completely) from the PPA model to the ownership model
- Ownership advantages include tax-exempt financing, debt callability, residual value of asset retention and control/flexibility
- Big changes in the evaluation and implementation of renewables
  - Not just a PPA bid, probably an EPC bid or a build/transfer bid
  - Determine ITC vs PTC – and it is more than just a numbers exercise
  - Integrate and optimize financing
    - ITC timing and risk considerations
    - PTC timing, risk, frontloading of benefit
  - Incur ownership and performance risks
- <u>*Private market may be better suited for risk taking and uncertainty*</u>
- True private market risk assumption requires “teeth” in PPA bids

IRA: Summary

- IRA will benefit and influence public power acquisition of renewable resources, but will not translate to overwhelming immediate savings
- Availability and extension of the PTC and ITC to municipal utilities will change how renewable resources are analyzed, procured and deployed
  - Will require greater coordination within utility management teams to determine optimal approach to renewable resources – no longer just PPA RFPs
- Private market benefits will affect PPA RFP responses
- Smaller battery/solar projects will be better suited to ownership, larger ones might still be PPA dominated
- Considerable additional implementation guidance and clarity is needed

Supporting Materials

Appendix I – IRA Guidance Publications

Prevailing Wage & Apprenticeship Requirements Guidance

- On November 30, 2022, IRS/Treasury published initial prevailing wage & apprenticeship guidance
- With the 60-day effective period in the Act, requirements operative when construction begins January 30, 2023
- Prevailing wage requirements are governed by the Davis-Bacon Act
- Laborers & mechanics employed by the entity or contractor/subcontractor on site
  - Does not apply to admin, clerical or executive
- For construction & alteration/repair; is generally based on the City of construction
- Wage should be the prevailing wage in that locality as determined by the Secretary of Labor
  - www.sam.gov
  - Solar and wind are characterized as “heavy construction”
  - Some data appears to be very limited in terms of the type of workers in selected communities
  - Must use all labor classifications of those working onsite
  - If the location or type of labor is not listed
    - Request a wage determination from DoL
    - Info required: Type of facility, location, worker classification, rates, job description and duties & wage rationalization
    - DoL will provide a determination of labor classification & wage rates
- Must preserve records (accounting) for work performed in accordance with general recordkeeping requirements:
  - Identifying the applicable wage determination
  - Laborers & mechanics who performed construction work on the facility
  - Classifications of work they performed
  - Hours worked in each classification
  - Wage rates paid for the work
- Apprentices can have lower than prevailing journeyman wage of the same classification
- Wages include bona fide fringe benefits
- Some mandates about vacation days & employer contribution for vacation pay credits

Sources: https://www.dol.gov/agencies/whd/IRA

Apprenticeship Requirements Guidance

- Need applicable percentage of total hours on worksite be completed by apprentices in a registered program (as established/managed in the National Apprenticeship Act, DoL or a state's apprenticeship agency)
  - https://www.apprenticeship.gov/about-us/apprenticeship-system
- Some key requirements to be met:
  - Apprenticeship Labor Hour Requirement
  - Apprenticeship Ratio Requirements
  - Apprentice Participation Requirement, and General Recordkeeping in sufficient detail to calculate these 3 requirements
- Sliding scale of hours required depending on when construction begins:
  - Construction before January 1, 2023 — 10.0%
  - Construction between January 1, 2023 & January 1, 2024 — 12.5%
  - Construction after January 1, 2024 — 15.0%
- Applies to the applicant as well as contractors & sub-contractors with 4 or more employees associated with the construction/alteration or repair of the facility
  - Contractor with 4 employees requires 1 apprentice
- If construction occurring on a daily basis, the headcount on site must include the appropriate number of apprentices
- Good Faith exemption: deemed to have satisfied the apprenticeship requirements if the taxpayer has requested qualified apprentices from a registered apprenticeship program, &:
  - Request has been denied
  - Registered apprenticeship program fails to respond within 5 business days after receipt of request
  - Need to maintain documentation on the communication with the Apprenticeship Program
    - Taxpayer might be able to "pay up" for the shortfall x $50 an hour & qualify
- Fines for Intentional Disregard Provision: $50/hour penalty increased to $500/hour

Beginning of Construction Definition Guidance

- IRS/Treasury guidance released November 30th defines the beginning of construction for the prevailing wage & apprenticeship requirements
  - 2 tests
    - Physical Work Test
      - physical work of a significant nature begins,
      - maintenance of a continuous program of construction (continuity requirement)
      - focuses on work and not cost
      - Has to be contracted if contracted
      - On or off-site counts
      - Does not include planning & design, finance activities, research, preliminary permitting, exploring or surveys and feasibility studies
    - 5% Safe Harbor
      - Incur 5% or more of the total cost of the facility with a continuous effort to move the project to completion (continuity requirement)
      - Includes all applicable costs
      - If work is contracted (binding written contract), costs incurred by the contractor are deemed incurred by the taxpayer
  - Continuity Requirement
    - Must be met under both tests
      - There is a continuity safe harbor based on the duration of the construction period to get the project to COD
        - 4 years for PTC and ITC
        - 6 years for carbon capture
        - 10 years for offshore wind and projects built on federal land

Domestic Content Provisions Guidance

- IRS/Treasury guidance released May 12th defines the requirements for domestic content and record keeping requirements.
  - The Domestic Content Bonus guidance has two components: Steel / Iron and Manufactured Products
  - All materials for a project can be classified as either Steel / Iron or Manufactured Product for purposes of determining eligibility

100% Steel/Iron Requirement	Manufactured Products Requirement
■ ***100% Steel or Iron Requirement***: All iron or steel comprising Applicable Project Components must be manufactured in the US — Exceptions for certain metallurgical processes and certain subcomponents that are not "structural in function" (screws, nuts, bolts, etc.)	■ ***Manufactured Products Requirement.*** A certain percentage of the cost of all "Manufactured Products" used in the construction of the project must be manufactured in the US: — 40% for projects with construction starting in or before 2024 — 45% for projects with construction starting in 2025 — 50% for projects with construction starting in 2026 — 55% thereafter — 20% for offshore wind in 2024 increasing to 55% by 2028

- Extensive recordkeeping requirement on project owners and vendors
  - Calculate and disclose costs of all components and subcomponents
  - Tracing origin of products and components
  - Certification requirements and procedures require high level of confidence
- Exceptions for higher cost (25% greater) or unavailable in a timely fashion

Direct Pay Provisions Guidance

- IRS/Treasury guidance released June 14th defines qualification and registration process

Applicable Entities	▪ Tax-exempt organizations (such as 501(a), 501(c), 501(d)) ▪ States ▪ Political Subdivisions ▪ Indian Tribal Governments ▪ Alaska Native Corporations ▪ Tennessee Valley Authority ▪ Rural Electric Cooperatives ▪ US territories and subdivisions ▪ Agencies and instrumentalities of states, local, Tribal, and US Territorial Governments
Process to Receive	▪ **Complete Pre-Filing Registration:** Requires information on Filer, project, and credit sought; this process will generate a registration number — Registration / registration number will need to be updated for every tax year that Filer pursues a tax credit ▪ **File Annual Tax Return:** Generally, the Form 990-T and forms specific to the credit
Others	▪ **Prevailing Wage / Apprenticeship Requirements:** For facilities beginning construction on or after 1/29/2023 to receive the full subsidy, prevailing wage and apprenticeship requirements must be met, or made a good faith affirmation ▪ **Domestic Content:** While tax credit and direct pay projects are eligible for a 10% bonus if they meet domestic content requirement beginning in 2024, direct pay projects failing to meet the domestic content requirements can see the subsidy be reduced

- Pre-filing Registration for every tax year in which a claim will be made

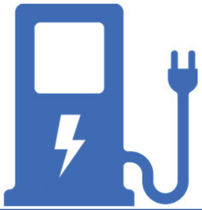
Appendix II – Other IRA Programs

Vehicle Fleet Incentives

	Qualified Commercial Clean Vehicle	Alternative Fuel Excise Tax Credit
Example Projects	Electrification of motor pool	Purchase of compressed natural gas (CNG) or liquefied natural gas (LNG) for the motor pool
Eligible Projects	• Plug-in electric vehicles, fuel cell vehicles • Varying weight & battery capacity requirements • For use on public streets, roads & highways	Biodiesel, renewable diesel, biodiesel mixtures, alternative fuel, & alternative fuel mixtures
Incentive	Tax credit (i.e., direct payment) is the lessor of: • 15% of vehicles cost (30% for vehicles not gasoline or diesel powered) • Incremental cost of clean versus “non-clean” (e.g., gasoline, diesel) vehicle Max amounts linked to vehicle size: • <7 tons: $7,500/vehicle (police cars) • >7 tons: $40,000/vehicle (e.g., school buses, heavy-duty municipal vehicles)	Tax credit (i.e., direct payment) for alternative fuels: • $0.50/gallon for alternative fuels • $1.00/gallon for diesel-related fuels
Timing Considerations	Vehicles must be acquired after December 31, 2022 & before the end of 2032	• Expires after December 31, 2024 • Anticipate applies to fuels purchased beginning January 1, 2022
Implication	*Can replace vehicle fleets with cleaner options and receive a direct-pay subsidy to reduce the cost – although hybrid options could be limited.*	*Can reduce the operating cost of using biofuel (primarily biodiesel).*

Sources: Inflation Reduction Act, Congressional Research Service, "Tax Provisions in the Inflation Reduction Act of 2022", August 10, 2022; https://crsreports.congress.gov/product/pdf/R/R47202

Alternative Fuel Refueling Property Tax Credit



Alternative Fuel Refueling Property Tax Credit	
Example Projects	Installation of Electric Vehicle (EV) charging stations and supporting infrastructure
Eligible Projects	Property for the storage or dispensing of clean-burning fuel (CNG, LNG, electricity, hydrogen) or electricity into the vehicle fuel tank or battery; includes bidirectional charging equipment
Incentive	Tax credit (i.e., direct payment), with max of: • 30% of costs, assuming fair wage & apprenticeship requirements are met (6% of costs if not) OR • $100,000 per unit
Timing Considerations	• Only eligible if placed within low income or high poverty or rural census tracts • Incentive expires after December 31, 2032
Implication	*Could potentially receive tax credits for expansion of local EV charging networks.*

Sources: Congressional Research Service, "Tax Provisions in the Inflation Reduction Act of 2022", August 10, 2022; https://bipartisanpolicy.org/blog/a-status-update-on-ev-charging-infrastructure-investments-in-the-iija/

Energy Efficient Building Incentives

Tax-exempt entities can allocate this tax deduction to the parties involved in the design of energy efficient systems.

Energy Efficient Commercial Buildings Property Tax Deduction	
Example Projects	Install energy efficient systems (e.g., lighting, windows, HVAC) in new or existing buildings or parking lots
Eligible Projects	Install energy efficient property, in new or existing buildings, in at least 1 of 3 systems: 1) Interior lighting systems 2) Heating, cooling, ventilation, & hot-water systems OR 3) The building's envelope
Incentive	Tax deduction: • If meeting prevailing wage & apprenticeship, \$2.50 per square foot increasing to as much as \$5.00 per square foot. • Sliding scale is based on: • Efficiencies created compared to reference building • Certified efficiency targets & electric use reduction
Considerations	• No direct pay option; monetization of the credit could be achieved through transfer to the designer of the building or retrofit plan (e.g., architect, engineer, or a design-build contractor) • A qualified third-party (i.e., a licensed contractor or professional engineer) uses IRS-approved energy software to model the energy performance of the building & improvements
Timing Considerations	• IRA changes to this tax credit go into effect for property placed in service beginning Jan 1, 2023 • Expires after December 31, 2031
Implication	*Could realize a reduced cost associated with building retrofits and construction of new buildings.*

Sources: Internal Revenue Service, "IRC 179D Energy Efficient Commercial Building Deduction, https://www.irs.gov/pub/irs-utl/irc-179d-energy-efficient.pdf

Timing Considerations

- Consider accelerating projects because over time, certain incentives stop and / or become more restrictive
- The prevailing wage and apprenticeship provisions will become operative for facilities when construction begins on or after January 30, 2023

- **January 1, 2023**: EV charging station tax credit only applies to low income & rural areas
- **December 31, 2024**: Alternative Fuel Excise tax credit expires
- **December 31, 2024**: Deadline for beginning construction on projects for Renewable Energy Facilities tax credit
- **January 1, 2025**: New provisions apply for Renewable Energy facilities; zero GHG emissions required; domestic content requirements
- **December 31, 2031**: Energy Efficient Commercial Building Deduction expires
- **December 31, 2032**: EV Charging Station tax credit expires
- **December 31, 2033**: Deadline for vehicles placed in service for Qualified Commercial Clean Vehicle tax credit

Sources: Inflation Reduction Act, Congressional Research Service, "Tax Provisions in the Inflation Reduction Act of 2022", August 10, 2022; https://crsreports.congress.gov/product/pdf/R/R47202; https://home.treasury.gov/system/files/136/Fact-Sheet-IRA-Equitable-Clean-Energy-Economy.pdf

Appendix III – IIJA Programs

Complementary IIJA & IRA Programs

		IIJA (November 2021)	IRA (August 2022)
Electric Vehicles		**$7.5 billion** for charging infrastructure	**$2 billion** for domestic manufacturing grants
Schools & Ports		**$5 billion** for clean or zero-emission school buses	**$3 billion** for zero-emissions equipment at ports
Transit		**$66 billion** for passenger & freight rail	**$3 billion** Neighborhood Access and Equity Grants to improve transportation access
Electric Grid		**$65 billion** to modernize & expand the national grid	**$9.7 billion** for reliability & resilience improvements in rural areas
Homes		**$3.5 billion** to the Weatherization Assistance Program	**$8.6 billion** for energy efficiency upgrades
Environmental Remediation		**$21 billion** in environmental remediation	**$27 billion** for a national climate bank to finance green projects in underserved communities
Agricultural & Forestry		**$3.3 billion** for wildfire risk reduction	**$19.5 billion** for climate-smart agricultural practices

Sources: Infrastructure Investment and Jobs Act, Pub. L. No. 117-58, 135 Stat. 429 (2021), https://www.congress.gov/bill/117th-congress/housebill/3684/text/pl

Inflation Reduction Act, Pub. L. No. 117-169, 136 Stat. 1818 (2022), https://www.congress.gov/bill/117th-congress/house-bill/5376

IIJA Summary

- **The Infrastructure Investments and Jobs Act (IIJA),** is the largest & most comprehensive infrastructure bill in American history
- $1.2T bill, of which approximately **$550B (46%) is new spending** & **$650B (54%) reauthorizes existing programs**
  - Invests in **new programs** for transportation, energy transmission, resilience, broadband, & many others
  - **Reauthorizes legislation** supporting the nation's surface transportation, drinking water, & wastewater systems
- Strong emphasis on **safety** & **resiliency** throughout the legislation
- Expands support for & use of **public private partnerships**
- Centralizes oversight of & strengthens existing **Build America / Buy America requirements**

Biden Admin. Housing Supply Action Plan to Close the Housing Supply Gap in Five Years

- **Leveraging transportation funding from the IIJA.** Last year, the U.S. Department of Transportation (DOT) released competitive grant programs totaling nearly $6 billion that reward jurisdictions that have put in place land-use policies with higher scores in the grant process.
- Moving forward, the DOT will continue to include language encouraging locally driven land use reform, density, rural main street revitalization, & transit-oriented development in the IIJA & other transportation discretionary grant programs.
- **Integrating affordable housing into DOT Programs.** DOT will also issue updated program guidelines that increase financial support for Transportation Infrastructure Finance & Innovation Act (TIFIA) program projects that include residential development.

Sources: https://www.congress.gov/bill/117th-congress/house-bill/3684
The White House: "President Biden Announces New Actions to Ease the Burden of Housing Costs," May 16, 2022

IIJA Summary

- The bill covers a **10-year period** – though much of the funding is concentrated in the first five years
- Generally, funding may be viewed in **"competitive" & "formula" tranches**
  - ***Competitive***: most local governments & authorities can apply directly to the federal government for competitive funding – a significant change & opportunity from normal practice
  - ***Formula***: most funding will flow to/through states to use & distribute through existing means
- **There are immediate & prospective *competitive* opportunities for funding while awaiting formula funding**
  - ***Immediate***: As of February 6, 2023, the federal government had active Notices of Funding Opportunity ("NOFOs") in the following categories:
    - Transportation: 6
    - Power & Clean Energy: 7
    - Resilience, Environment, & Legacy Pollution: 10
    - Water: 3
  - ***Prospective***: The federal government anticipates publishing *additional* NOFOs in coming months:

General Overview of IIJA Tools & Implementation Resources

- **Federal Agencies with Notice of Funding Opportunity (NOFO) Websites**
  - Department of Transportation: https://www.transportation.gov/bipartisan-infrastructure-law/upcoming-notice-funding-opportunity-announcements-2022
  - Department of Energy: https://www.energy.gov/bil/bipartisan-infrastructure-law-programs

- **Federal Agencies with IIJA Landing Pages**
  - Department of Commerce / National Telecommunications and Information Agency: https://broadbandusa.ntia.doc.gov/resources/grant-programs
  - Department of Interior: https://www.doi.gov/priorities/investing-americas-infrastructure
  - Environmental Protection Agency: https://www.epa.gov/infrastructure

- **IIJA Implementation Resources**
  - *Financial Assistance Programs for Infrastructure*
  - Local Infrastructure Government Finance Officers Association: https://www.gfoa.org/the-infrastructure-investment-and-jobs-act-iija-was
  - National Governors Association: https://www.nga.org/iija-implementation-resources/
  - White House Guidebook: https://www.whitehouse.gov/build/
  - On Monday, April 18, 2022 OMB released the initial implementation *Guidance on Application of Buy America Preference in Federal* Hub*: www.localinfrastructure.org*

Overview of Transportation Provisions

Surface transportation (highway & transit) largely funded through existing programs

New programs created

- Bridge Investment Program
- National Infrastructure Project Assistance
- Safe Streets and Roads for All (first $800M released in 2023)
- Culvert removal, replacement, & restoration
- Strengthening Mobility & Revolutionizing Transportation Grant Program
- Electric vehicles & charging infrastructure funding
- Reconnecting Communities Pilot Program
- Railroad Crossing Elimination Grant Program

Among other activity in 2023:

- The Federal Transit Administration announced $1.7B in awards for electric buses
- The Department of Transportation released $1.2B in funds for 9 MEGA transportation projects across the country

New Transportation Investments for States & Local Governments

Sources: https://www.whitehouse.gov/build/; U.S. Department of Transportation "President Biden Announces First of its Kind Infrastructure Investment for Nine Nationally Significant Mega Projects," January 31, 2023; U.S. Department of Transportation "Biden-Harris Administration Announces Availability of Nearly $1.7B to Modernize Fleets and Deploy Clean Transit Buses Across America," January 27, 2023; U.S. Department of Transportation "Biden-Harris Administration Announces More Than $38M in Grants to Modernize Ferry Services, Reduce Emissions, and Connect Rural Communities," January 26, 2023.

Water & Energy Infrastructure Financing Overview

Water Infrastructure

- Provides $55B over the next five years
- Bulk of funding will be distributed through existing State Revolving Funds (SRFs)
  - Increased funding for grants/principal forgiveness

Purpose	Amount
Recapitalization of SRFs	$23.4B (SRF)
Removal of lead service lines	$15B (SRF)
Address emerging contaminants	$5B (SRF)
Small, Underserved, & Disadvantaged Communities	$5B
Various additional water infrastructure investments including technical assistance, resilience & cybersecurity vulnerabilities, & advanced technologies	$6.6B

Energy Infrastructure

- Provides $98B of funding for energy infrastructure
- Fuels & Technology: new programs focused on mine reclamation, orphaned wells, carbon capture, carbon storage, wind energy, hydropower, solar energy
- Energy Security & Grid Infrastructure reliability and resilience efforts – grant programs (P3 opportunities)

Source: https://www.whitehouse.gov/build/

Overview of Broadband Provisions

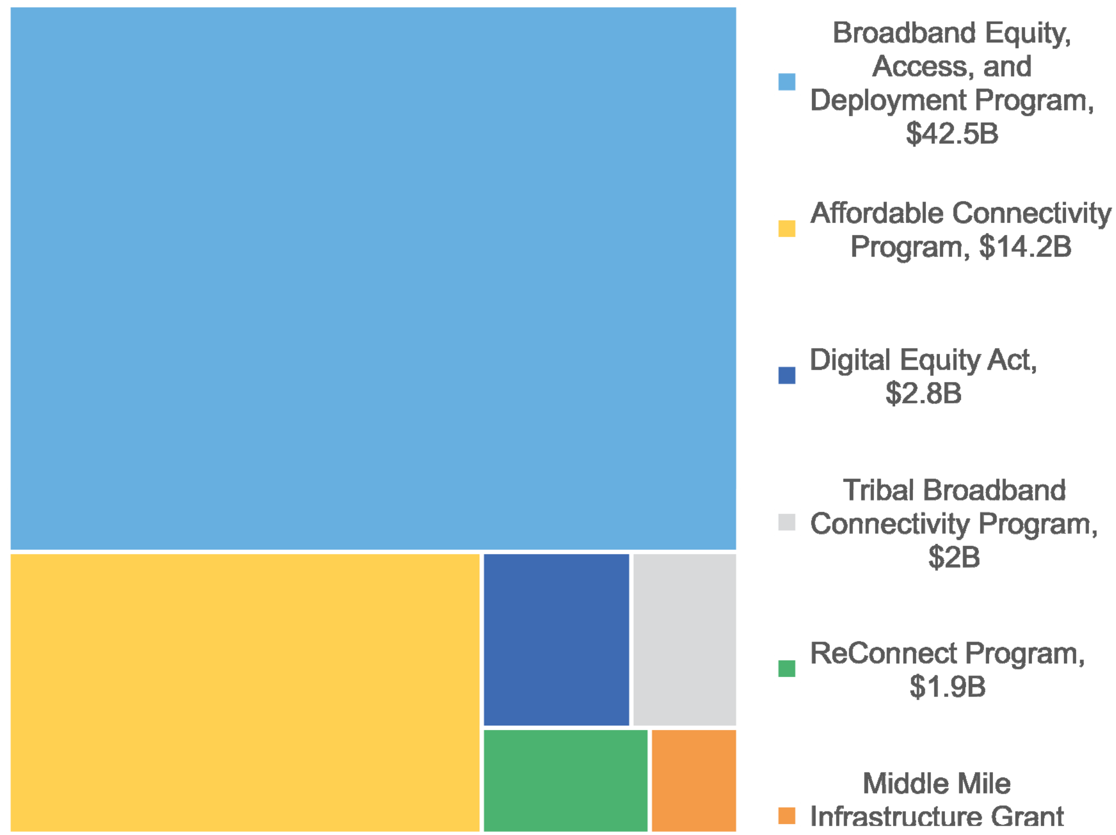
Provides $64.4B for new broadband deployment & adoption, the largest in U.S. history.

- Primarily grant programs, largely deployed through states
- Creation of a new category of Private Activity Bonds
- Funding for existing grant & loan programs

Broadband Updates

- FCC released maps that are critical to the deployment of certain broadband funding
- All 50 states applied for funding through the Broadband Equity, Access, & Deployment (BEAD) program, which is the largest broadband program
- States have received BEAD planning funds; each state must submit a five-year action plan 270 days after receiving planning funds; key considerations include equity, partnerships & sustainability
- Some localities & / or broadband utilities are establishing new public private partnerships to effectively deploy funding

New Broadband Investments

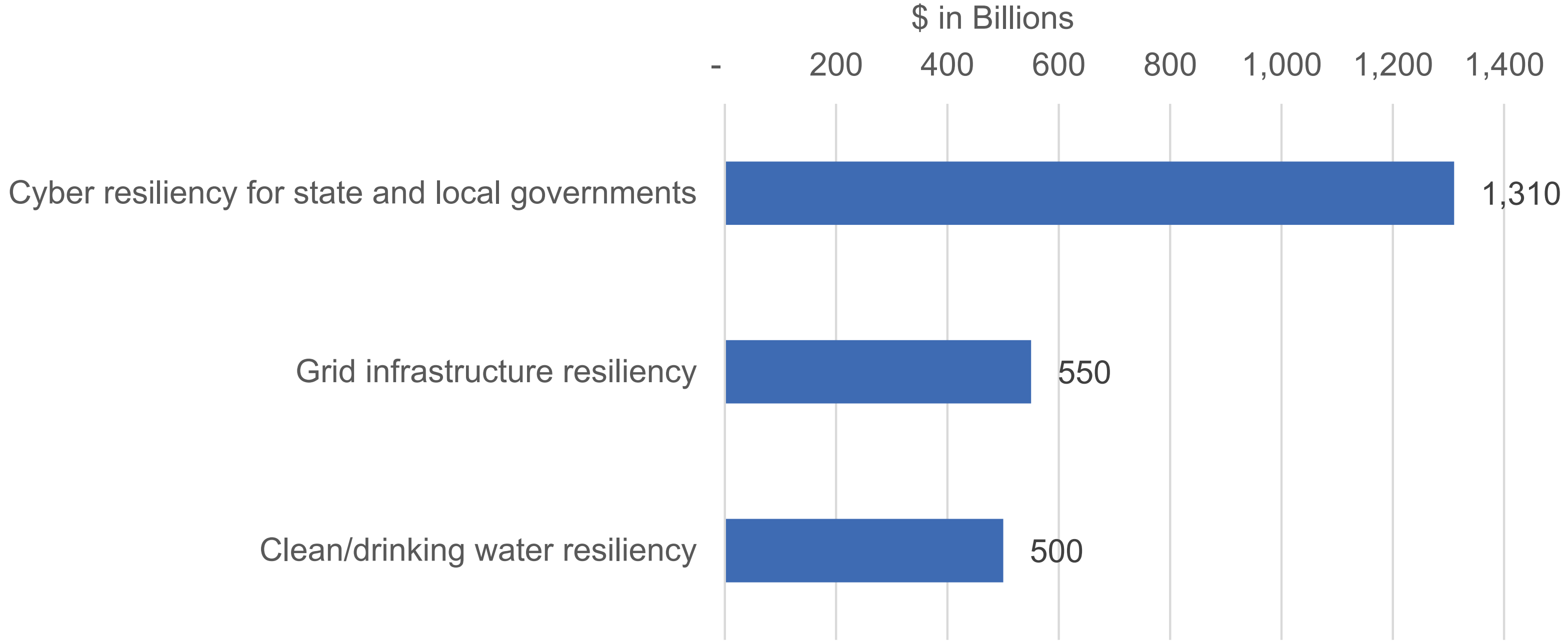


Sources: https://www.whitehouse.gov/build/; www.fcc.gov/BroadbandData/consumers; www.broadbandusa.ntia.doc.gov

Cybersecurity Provisions

- Over $2B in funding for cybersecurity resiliency & innovation
- New $1B State, Local, Tribal, & Territorial (SLTT) Grant Program
- $100M Cyber Response and Recovery Fund Program – federal, state, local, tribal, & public & private entities eligible for support following a "significant incident"

Cybersecurity Investment



Source: https://www.ey.com/en_us/government-public-sector/cybersecurity-modernization-via-iija

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