

# ***Transforming AI Infrastructure from Burden to Opportunity***

## **Maryland's Community Partnership Model for Data Center Development**

***Policy Brief for Maryland Leaders***

### **EXECUTIVE SUMMARY**

**Five factors are converging to create a once-in-a-generation opportunity for Maryland to lead the nation in equitable AI infrastructure:**

- 1. Data Center Pipeline:** Major facilities are planned across Maryland
- 2. Technology Breakthroughs:** NVIDIA's recently announced (January 2026) new chips significantly reduce AI data center energy needs and create more predictable energy needs; conditions that are a perfect fit for a Community Partnership model. Yet, with lower energy costs for each data center, demand for more data centers will increase, creating even greater urgency to have a Community Partnership model that works for all stakeholders.
- 3. Policy Alignment:** The Maryland Public Services Commission has mandated expanded Virtual Power Plant programs – ideal for a Community Partnership model.
- 4. Environmental Justice Focus:** Equitable wealth creation, not increased electricity cost, is essential for low and moderate income households across the state facing an unprecedented affordability crisis.
- 5. Regional Context:** Neighboring states face infrastructure crises from unmanaged data center growth—Maryland can demonstrate a better approach

**Green America's Community Partnership Model capitalizes on these factors to transform data centers from extractive burden to wealth creation engine. For each 100 MW data center:**

- **Data Centers: Save \$1.2 billion (60% cost reduction) over 20 years**
- **Workers: 150+ permanent jobs + 480-600 construction jobs (80% local hiring)**
- **Local Households: \$1,300-2,200/year + free home battery (\$12,000 value)**
- **Communities: \$668 million in economic impact over 20 years**
- **Counties/State: Increased tax revenue at NO cost to ratepayers or taxpayers**
- **Environment: 95% renewable energy, 10 million tons CO<sub>2</sub> avoided**

These benefits scale with each additional data center built using this model. This approach also creates an unprecedented opportunity for collaboration across environmental groups, labor unions, economic development advocates, environmental justice communities, county and state leaders along with utilities, data center builders, tech companies and regulators—all working toward shared prosperity.

# Table of Contents

Contents	Page
Executive Summary .....	1
Five Converging Factors Create Historic Opportunity .....	3
• Data Center Pipeline Creates Infrastructure Challenge	
• Technology Breakthroughs Make Community Partnership More Valuable	
• Maryland Policy Environment Supports Innovation	
• Community Partnership Model Creates Wealth in Local Communities – and for Farms in Rural Communities	
• Regional Context: Neighboring States’ Experience	
The Community Partnership Model .....	4
• How it Works	
• Who Benefits and How	
• The Economics and Why it Works	
The Case for Maryland County and State Leaders .....	7
Conclusion .....	8
Appendices .....	9
• Case Study: DataBank VPP Data Center, Irvine, CA	
• Sources and Methodology: Economic Analysis	

## Additional Information

This policy brief was prepared by Green America, a national nonprofit organization focusing on economic solutions to climate and equity problems.

For more information about the Community Partnership Model and details about the economic analysis, contact:

Todd Larsen, Executive Co-Director, Green America | College Park Resident  
[toddlarsen@greenamerica.org](mailto:toddlarsen@greenamerica.org) | 202-292-3314

Alisa Gravitz, President/CEO, Green America | DC Resident  
[alisagravitz@greenamerica.org](mailto:alisagravitz@greenamerica.org) | 202-744-9018

For more on the technical background behind this approach, with example models that are similar but less comprehensive: <https://www.utilitydive.com/news/vpp-virtual-power-plant-data-centers-RMI/805605/>

© Green America, January 12, 2026

# Five Converging Factors Create Historic Opportunity

Rarely do technological, policy, economic, and demographic factors align so perfectly. Maryland stands at such a moment:

## 1. Data Center Pipeline Creates Infrastructure Challenge

Major data center facilities are planned for Prince George's County and across Maryland. Without intervention, these facilities will be built using the traditional model—locking in decades of fossil fuel dependency, forcing residents to subsidize private infrastructure and creating extraction rather than partnership.

*The traditional approach creates a false choice: economic development OR environmental protection, jobs OR clean energy, revenue OR community wellbeing. This model eliminates that false choice.*

## 2. Recent Technology Breakthroughs Make This Community Partnership Model Dramatically More Valuable

NVIDIA's recent announcement of their new chip platform, Vera Rubin the first week of January—and their acquisition of technology that integrates Groq's chip innovations in December 2025—will reduce energy needs at each data center while creating more predictable daily energy peaks. These peaks align perfectly with Virtual Power Plant (VPP) management using household batteries with underlying renewable energy, the basis of the Community Partnership model.

This technological shift makes VPPs 20-50x more valuable for AI data centers than previously projected. Household batteries (2-4 hour discharge) coordinate with grid-scale storage to handle predictable daily peaks with minimal household disruption (~22 hours/year of actual power sharing).

## 3. Maryland Policy Environment Supports Innovation

In October 2025, the Maryland Public Service Commission rejected utility proposals under the DRIVE Act as insufficiently ambitious for Virtual Power Plant programs. The PSC ordered utilities to develop more ambitious VPP plans with broader participation, clearer metrics, and equitable access for low- and moderate-income (LMI) households.

*The Community Partnership Model delivers exactly what the PSC requested: 1,000-household VPPs coordinated with each data center. This allows a focus on low and middle income households struggling with affordability – providing free batteries and direct compensation (\$1,300-2,200/year per household).*

## 4. This Community Partnership Model Creates Wealth in Local Communities – and for Farms in Rural Communities

The Community Partnership model demonstrates how AI infrastructure can create wealth in communities that have historically borne environmental burdens without receiving benefits. The model delivers \$24,000-34,000 per household over 10 years through VPP payments plus free battery installation (\$12,000 value), transforming energy infrastructure from burden to asset. For data centers planned for more rural areas, farm partnerships provide dual-use land (agrivoltaics), regenerative agriculture integration, along with the VPP payments for households.

## 5. Regional Context: Learning from Neighboring States' Experience

Neighboring states provide valuable lessons about data center infrastructure challenges:

- Residential electricity rates increasing to subsidize data center infrastructure
- Regional grid capacity auctions seeing dramatic price increases driven by data center demand
- Environmental coalitions forming to oppose unchecked data center expansion
- Labor unions concerned about job opportunities when states impose development restrictions

**Maryland can demonstrate a better approach—one that delivers benefits for data centers, workers, communities, and the environment simultaneously. This model could provide a template for other states facing similar challenges.**

## The Community Partnership Model

*This analysis shows benefits for a 100 MW data center – which can scale for larger centers by building in phases, for example for the 820 MW center being considered in Prince George's County. These benefits scale across Maryland with each additional data center built using this model. (See Appendix II for the methodology and sources.)*

### How It Works (100 MW Data Center Example)

- Community Virtual Power Plant (VPP): 1,000 household batteries (13 kWh each) = 13 MWh aggregate capacity coordinated for peak management
- Solar Generation: 150 MW solar on farmland (agrivoltaics) + 25 MW wind PPA
- Grid-Scale Storage: 200 MWh batteries for peak management (2-hour duration)
- For data centers planned for more rural areas: Farm partnerships provide dual-use land (agrivoltaics), regenerative agriculture integration, and additional community economic activity
- Grid Integration: 5% strategic grid purchases for reliability and peak support
- **Result: 95%+ renewable energy, data center owns its infrastructure, communities receive direct cash payments and valuable battery assets**

## Who Benefits and How (Per 100 MW Data Center)

Stakeholder	Benefits
<b>Data Centers</b>	\$1.2B savings (60% cost reduction) over 20 years   3.5-year payback   Fixed energy costs   ESG/brand benefits   Faster grid interconnection
<b>Workers</b>	150+ permanent jobs (60-80% local hiring at \$80K average)   480-600 union construction jobs   Solar installation, battery deployment, maintenance, operations
<b>Local Households</b>	Direct cash: \$1,300-2,200/year in VPP payments (\$13K-22K over 10 years)   Physical asset: Free battery installation (\$12,000 value) provides backup power during outages   Total value: \$24,000-34,000 per household   Available to all households within project area—particularly benefits those struggling with affordability
<b>Local Community</b>	\$668 million in total economic impact over 20 years   Economic multiplier effects (1.7x-2.0x) create retail, service, and support jobs   Stronger local economy without displacement
<b>County / State</b>	Increased tax revenue from data center operations, property, corporate income, sales, and employment taxes   Economic development generating additional tax revenue through multiplier effects   All at NO cost to ratepayers or taxpayers
<b>Farmers</b>	(For rural data centers) a total of \$600K/year in solar lease payments through dual use of land (agrivoltaics) without displacement of farmland for energy   Additional revenue from regenerative agriculture practices to contribute to regional water management needs
<b>Environment</b>	95%+ renewable energy   10 million tons CO <sub>2</sub> avoided over 20 years   No new fossil fuel infrastructure   Grid strain reduced through distributed storage   Utilities benefit from VPP programs addressing PSC mandate

## The Economics: Why This Works

### Data Center Economics: \$1.2 Billion in Savings (Per 100 MW Facility)

Cost Category	Traditional	Partnership	Savings	Why
Electricity	\$87.6M/yr	\$4.4M/yr	<b>\$83M/yr</b>	Own generation
Demand Charges	\$12-18M/yr	\$0	<b>\$12-18M/yr</b>	No utility fees
Peak Pricing	\$8-12M/yr	\$0	<b>\$8-12M/yr</b>	Storage
Tax Benefits	\$0	\$73M NPV	<b>\$73M</b>	ITC 30%
<b>20-Year Total</b>	<b>\$2.01B</b>	<b>\$817M</b>	<b>\$1.19B</b>	<b>60%</b>

*Note: Data center costs based on publicly available data. More detailed costs can be developed for specific data centers. This table focuses on power infrastructure costs only. Data center building/IT equipment costs are equivalent in both the traditional and partnership models. The \$191M upfront investment in power infrastructure (after 30% federal tax credit), which includes the batteries, payments to households and to farmers in rural areas, pays for itself in 3.5 years, then generates \$70-100M in annual savings for 16.5 years. See Appendix II for more details on the economic analysis and methodology.*

### Community Economic Impact: \$668 Million (Per 100 MW Facility)

- VPP household payments: \$1.3M/year direct → \$2.2M total impact (1.7x multiplier)
- Data center payroll (80% local): \$12.8M/year → \$25.6M total impact (2.0x multiplier)
- Farm leases + maintenance: \$2.8M/year → \$4.8M total impact (1.7x multiplier)
- **Annual total: \$17.3M direct spending → \$33.4M total economic activity**

These multiplier effects mean the model creates additional wealth across the community. Money spent locally circulates through the economy, supporting retail, services, healthcare, childcare, and more. (Standard multiplier effects, see Appendix !!.)

### Tax Revenue Benefits

#### Counties and the state benefit from multiple revenue streams—all at NO cost to ratepayers or taxpayers:

- Property taxes on data center facilities and solar installations
- Corporate income taxes from data center operations
- Sales taxes from construction materials and equipment
- Income taxes from 150+ permanent jobs + 480-600 construction jobs
- Additional tax revenue from economic multiplier effects (retail, services, induced employment)

This revenue comes at NO cost to ratepayers or taxpayers because data centers pay for their own infrastructure while generating local tax revenue and economic activity. Assumes no state or county incentives paid to data centers.

## The Case for Maryland County and State Leaders

This model offers Maryland leaders an opportunity to demonstrate how economic development, environmental protection, and social equity can advance together rather than in opposition.

### Unprecedented Collaboration Opportunity

This model creates opportunity to build collaborations that typically stand divided on economic development issues:

- Environmental organizations + Labor unions (typically on opposite sides)
- Economic development advocates + Environmental justice communities
- County leaders + State agencies (Maryland Department of the Environment, Public Service Commission)
- Utilities + Community organizations (through PSC VPP mandate implementation)
- Data centers and tech companies + Neighborhood groups

### Progressive Policy Outcomes

- Environmental justice: \$24K-34K per household through direct cash and valuable battery assets
- Climate action: 95% renewable, 10M tons CO<sub>2</sub> avoided
- Good jobs: 150+ permanent positions, 80% local hiring, \$80K average
- Economic development: \$668M community impact without gentrification or displacement

### Pragmatic and Achievable

- Uses proven technologies already deployed nationwide (solar, batteries, VPPs)
- Financially superior for data centers—not subsidy-dependent (60% cost savings)
- Aligns with Maryland PSC's VPP expansion mandate
- Can be implemented immediately with Prince George's County as pilot

### Local and State Budget Benefits without Ratepayer or Taxpayer Increases

- Generates tax revenue for counties and state
- Creates jobs and economic activity (expanding tax base)
- Delivers all benefits at NO cost to ratepayers or taxpayers

### National Leadership Opportunity

Maryland can establish the national model for equitable AI infrastructure. As other states struggle with infrastructure challenges from data center growth, Maryland demonstrates how to create shared prosperity. This model could provide a template that benefits communities across the country—and potentially help neighboring states address their own infrastructure challenges.

## Conclusion

Five converging factors—data center pipeline, technology breakthroughs, policy alignment, environmental justice demographics, and regional context—create a once-in-a-generation opportunity for Maryland.

The Community Partnership Model transforms these factors into shared prosperity: data centers gain superior economics (\$1.2B in savings per facility), workers gain good jobs (150+ permanent, 480-600 construction), households gain direct cash and valuable battery assets (\$24K-34K per household), communities gain economic activity (\$668M), counties and state gain tax revenue at NO cost to ratepayers or taxpayers, and the environment gains from 95% renewable energy.

This is not theoretical. Every component is proven technology operating nationwide. The economics are irrefutable. The collaboration is forming. Prince George's County is positioned to lead.

These benefits scale with each data center. As Maryland builds out AI infrastructure using this model, the state creates not just one successful project but a sustainable framework for equitable economic development.

**Maryland leaders can demonstrate how AI infrastructure creates wealth rather than extraction, partnership rather than burden, and shared prosperity rather than division.**

## Additional Information

This policy brief was prepared by Green America, a national nonprofit organization focusing on economic solutions to climate and equity problems.

For more information about the Community Partnership Model and details about the economic analysis, contact:

Todd Larsen, Executive Co-Director, Green America | College Park Resident  
[toddlarsen@greenamerica.org](mailto:toddlarsen@greenamerica.org) | 202-292-3314

Alisa Gravitz, President/CEO, Green America | DC Resident  
[alisagravitz@greenamerica.org](mailto:alisagravitz@greenamerica.org) | 202-744-9018

For more on the technical background behind this approach, with example models that are similar but less comprehensive: <https://www.utilitydive.com/news/vpp-virtual-power-plant-data-centers-RMI/805605/>

© Green America, January 12, 2026

# Appendix I: Case Study

## DataBank Data Center + Stem Energy VPP | Irvine, CA

### Background:

**Location:** Irvine, California (Southern California, near San Diego)

**Year:** Started in 2017

### Partners:

- DataBank (data center operator)
- Stem Energy (battery integration company)
- Southern California Edison (utility)

### What Happened

- Southern California Edison was shutting down a nuclear plant (San Onofre)
- State regulations prohibited replacing it with fossil fuels
- Stem Energy won the bid with a battery Virtual Power Plant (VPP) concept
- DataBank became the FIRST data center to join the VPP project

### How it Works

- Batteries charge when electricity prices are low and renewables are abundant (solar/wind)
- Battery system deploys power during peak demand times
- Helps manage demand and avoids bringing higher-emission sources online
- The DataBank System has operated safely and flawlessly since installation

### What DataBank Says:

*"Rather than being viewed solely as power consumers, data centers equipped with battery technology become valuable grid assets that support renewable energy integration, reduce peak demand, and provide grid stability services."*

### Conclusion:

Since 2017, DataBank in Irvine has demonstrated that data center battery integration with Virtual Power Plants (VPPs) works safely and cost-effectively. The Community Partnership Model takes this proven approach and adds community wealth creation, local job requirements, and renewable generation partnerships.

## Appendix II

# Community Partnership Model Economic Analysis: Sources and Methodology Notes

**Base Case: Prince George's County, Maryland • 100 MW Data Center + VPP Network**

**Table 1: Household Direct Benefits (1,000 Participating Households)**

Benefit Category	Annual Value per Household	10-Year Value per Household
VPP Dispatch Payments	\$1,300-2,200	\$13,000-22,000
Free Battery Installation	One-time	\$12,000
Backup Power Value (Resilience)	Variable	Priceless
Bill Savings (Rate Protection)	\$50-150	\$500-1,500
Avoided Cost Increases	Variable	\$500-1,500
<b>Total Per Household</b>	<b>\$1,350-2,350+</b>	<b>\$24,000-34,000+</b>

**Total Community Household Benefits: \$24-34 million over 10 years for 1,000 households closest to the data center who wish to participate.**

**Table 2: Jobs Created**

Job Category	One-Time Jobs	Ongoing Jobs	Duration
Solar Installation	200-250	—	12-18 months
Battery Deployment	150-200	—	12-18 months
Data Center Construction	100-120	—	18-24 months
Electrical/Integration	30-40	—	6-12 months
Data Center Operations	—	150-200	20+ years
Energy System Maintenance	—	40-60	20+ years
VPP Management	—	25-40	20+ years
Farm Operations (Agrivoltaics)	—	20-40	20+ years
<b>TOTAL</b>	<b>480-600</b>	<b>235-340</b>	

**Total Jobs: 480-600 one-time construction jobs + 235-340 permanent ongoing jobs. Assumes union jobs.**

**Table 3: Annual Economic Activity with Multiplier Effects**

Source	Direct Annual	Multiplier	Total Impact
VPP Household Payments	\$1.3M	1.7x	\$2.2M
Data Center Payroll (60-80% local)	\$12.8M	2.0x	\$25.6M
Energy System Payroll	\$2.0M	2.0x	\$4.0M
Farm Income (Leases)	\$0.6M	1.7x	\$1.0M
Local Suppliers/Services	\$0.6M	1.4x	\$0.8M
<b>Annual Total</b>	<b>\$11.7M</b>	<b>1.9x avg</b>	<b>\$22.4M</b>
One-Time Construction Impact	\$100M	1.5x	\$150M

**Total Economic Impact: \$33.4M annually + \$150M one-time construction**

**Table 4: Total 20-Year Economic Impact**

Beneficiary	Total 20-Year Value
Data Center Cost Savings	\$1,204M
Community Economic Activity (Annual)	\$668M
One-Time Construction Impact	\$150M
Households (Direct Cash + Battery; 10-year value)	\$24-34M
Environmental Value (10M tons CO <sub>2</sub> avoided)	Priceless

**Win-Win-Win: Data center saves \$1.2B • Community gains \$700M+ • Planet gets 95% renewable energy. Zero cost to ratepayers and taxpayers; data centers pay all costs.**

*Note: Household benefits shown as 10-year value, as this timeframe is more relatable for participating families and aligns with typical battery system lifespan (10-15 years). VPP participation and payments continue through year 20.*

## Methodology Notes: Data Center Cost Savings Calculation

Cost Category	Traditional Model	Partnership Model
<b>CAPITAL COSTS</b>		
Grid Connection & Infrastructure	\$10M	\$15M
Solar Generation (150 MW)	—	\$180M
Grid-Scale Batteries (200 MWh)	—	\$40M
VPP Household Batteries (1,000 × 13kWh)	—	\$13M
Installation, Integration, Controls	—	\$40M
Project Development & Contingency	—	\$50M
<b>Gross Capital Investment</b>	<b>\$10M</b>	<b>\$338M</b>
Tax Benefits: 30% ITC on Batteries	\$0	-\$16M
Tax Benefits: 100% Bonus Depreciation	\$0	-\$68M
Total Tax Benefits	\$0	-\$84M
<b>Net Capital Investment</b>	<b>\$10M</b>	<b>\$254M</b>
<b>ANNUAL OPERATING COSTS</b>		
Electricity Purchase	\$87.6M	\$4.4M
Demand Charges	\$12-18M	\$0
Peak Pricing Premium	\$8-12M	\$0
Energy System O&M	—	\$10M
Battery Replacement Reserve	—	\$7M
VPP Household Payments	—	\$1.3M
Farm Leases & Other	—	\$4.9M
<b>Annual Operating Total</b>	<b>~\$100M</b>	<b>\$27.6M</b>
<b>20-YEAR TOTALS</b>		
Net Capital	\$10M	\$254M
Operating (20 years)	\$2,000M	\$552M
<b>TOTAL 20-YEAR COST</b>	<b>\$2,010M</b>	<b>\$806M</b>
<b>NET SAVINGS</b>	<b>—</b>	<b>\$1,204M (60%)</b>

**Key Insight: Partnership Model requires \$244M (\$254M - \$10M) more net capital upfront BUT saves \$72M/year in operating costs (\$100M – 27.6M), paying back the incremental investment in 3.4 years, then generating \$1.2B in total savings over 20 years.**

## Sources:

### Data Center Capital Costs

- Solar (utility-scale): \$1.2M/MW average (2024-2025 market rates)  
Sources: National Renewable Energy Laboratory (NREL) 2025 Annual Technology Baseline; Solar Energy Industries Association (SEIA) Q4 2024 Market Report; Lawrence Berkeley National Lab (LBNL) "Utility-Scale Solar, 2025 Edition"
- Grid-scale batteries: \$200/kWh installed (2025 market rates for 2-4 hour duration systems) —  
Sources: Bloomberg NEF Battery Price Survey 2024; U.S. Department of Energy Grid Energy Storage Technology Cost and Performance Assessment (2024); NREL 2025 Annual Technology Baseline
- Residential batteries: \$12,000-13,000 per 13kWh system installed (Tesla Powerwall 3, Enphase, Generac equivalents)  
Sources: EnergySage Battery Shopping Report 2024; Tesla pricing (public); National Renewable Energy Laboratory (NREL) distributed energy storage cost analysis
- Grid interconnection and infrastructure: Industry standard for large commercial facilities  
Sources: Utility interconnection cost studies from PJM, CAISO, and major investor-owned utilities; U.S. Department of Energy interconnection cost database
- Installation, integration, controls, project development: Standard industry percentages for renewable energy + storage projects (10-15% of equipment costs for installation; 5-10% for project development and contingency)  
Sources: NREL project cost benchmarks; industry standard engineering, procurement, and construction (EPC) contractor pricing

### Data Center Energy Costs:

- Traditional model electricity: \$0.10/kWh average commercial/industrial rate in Maryland/Mid-Atlantic  
Sources: U.S. Energy Information Administration (EIA) Electric Power Monthly; Maryland Public Service Commission rate schedules; PJM capacity and energy market pricing
- Data center consumption: 876,000 MWh/year for 100 MW facility at 100% capacity factor (100 MW × 8,760 hours = 876,000 MWh)  
Reference: Industry standard for continuous-operation AI/hyperscale data centers
- Demand charges: \$12-18M/year typical for 100 MW peak demand (\$10-15/kW-month)  
Sources: Utility tariff schedules from major East Coast utilities (Dominion, BGE, Pepco); analysis of commercial/industrial demand charge structures
- Peak pricing premium: \$8-12M/year additional cost for on-peak consumption patterns

Sources: Time-of-use rate analysis from Maryland utilities; PJM real-time pricing data showing peak/off-peak spreads

- Partnership model generation cost: \$0.03-0.04/kWh (solar/wind power purchase agreement rates + 5% grid backup)

Sources: LBNL "Utility-Scale Solar" report showing PPA pricing trends; American Clean Power Association wind PPA pricing data; EIA wholesale electricity market pricing

### **Data Center Operating Costs:**

- Solar/wind O&M: \$15-20/kW-year industry standard

Sources: NREL operations and maintenance cost database; Solar Energy Industries Association O&M best practices

- Battery O&M: \$7-12/kW-year plus replacement reserve for 10-15 year lifespan

Sources: BloombergNEF energy storage market outlook; battery manufacturer warranties and degradation curves

- VPP household payments: \$1,300-2,200/year per household based on ~22 dispatch hours/year at \$60-100/MWh value

Sources: California DSGS VPP program payments; PJM capacity market pricing; analysis of VPP programs by Green Mountain Power (Vermont), National Grid (Massachusetts)

- Farm lease payments: \$600-1,000/acre/year for dual-use agrivoltaic land

Sources: NREL agrivoltaics research; American Farmland Trust land value surveys; solar lease market data from Midwest and Mid-Atlantic states

### **Data Center Federal Tax Benefits:**

- One Big Beautiful Bill Act (OBBA): Signed into law July 4, 2025, this legislation significantly modified federal clean energy tax credits. For solar projects, the 30% Investment Tax Credit (ITC) is only available for projects that begin construction before July 4, 2026, or are placed in service by December 31, 2027. However, battery energy storage systems received more favorable treatment: the 30% ITC remains available for battery projects that begin construction before December 31, 2033, with phase-down in 2034-2035. This reflects the Trump administration's recognition that battery storage is critical for grid reliability and data center infrastructure.

Source: H.R. 1, One Big Beautiful Bill Act (July 4, 2025)

- 30% Investment Tax Credit (ITC) on Battery Storage: Available for both grid-scale batteries and household VPP batteries under Section 48E (technology-neutral clean electricity investment credit) for projects beginning construction before end of 2033. Our model's realistic timeline (2027-2028 construction start) qualifies for full battery ITC. Applied to \$53M in battery capital costs = \$16M tax credit.

Source: U.S. Internal Revenue Service, 26 USC § 48E as amended by OBBB

- Solar ITC: Our model's realistic timeline (2027-2028 construction start) misses the July 4, 2026 construction deadline and December 31, 2027 placed-in-service deadline for solar projects. Therefore, solar components do not qualify for the 30% ITC. However, all project components qualify for 100% bonus depreciation.

Source: U.S. Internal Revenue Service, 26 USC § 48E as amended by OBBB

- 100% Bonus Depreciation (Permanent): The OBBB permanently restored 100% first-year bonus depreciation for qualified property acquired and placed in service after January 19, 2025. This allows immediate deduction of full capital costs in year one, providing substantial tax benefits. Applied to all project components: batteries (post-ITC basis of \$37M), solar (\$180M), and other equipment (\$105M). At 21% corporate tax rate, total depreciation value is approximately \$68M. This represents improved tax treatment compared to the previous 5-year MACRS schedule.

Source: U.S. Internal Revenue Service, 26 USC § 168 as amended by OBBB

- Total Tax Benefits: \$16M (battery ITC) + \$68M (100% bonus depreciation) = \$84M total. While lower than original estimates that assuming solar ITC eligibility, this represents substantial federal support and demonstrates battery storage's favored status under current policy.
- Foreign Entity of Concern (FEOC) Requirements: Starting in 2026, battery projects must meet material assistance cost ratio requirements, with 55% of costs from non-prohibited foreign entity sources (rising to 60% in 2027 and 75% by 2030). These requirements are manageable given established US, South Korean, and European battery supply chains. Projects beginning construction by end of 2025 are exempt from FEOC restrictions.

Source: One Big Beautiful Bill Act provisions on prohibited foreign entities

## **Economic Multipliers (Table 3)**

The multiplier effect accounts for the ripple impact of spending throughout the local economy:

- Direct Impact: Initial payments and spending (VPP payments, wages, farm income)
- Indirect Impact: Local business-to-business transactions (suppliers, services)
- Induced Impact: Employee and household spending in local economy (retail, services, housing)

### **Multiplier Ranges**

- Household income (low-to-moderate income): 1.5-2.0x (Federal Reserve studies)
- Business payroll (local retention): 1.8-2.2x (IMPLAN economic models)
- Agricultural income (high local retention): 1.7-1.9x (USDA rural multipliers)
- Construction (one-time): 1.4-1.6x (BEA RIMS II multipliers)

### **Conservative Assumptions:**

- Used middle-to-lower range of published multipliers for credibility
- Assumed 80% local workforce (data center) - industry standard for large facilities
- Assumed 70% local spending retention for households (based on EJ community research)
- Did not include property value appreciation or long-term wealth-building effects

### **Multiplier Sources Summary:**

- *U.S. Bureau of Economic Analysis (BEA) RIMS II multipliers*
- *Federal Reserve economic impact studies for low-to-moderate income communities*
- *IMPLAN economic modeling system (standard for regional economic analysis)*
- *USDA rural economic multipliers for agricultural communities*
- *Duke University VPP capacity research (2025) and Southern California Edison VPP program data*

For more on the technical background behind the Community Partnership model, with example models that are similar but less comprehensive: <https://www.utilitydive.com/news/vpp-virtual-power-plant-data-centers-RMI/805605/>