Will EVs Create Budget Potholes for States?

Economic Development Megadeals for Electric Vehicle and Battery Factories

GOOD JOBS FIRST .ORG

OCTOBER 2022

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EXECUTIVE SUMMARY

In a megadeal spending spree like no other in U.S. history, states and localities have awarded more than $13.8 billion in economic development subsidies to at least 51 electric vehicle (EV) and EV battery factories. Many more dollars have certainly been committed to 53 more projects where incentives are not yet disclosed. Most of these deals have been approved since 2018, and many in just 2021 and 2022.

EVs are a necessary and vital climate-change solution, but these lavish new subsidies effectively amount to states taking credit for good news that is already unfolding. Decades of federal and state pro-EV investments and policies are paying off and the market is rapidly moving. Big factory-specific subsidies are wasting public dollars at a moment when states are flush with pandemic relief grants that should be used broadly, to make economies more resilient against future stressors.

Six states — Georgia, Kansas, Michigan, Nevada, North Carolina, and Tennessee — have already pledged more than $1 billion *each* to EV or EV-battery facilities. Georgia has awarded the two largest auto-subsidy packages in U.S. history — of any auto technology — totaling $3.3 billion, to Rivian and Hyundai.

At least six states — Georgia, Kansas, Kentucky, Nevada, North Carolina, and Tennessee — have awarded their largest economic development megadeals in state history to EV/battery projects.

The total from the 51 subsidized facilities tell just part of the story: Many of those deals are not yet fully disclosed. All told, at least *105* EV and battery plants have been announced, yet of the other 54, we know one was not subsidized and the other 53 are not yet known. So this compilation of $13.8 billion in subsidies is incomplete.

Despite incomplete disclosures, the big picture is clear: High-spending states are likely creating — and may be obscuring — future "budget potholes" of subsidy commitments.

And along with their enormous costs, too many of the deals lack guaranteed benefits. Kansas's $1.27 billion subsidy package for Panasonic, for example, has no job-creation requirements, nor any wage or benefit rules. Georgia's $1.48 billion deal for Rivian allows the company to pay as little as $20 an hour, with no employer support for healthcare or other benefits — through *the year 2046.*

Job quality, which greatly determines the economic development "downstream ripple effects" of a new factory, is also at risk. To the extent General Motors, Ford and Stellantis are converting or building EV capacity, some of the new jobs will be union from the start, generating better ripple effects. But none of

the start-up companies in the U.S. electric car space is unionized yet, and not one of the existing foreign-nameplate factories in the U.S. — gasoline or electric — has a unionized workforce. Such "transplants" already produce about half of the cars assembled in North America, so their share of EV production is also likely to be substantial soon.

Also downstream, auto garage jobs will decline, since EVs require far less maintenance. And longer vehicle life and direct auto sales — without independent car dealerships, as some EV manufacturers are doing and pushing to expand — will both mean fewer jobs at auto dealerships.

"Upstream ripple effects" are also very much at risk. EVs have far fewer parts than internal-combustion engine cars, and auto *parts* jobs far outnumber auto-*assembly* jobs. So the industry's net U.S. factory employment, generously assuming domestic content is stable (not assured, given foreign battery competition), will be shrinking.

By contrast, in electric *bus* manufacturing, three companies (Gillig, BYD Motors and Proterra) have unionized factories. The largest bus builder, New Flyer, has a Community Benefits Agreement covering its factories in Alabama and California. Such agreements can improve both job quality and domestic content rates.

By needlessly subsidizing individual facilities, states and localities are ignoring decades of *federal and state* policies that have showered the industry and EV consumers with research grants, tax credits and rebates as well as regulatory, parking, utility rate, recharging, licensing, HOV-lane, and other inducements. California recently mandated that all vehicles sold there by 2035 must be zero-emission, and 13 states plus DC are likely to follow suit, as they historically have.

Those policies and investments are working: EVs' U.S. market share more than doubled year over year in the second quarter of 2022. Manufacturers have EV wait times of 6 to 24 months. The evidence is clear: the market is moving, and rapidly.

States and localities are able to spend so lavishly in part because of the half-trillion dollars in flexible grants they have received under provisions of the Coronavirus Aid, Relief, and Economic Security (CARES) Act and the American Rescue Plan Act (ARPA). Instead of spending such funds in ways that will benefit many residents and make their economies more resilient to future stressors, some states are instead taking high risks by putting "too many eggs in a few megadeal baskets."

We urge states and localities to veer away from economic development megadeals to EV and battery factories, and instead steer towards economic resilience. Consumer demand for EVs is clearly strong, and a raft of existing public policies are successfully moving a willing market. States should redirect economic development dollars to help incumbent workers and communities retool and adapt to the looming job-market effects of EVs.

MANY STATES SUBSIDIZING, BUT TOO MANY FAIL TO DISCLOSE OR FULLY DISCLOSE

As Table 1 summarizes: At least 51 EV or EV battery factories have likely received subsidies from at least 21 states: Alabama, Arizona, California, Florida, Georgia, Illinois, Indiana, Kansas, Kentucky, Louisiana, Michigan, Missouri, Nevada, New York, North Carolina, Ohio, Oklahoma, South Carolina, Tennessee, Texas, and West Virginia.

Of those deals that have been disclosed or partially disclosed, states and localities have pledged more than $13.8 billion in economic development subsidies.

Six states — Georgia, Kansas, Michigan, Nevada, North Carolina, and Tennessee — have already pledged more than $1 billion *each* to EV and/or EV-battery facilities.

Six states — Georgia, Kansas, Kentucky, Nevada, North Carolina, and Tennessee — have awarded their largest megadeals in *state history* to EV/battery projects.

The public costs of 53 of those 105 factories are not yet disclosed (one is known to have not been subsidized), and many of the 51 tabulated here are only partially disclosed. So our compilation of $13.8 billion is incomplete. Over time, as more deals are better disclosed, the known costs will become substantially higher.

Georgia now has the dubious distinction of granting the two largest auto-factory subsidy packages — of any auto technology — in U.S. history: $1.5 billion to U.S.-based start-up Rivian and $1.8 billion to the Korean carmaker Hyundai. The two deals came just eight months apart. Together with two additional packages, the state has awarded a total of more than $3.6 billion for EV production.

Despite their record size, these two packages were negotiated secretly and disclosed so as to minimize media coverage. Georgia announced the benefits of the Rivian deal four and a half months before revealing its public *costs*. And the governor's office released details of the package for Hyundai late on a Friday afternoon. Indeed, Good Jobs First has noticed in recent years that some governors have become unusually reticent to tout the subsidies — i.e., the public *costs* — for what we call "megadeals."

While the price tags of these two high-profile deals have been made public, Georgia rates very poorly on disclosure. In our most recent 51-state "report card" study on economic development transparency, Good Job First rated Georgia at the very bottom: one of only two states with no meaningful online disclosure of company-specific, deal-specific subsidy records for its major incentive programs. In a surprising twist, Georgia disclosed the full contract with Rivian, including the value of many grants (but not tax breaks). The Peach State did not do the same for its Hyundai deal.

Consistent with this anti-democratic posture of secrecy, Georgia did not allow any advance public knowledge of the costs of the Rivian or Hyundai deals. Indeed, the controversies created by the two record megadeals have

prompted recent proposed state legislation and a hearing on how to improve accountability at the state's development authorities. "Abating school taxes without schools being part of the discussion is problematic," said the bill's Senate sponsor.[1]

Table 1: Subsidized Electric Vehicle and Battery Plants

State	Total Known Projects	Total Known Subsidies
Georgia	4	$3,616,899,999
North Carolina	5	$2,115,758,395
Michigan	8	$2,063,650,000
Nevada	1	$1,287,000,000
Kansas	1	$1,274,800,000
Tennessee	11	$1,154,200,000
Kentucky	6	$756,800,000
Missouri	1	$355,000,000
Oklahoma	4	$300,000,000
Arizona	6	$257,460,000
Ohio	6	$238,800,000
Indiana	4	$199,600,000
Texas	4	$69,400,000
Alabama	3	$24,700,000
Louisiana	1	$22,112,959
California	15	$19,450,000
Illinois	2	$15,945,000
Florida	1	$15,200,000
South Carolina	6	$10,250,000
West Virginia	2	$3,500,000
New York	3	$2,000,000
Mew Mexico	3	Not Disclosed
Mississippi	2	Not Disclosed
Oregon	2	Not Disclosed
Arkansas	1	Not Disclosed
Colorado	1	Not Disclosed
Massachusetts	1	Not Disclosed
Wisconsin	1	Not Disclosed
TOTAL	105	**$13,802,526,353**

Mega-Subsidies to a Disrupted Market

Appendix A catalogs all 105 of the known EV and battery facilities and those incentive deals yet to be disclosed. There appear in this compilation many global powerhouse firms, plus a good many companies that most U.S. consumers have never heard of before. From an economic development efficiency and risk management perspective, the list begs questions: Why subsidize the well-capitalized powerhouses? And where will these little-known companies be five or 10 years from now? How many companies — old or new — will falter when the industry shakes out, failing to deliver on their pledges of jobs and investments?

The auto industry today is hardly as fragmented or volatile as it was a century ago when there was

also a spate of nascent firms: it seems likely that most if not all of the current players will survive the EV conversion. (Some, like Toyota, are notably behind the curve and may suffer market-share losses. Others, like Volkswagen, which is doubling down to make amends for its diesel emissions scandal, are investing aggressively.) Tesla is the one new EV market entrant that has clearly established a strong niche: two-thirds of current U.S. EV sales are Teslas.

But there are others to which states and localities have made big subsidy commitments. At least three stand out: VinFast, Canoo and Rivian.

VinFast, a Vietnamese company only founded in 2017, plans to *lease* its EV batteries on a permanent basis to consumers rather than sell them; it was awarded $1.25 billion in North Carolina.[2]

Canoo, a U.S. start-up, was awarded $300 million by Oklahoma. In May 2022, it issued a shareholder warning letter, saying it had "substantial doubt" about itself as a going concern.[3] It later reported a sales pipeline of more than $1 billion (especially thanks to a new order from Walmart).

And then there is Rivian.

Rivian: Unproven, Yet Massively Subsidized; Is It a "Usufruct or an "Estate of Years"?

In December 2021, Georgia announced that Rivian, a little-known EV company, would locate in Georgia to invest $5 billion and eventually create 7,500 jobs. The company, despite having not yet achieved mass vehicle production, has attracted some major institutional investors and became publicly traded in the fall of 2021.

It would be four and a half months later, in early May 2022, before the state unveiled its $1.5 billion package for the facility — the biggest incentive deal *of any kind* in Peach State history and also then the biggest auto-plant subsidy package in U.S. history — of any auto technology.

Such a long delay between announcing first the *benefits* of a deal and much later its massive costs has recently become a new public relations tactic among governors announcing megadeals. Beyond anti-democratic (since the process denies the public the ability to weigh in on the incentive terms), such delays can only be said to evince a high arrogance against the public interest.

Good Jobs First believes that Rivian is the first unproven company — in any industry — to ever be awarded such a large economic development subsidy package in the United States. In the EV sector, for example, Tesla was clearly an established producer when in 2014 it received a $1.3 billion package in Nevada for its battery "giga-factory," a joint project with Japanese multinational Panasonic.

Since its peak upon going public in November 2021, Rivian's share price has declined (as of late September 2022) more than 80%.[4] In March 2022, it announced (and then quickly walked back after consumer backlash) a $12,000 price hike on its trucks and SUVs that had been pre-ordered but not yet delivered.[5]

Other major elements of the Rivian subsidy package include $14.4 million for wetland mitigation, $21.32 million for a "Project Development Grant," a Regional Economic Business Assistance (REBA) grant of up

to $111.7 million, $32.34 million for site preparation, tax credits of $5,250 for every new hire for up to five years per employee (much of which could amount to "paying taxes to the boss," by the company keeping some employees' withholding taxes), sales tax exemptions of both building materials and machinery, which values have not been estimated, two dedicated state staff positions for seven years, worth $2.7 million, customized recruitment and training worth more than $4.5 million, $62.5 million state grant for a training center, $51.5 million from the Georgia Department of Transportation for road infrastructure, and $114 million in land purchased by the state and a four-county authority.

Despite these massive *costs* — which would equal $197,000 per job if the project actually employs 7,500 workers — the state's subsidies do a poor job of ensuring good public *benefits*. For example, although the contract does hold Rivian to the goals of $5 billion invested and 7,500 new jobs (with modest penalties for substantial shortfalls), its only job-quality requirements are a $20 per hour wage floor times 35 hours per week.

That annual wage floor of $36,400 is almost $20,000 below the announced average wage level of $56,000. And it has *no escalator provisions* (required wage increases) during either the seven-year build-out or the 25-year anticipated lease, so Rivian could pay $20 an hour in 2046 and still be compliant.

The jobs also lack any employment benefit guarantee. The contract only says jobs must "be available with the opportunity for access to, but not necessarily paid or subsidized, medical benefits…" The scope of those "medical benefits" is not specified (i.e., whether they include dental, visual, etc.), and no other employee benefit requirements are named: not paid leave or vacation or retirement contributions.

The contract also explicitly allows Rivian to count workers at the plant who do not work for Rivian, but rather for "employee leasing companies," towards its job-creation goals. Consider the extraordinary lengths to which the State of Georgia went for a company with so little to show for itself.[6] The 1,978-acre project site had to be cobbled together, mostly at state expense, in 44 parcels. A four-county joint development authority (JDA) only owned about one third of the acreage in three parcels and it and the state had to acquire the other 41, at a cost of approximately $114 million. Sellers were required to sign non-disparagement and non-disclosure agreements.

But Rivian won't own the land or the 19.5 million square-foot factory to be built upon it — the *State* will technically own it and lease it to the JDA and then the JDA will in turn lease it to Rivian.[7] When a public development authority owns an industrial facility and rents it to a company (this deal is unusual in having the State as an additional leasing layer), the property is technically "public" and therefore off the property tax rolls, like a public school or fire station would be. Such leases may run for a decade or decades; in this case, the tax-free lease runs for 25 years.[8]

Georgia, like some states, does this bizarre drill to skirt the "gifts and gratuities" clause in its constitution.[9] Such clauses prohibit a state from giving a gift of public monies to any private party. That is, they make it illegal to give corporations property tax abatements. But property taxes are the largest kind of tax the typical U.S. company pays, so property tax abatements are especially

lucrative, and companies seeking multi-subsidy "megadeals" have come to expect them. In this case, the effective property tax abatement is valued at $400 million.[10]

In a provision we have never seen before, the State-JDA-Rivian agreement specifies that during the first 25 years, the lease "shall be structured so that the Company's interest in the Project constitutes a usufruct… and not a taxable estate for years," and therefore off the property tax rolls. (Instead, Rivian will owe only small payments in lieu of taxes, or PILOTs.) But in the *second* 25 years of the lease, which the company can opt for, the project would magically become an "estate of years" and therefore onto the property tax rolls, with no PILOT-rate discount. (Of course, at 26 to 50 years of age, the factory will have greatly depreciated in value and would therefore presumably be assessed for property taxes at a value far below its construction cost.)

To summarize: for 25 years, a huge auto factory will be defined as a piece of public property being borrowed for private profit; then on the first day of year 26, the same facility will, by virtue of a state contract clause, start being treated for property tax purposes as if it were a private property being leased.

The Georgia project announcement has also generated a local backlash in mostly rural Walton and Morgan counties, and become a political "wedge issue,"[11] even in the state's 2022 Republican gubernatorial primary. A coalition, "No2Rivian.org," is seeking to block the project with a combination of legal action and community organizing. Its members allege that the project violates existing land-use plans and are especially incensed that local government powers, such as zoning and permitting, have been taken over by the State.[12]

Interestingly, the No2Rivian.org coalition's initial legal filing challenges this work-around, arguing that the project will from day one be an "estate for years," rather than a "usufruct," and therefore should always be fully taxable property.[13]

Major Court Setback for Rivian: Just as this study was to be released, the Morgan County Superior Court ruled for the No2Rivian coalition.[14] In her recitation of findings, Chief Judge Brenda Holbert Trammell questioned Rivian's financial prospects, cited the JDA's lack of vetting of the company, and cited the JDA's admission that it had not accounted for the increase in local public service costs the project would induce.

Under cross examination, she noted, the chairperson of the JDA admitted that the actual wage floor is $36,400 and could not say how the projected average salary of $56,000 would be achieved.

The project is not "sound, reasonable or feasible," she ruled, and therefore bonds tied to the work-around are not valid and the property is taxable.

The decision also said, in parts:

> *…the JDA did not employ an investment banker, an economist, financial analyst, or any other third-party to evaluate the financial wherewithal of Rivian and its ability to commence and complete the project.*
> *… The financial reports of Rivian reveal significant troubling information that was not considered by the JDA, or presumably the State of Georgia.*

…Rivian's 2021 10-K and 2022 10-Q are both publicly available documents. Nevertheless, Mr. Silvio [JDA chairperson] testified that the JDA never reviewed them.

…the JDA did not perform any analysis to determine the increased maintenance, infrastructure, and payroll costs incurred by each affected county due to the construction and operation of the Rivian project.

The decision analyzes the degree of control that Rivian would have over the property and determines that it will constitute an estate of years, not a usufruct, and therefore be taxable property. And since Rivian will also control its equipment, that will be taxable as well.

Chief Judge Trammell even questioned the JDA's assurances that if Rivian failed, the government could claw back the tax breaks, because "…the JDA offers no explanation of how this 'claw back' would occur once Rivian files for bankruptcy since Rivian would not have sufficient assets to pay its creditors."

In Fiscal Year 2021, Morgan and Walton counties already reported combined revenue losses of $1,465,292 to economic development tax abatements.[15] Those losses will presumably balloon when Rivian's 25-year abatement kicks in.

Canoo in Oklahoma: $300 Million — Under Wraps

In the summer of 2021, Oklahoma and Canoo officials announced company plans for its first "mega microfactory" in Pryor, near Tulsa. They touted 2,000 jobs at the facility, slated to open in 2023. Canoo is a startup founded in 2017 which has yet to sell production quantities of electric vehicles to the general public.

At first, there was no mention of subsidies, but soon $15 million from the Quick Action Closing fund was on the table. It was the largest amount ever given to a company through this program. Officials declared that the public money would be provided to the company only after it invests money and creates jobs.[16] A journalistic investigation, however, uncovered that the subsidy deal was much larger, at about $300 million — and that the package involves up-front money.[17]

What is in that $300 million is still unknown, hidden behind a non-disclosure agreement (NDA). *The Frontier*, an online publication, reported that $99 million is to come from the MidAmerica Industrial Park. The Park operates like a private-public partnership and generates revenue by selling water and land in the park and through leases. That revenue apparently funds the Park's subsidies offered to Canoo such as up-front infrastructure development, free land, and cash grants.

Even though this money does not come directly out of a state or local budget, it represents financial resources that are not being shared with other local units such as the school district or the city and the county governments. It was reported in February 2022 that some construction had started on the site but not much information is available, including whether the Park paid for that work.

The state also signed a contract with Canoo to purchase 1,000 cars. The per-car price was set between $35,000 and $50,000 so the contract may cost the state about $50 million. "What's really interesting to me about this contract is that it was awarded without any competitive bidding. The State of Oklahoma waived that requirement, a potentially large contract to an unproven company," said Brianna Bailey, the managing editor of *The Frontier*, which broke the story.[18]

Canoo was hyped as the Sooner State's opportunity to be a big player in the EV industry. However, the company's financial future is unclear: In May 2022, the company warned its investors that within the next 12 months it might not have enough cash to pay its obligations.[19] By June, the project was put on hold.[20] Soon after, Canoo signed a contract with Walmart for 4,500 EV delivery vehicles.[21] As of August 2022, the company was still losing money[22] and the status of the Oklahoma project was unclear.

Panasonic in Kansas: Huge Costs Baked In, Benefits Not

For the second half of 2021 and the first half of 2022, using secret project code names and non-disclosure agreements, Japan-based Panasonic played Kansas and Oklahoma against each other for an EV battery plant. Both states went into special legislative sessions to enact lavish new subsidies for the project. Oklahoma ultimately bid about $1.3 billion and Kansas $829 million — the latter before adding large local subsidies, which make its deal total $1.27 billion.

The Kansas package is named APEX, a not-so-subtle reference to the predatory nature of interstate competition for jobs: "Attracting Powerful Economic Expansion Act." After Kansas "won" the deal, observers noticed that the fine print is mostly about capital expenditures — *not* about jobs. Indeed, both competing subsidy packages had as their largest components corporate income tax credits: dollar-for-dollar reductions in the company's future income tax bill tied to a percentage of its *capital investment* in the new facility — *not* hiring.

The final contract gives Panasonic five years to make its eligible investment, earning the 12.5% credit for each year's investment. The credits are then each to be paid over five years in 1/5 installments. The credits are "refundable," meaning that the state must pay them in cash to Panasonic if they exceed the company's tax liability. Assuming the credits will far exceed the company's income tax obligations (because factories are typically unprofitable in their start-up years, and even after that, Panasonic's taxable income will presumably be apportioned to many states, not just Oklahoma), the state's costs will cascade and peak around years 5 and 6 if the investment takes five years.

The APEX enabling legislation gives the Secretary of Commerce flexibility in the terms of each contract. The tax credits can go as high as 15% of capital investment; the payout years for each annual credit can be as many as 10; the share of credits earned that can be paid in a year can be as low as 50% — and all these variations rest on vague, subjective criteria. Meeting new-job targets is just one of 11 kinds of goals the Secretary is to weigh; "Extent of prospective new employment" [emphasis added] is another. Wages and salaries are another factor, but they are nowhere tied to any specific dollar rates or market benchmarks, so they are wholly subjective.

Indeed, that's the central flaw in the Kansas package: it requires *no set level of job creation, or any specific wages, or benefits.* So while the state used a projection of the project's benefits based on an eventual 4,000 permanent employees, none of the package's incentive terms require any specific level of hiring or pay.

This means that once the company starts investing — even if it has no profits yet and therefore no income tax liability, or it has small profits and a small tax bill — the state will be obligated to write annual checks to pay the

"credits," which are effectively cash payments rather than tax breaks.

Given that factories are often unprofitable in their early years while they are built and get running up to capacity, this provision means Kansas is on the hook for large cash outlays in the project's early years — no matter how many or how few permanent workers have yet been hired. This is a large budget risk for the state, especially if a recession, increased competition, or technological breakthroughs (not unlikely in a rapidly developing industry with many start-ups seeking to disrupt it) cause hiring for production jobs to lag projections.

Worse yet, to assuage conservative critics of the package, the Kansas House added a provision that, for any year in which Panasonic claims that investment credit, the entire state's corporate income tax rate — for all companies — goes down the next year by half a percent, year after year, until the rate is 0%. That is: one revenue loss triggers another revenue loss.

Yet once Panasonic does hire its workforce, the state will lose *even more* income tax revenue. That's because, in an over-the-top version of what we call "paying taxes to the boss," Panasonic will receive a "Payroll Rebate Award" from the state of 10% of payroll costs — even though the state's top marginal personal income tax rate is only 5.7%. That is, for the first decade of the project, from the new workforce the state will gain no new personal income tax revenue — and lose 75% more than it would otherwise have been due.[23]

Kansas won't even get *sales* tax revenue from the plant's construction: building materials will be 100% sales tax-free. The State is also obligated to pay up to $25 million in training-cost reimbursements.

Kansas also undermined a way in which states have financially justified big assembly-plant subsidies, by citing the fiscal benefits of supplier companies locating nearby. But the Panasonic package also includes subsidies for up to five of its supplier firms, including more investment tax credits, the right to keep up to 65% of employees' state personal income tax for 10 years (even those of the suppliers' *subcontractors*), no sales tax on building materials, training cost reimbursement, and property tax reductions.

At the local level, the City of De Soto approved a 605-acre tax increment financing (TIF) district to last 20 years and reimburse the developer building the factory for around $202.6 million of project costs. The TIF has two parts of about the same size; the new Panasonic project will go into one and the other would allow for expansion — and another estimated $200 million in TIF tax diversions away from public services.

Another $35 million for road improvements will come from state and local sources, and Johnson County has voted to use $7.5 million of its funding under the American Rescue Plan Act (ARPA) for the partial cost of a new fire station with specialized hazardous materials capacity to handle battery fires.[24]

In addition to these many large costs, *geography* means Kansas itself cannot be assured of all the job-creation benefits at Panasonic: the project site is in De Soto, within the Kansas City metropolitan area, where many Kansas and Missouri residents cross the barrier-free state line every morning to arrive at their jobs. (To their credit, the two states signed a no-raid "cease-fire" agreement in 2019, but the Panasonic deal is new, not a raid from the Show-Me State.)

In a final insult to Kansans, APEX creates an incentive for Panasonic and its qualified suppliers to hire from out of state: it includes a reimbursement of 50% for relocation expenses if the company pays someone to move to Kansas for a new job, up to $1 million per year per firm for 10 years.[25]

Electric Bus Manufacturing: An Economic Development Bright Spot

While electric *car* manufacturing in the United States is being lavishly subsidized and too often lacks job-quality standards or other community benefits safeguards, there are some more positive examples to cite among electric *bus* manufacturers and suppliers in the United States.

For example, two electric bus manufacturers recently voluntarily recognized the unions representing their workers and negotiated strong contracts guaranteeing good wages and benefits. In Lancaster, California, electric bus manufacturer BYD Motors employees belong to Sheet Metal, Air, Rail and Transportation (SMART) Union Local 105. (BYD, for Build Your Dreams, is a large publicly traded Chinese-based company.) And in the City of Industry, California, workers at electric bus builder Proterra belong to United Steelworkers Local 675. The two facilities currently employ a total of about 1,000 people.

California and Texas-based bus manufacturer Gillig has long had the Teamsters union representing hundreds of its employees in a partnership that ensures good jobs with benefits and training.

In addition, North America's largest bus manufacturer and supplier, New Flyer of America, Inc., voluntarily recognized the Communication Workers of America (IUE-CWA) as the union representing its workers in Jamestown, New York.[26] These New York employees join the CWA-represented workers from two factories in Minnesota, who recently won improvements in wages and benefits through their union contract.[27]

Jobs to Move America, a non-profit policy and organizing center, focuses on manufactured goods purchased with public dollars (i.e., procurement by cities, transit agencies and school systems). In 2013, it won approval from the U.S. Department of Transportation (DOT) for an alternative Request for Proposals (RFP) system for DOT grantees when they seek bids for vehicles.

Known as the U.S. Employment Plan, this RFP system allows agencies to award extra bid-rating points to suppliers that pledge more hiring of women, veterans, returning citizens, and people of color, and that promote higher job quality and skills development. It can also improve rates of domestic content. The U.S. Employment Plan has already been used for procurement by cities, state agencies and transit departments in Chicago, New York, Boston, and Los Angeles and by Amtrak.

In May 2022, New Flyer of America and Jobs to Move America announced a national partnership memorialized in a Community Benefits Agreement (CBA) spanning its factories in Anniston, Alabama and Ontario, California. The Agreement sets goals of 45% hiring and 20% promotions for historically underrepresented workers including women, veterans, and people of color. The CBA includes other provisions to ensure its enforcement and effectiveness.[29]

BYD Motors has a CBA with Jobs to Move America and is exceeding its hiring targets, with a hiring rate of 90% workers of color.[30] Proterra also has a CBA with Jobs to Move America and in September 2022, it won a contract to build electric buses for Los Olivos Elementary School District in Santa Barbara County, California.

In Illinois, a 21-organization coalition is calling upon Lion Electric to agree to a Community Benefits Agreement at its new Joliet facility.[31]

PUBLIC POLICIES ALREADY FAVOR EVs; INDIVIDUAL FACTORY SUBSIDIES ARE NOT NEEDED

Federal and state investments and policies have for many years favored the conversion to EVs — and recent legislative developments have further accelerated those market-moving actions.

They are working: In the second quarter of 2022, auto makers sold 196,788 EVs in the United States, a 66% volume increase from a year earlier. That is 5.6% of market share, up from 2.7% a year before. Other kinds of electrified vehicles (plug-in hybrids, hydrogen-powered, etc.) sold even more — 246,000 — but lost a little share to EVs. (Tesla dominates EV sales, with 68% of them.)

Complete third quarter 2022 figures are not yet available, but Ford's EV sales in the U.S. tripled year over year. For August 2022, *global* EV sales reached 11% market share, and plug-in hybrids (PHEV) were another 15% of sales. So globally, one in four cars now being sold has battery power, and the pure-EV share is growing the fastest.

This success is the most compelling evidence for why the $13.8 billion in subsidies granted to EV and battery factories are not needed.

New Federal Energy Efficiency Legislation Will Again Fuel EV Demand

Recent developments in Washington have given the states even greater reason to stop subsidizing EV factories. The Inflation Reduction Act of 2022 makes the following investments that will spur consumer demand for EVs for the next decade:

- It eliminates the cap of 200,000 vehicles (per manufacturer) after which consumer tax rebates of $7,500 per new vehicle phase out. This will help sustain demand for Tesla and GM models, since they had already exceeded the cap. It will also mean competing brands won't be affected by phased-out rebates as they succeed in sales. succeed in sales.

- It creates a new federal tax rebate of $4,000 for buyers of *used* EVs, which will help make EVs more affordable to buyers not in the premium-vehicle market.

- The new purchasing credits extend through 2032 and are subject to buyer-income limits (addressing the criticism that EV buyers are mostly high-income). The new legislation also provides billions for commercial EV purchases, EV charging stations, electric United States Postal Service trucks, school and transit busses, and heavy trucks.

- Finally, the new law boosts EV production with a total of $5 billion for loans and grants to help automakers develop new manufacturing technology and convert plants to EV production.

Federal Auto Fuel Efficiency Rules are Boosting EV Sales

Federal regulations mandating greater fuel efficiency (Corporate Average Fuel Efficiency, or CAFE, standards) first took effect in model year 1978, per the Energy Policy and

Conservation Act (EPCA) of 1975. They were amended under the Energy Independence and Security Act (EISA) of 2007 and are administered by the National Highway Traffic Safety Administration (NHTSA).

CAFE standards mandate fleet-wide average fuel-economy rates. In a tandem process, the U.S. Environmental Protection Agency (EPA) sets greenhouse gas (GHG) emissions standards, under its Clear Air Act powers.

In its most reset of the CAFE standard, NHTSA on March 31, 2022, set the passenger car and light-truck rules for model years 2024, 2025 and 2026. They require that corporate sales fleets average about 49 miles per gallon by 2025, with an 8% increase in efficiency in 2024 and 2025 and a 10% improvement in 2026.[32]

These 8% and 10% efficiency increases are a sharp revision of the CAFE standards issued in March 2020 by the Trump administration for model years 2021 through 2026. Those rules would have generated increases of only 1.5% per year. The Trump standards, in turn, had revised standards issued in 2012 by the Obama administration that called for 5% annual improvements.[33]

Given the technological limits automakers face making internal-combustion engines more efficient (and making cars lighter and more aerodynamic), the companies will *have to* include steadily larger shares of zero-gallon EVs in their sales mixes in order to achieve these targets.

New Federal Infrastructure Legislation is Boosting Demand

In addition to decades of federal investments and regulatory systems that have helped drive demand for hybrids and EVs, the Infrastructure Investment and Jobs Act of 2022 is making large new federal pro-EV investments, such as:

- $7.5 billion for the production and procurement of EV and low-carbon buses and ferries;
- $7.5 billion for grants to build EV charging stations and low-carbon refueling facilities (in addition to state-government funding and other, private investment sources); and
- Instruction to the states to study how to make EV charging faster and spur more private investment in EV charging stations.

States Were Also Already Investing in EV Demand Drivers

Long before the subsidy spree for EV and battery factories, all but a few states had joined in enacting a raft of incentives to encourage consumers to buy EVs, hybrids and plug-in hybrids.

As the National Conference of State Legislatures recently summarized:[34]

> *State and federal policymakers along with utilities and private industry are working rapidly to expand charging station infrastructure. There are more than 43,000 public charging station locations in the U.S. today.*
>
> *As of July 2021, at least 47 states and the District of Columbia offer incentives to support deployment of EVs or alternative fuel vehicles and supporting infrastructure, either through state legislation or private utility incentives within the state. Legislative incentives include measures that provide high-occupancy vehicle (HOV) lane exemptions, financial incentives for purchasing electric vehicles or electric*

vehicle supply equipment (EVSE), vehicle inspections or emissions test exemptions, parking incentives and utility rate reductions. Utilities also offer incentives, rebates, and grants for transportation electrification. One of the most common incentives is price reductions for charging EVs during off-peak hours. For example, several electric utilities offer lower off-peak price per kilowatt-hour. Other utilities incentivize purchasing EVs and equipment through rebates.

Several states have implemented financial incentives, including tax credits, rebates and registration fee reductions designed to promote EV adoption. For example, Colorado offers a $4,000 tax credit through 2021 on the purchase of light-duty EVs, and Connecticut allows for a reduced biennial vehicle registration fee of $38 for EVs. Additional incentives include electric charging infrastructure tax credits, research project grants, alternative fuel technology loans, and lead-by-example initiatives like zero-emission vehicle (ZEV) requirements for government fleets.

The most influential recent state action has been California's adoption of zero-emission standards. The state confirmed its 2020 guidance that by 2035, 100% of vehicles sold there must be zero-emission, with phase-in rates beginning in 2026 at 35% for zero-emission cars plus plug-in hybrid sales.

Historically, 13 states plus Washington DC have followed California's lead on fuel efficiency and zero emissions: Colorado, Connecticut, Delaware, New Jersey, New York, Maine, Maryland, Massachusetts, Oregon, Vermont, Pennsylvania, Rhode Island, and Washington State. That means 36% of the adult U.S. population will likely be covered by these aggressive market-share rules, further driving the EV market.

Volkswagen's Diesel Emissions Settlement Boosting EV Charging Stations

An obscure part of a high-profile pollution lawsuit is also boosting EVs. In its 2017 settlement with the U.S. Environmental Protection Agency over its diesel-emissions cheating scandal, Volkswagen agreed to create an independent subsidiary, Electrify America, and fund it with $2 billion to construct EV charging stations.[35]

In June 2022, Volkswagen sold a minority stake in Electrify America to Siemens AG for an undisclosed price. Combined with additional funding from Volkswagen, Electrify America announced that the purchase gave it $450 million in new funding, for a total of $2.45 billion towards its goal of installing 1,800 charging stations in the U.S. and Canada by 2026.[36]

EVs WILL REDUCE TOTAL AUTO JOBS AND KEEP SHIFTING VEHICLE PRODUCTION GEOGRAPHICALLY

The new wave of EV and battery plants is essentially a third construction, in four phases, of the U.S. auto industry.

First were the Big Three, with parts and assembly plants mostly concentrated in the upper Midwest.

Second came foreign investments starting in the mid-late 1970s, beginning with Volkswagen's ill-fated Pennsylvania plant and Honda's motorcycle and sedan factory in Ohio. More Japanese companies followed (including Subaru and Isuzu), also to the Upper Midwest at first to deflect protectionism in the 1980s (i.e., domestic content legislation) by building plants in the Midwest.

In three cases, Japanese firms blended with U.S. ownership, resulting in very successful (and unionized) facilities: Mazda in Flat Rock, Michigan (when Ford had a major stake in Mazda); Mitsubishi and Chrysler ("Diamond Star") in Normal, Illinois; and Toyota and General Motors ("New United Motors") in Fremont, California. All three later closed. (Rivian now occupies the Normal, Illinois facility, and Tesla occupies the Fremont, California plant.)

Third, post-NAFTA, with the threat of protectionism gone, more Japanese (Toyota, Nissan), German (Mercedes-Benz, BMW), and Korean (Hyundai, Kia), and later Chinese (Volvo), firms also invested, mainly in "right to work" states in the South. Today, about half of new U.S. auto sales come from these foreign-nameplate factories. Not one has a unionized workforce.

With hundreds of auto parts plants following them, the new players stretched the industry southward. While traditional auto-heavy states such as Michigan, Ohio, Indiana, and Illinois still have hundreds of auto-related factories each, so now do Texas, Tennessee, Missouri, Kentucky, and Alabama.

Today, while some EV investments by Ford, General Motors and Stellantis are being made in the Midwest (especially GM in Michigan, albeit heavily subsidized), as Appendix A catalogs, the majority of new EV and battery facilities are in the Southeast and Southwest.

As the internal combustion auto supply chain shrinks (see the next section) and EV market share grows, if current EV site selection trends continue, the net effect will be to disinvest Midwestern states.

EVs' Lower Complexity Means Fewer Factory and Maintenance Jobs

In the past, states have partially justified large subsidy packages for auto-*assembly* plants by pointing to the far greater numbers of auto *parts* manufacturing jobs "upstream" from the assembly factories.

Of course, parts companies do not locate in every state nor close to every assembly site, and governments habitually subsidize auto parts plants as well. Globalization has reduced

the share of some components being made domestically, and a few foreign-nameplate factories still import even their engines and transmissions (the highest-value components of internal combustion cars, while batteries are the highest-value part of an EV).

With all those caveats, economists estimate that there are still about 9.4 auto parts jobs in the United States for every one auto assembly job.[37] This calculus is about to be upended, however, by the rise in EVs, because the new vehicles are much simpler mechanically and require far fewer parts. That means that the "upstream" economic development benefits of EV assembly plants will be far smaller than their internal-combustion predecessors.

The most significant cut in parts jobs will occur in manufacture of drive trains (i.e., engines and transmissions). The Congressional Research Service (the research arm of the U.S. Congress) reports that almost 150,000 U.S. workers make parts for internal-combustion drive trains, and that those drive trains each contain an estimated 2,000 parts. By contrast, the CRS notes, Tesla says its cars have 17 moving parts in their drive trains.[38]

Here are some of the major types of parts that EVs do not require:

- Internal-combustion engines and transmissions and the extremely varied parts that go into them (castings, stampings, ignition, controls, sensors)
- Fuel tanks, lines and pumps
- Exhaust systems (mufflers, catalytic converters, tailpipes)
- Carburetors
- Alternators
- Oil pumps and filters
- Starter battery and ignition systems

While EVs still need tire, brake pad, suspension component, and windshield wiper replacements, their maintenance-labor requirements are lower, including little engine maintenance and of course, no engine-oil servicing. That means less future work for auto garages.[39] Indeed, *Consumer Reports* estimated in 2020 that EV owners can expect to save $4,600 in maintenance costs over the life of the vehicle, and that the EV-ownership cost advantage is expected to rise as battery technology continues to improve.[40]

Dealership Jobs: Direct Sales Will Also Cut Jobs

EVs are also expected to have longer operating lives than internal-combustion cars, meaning slower inventory turnover and thus fewer sales jobs at auto dealerships.

But the biggest likely impact on auto sales jobs is from *direct sales*, without any independent auto dealers. Several EV makers, especially Tesla, Lucid and Rivian, sell directly to consumers in those states that allow direct sales. The companies are also advocating for legislation in other states to permit them.[41] In June 2022, Ford's CEO said the company plans to sell EVs through direct sales as well.

There are valid pros and cons to both the old and new systems,[42] and many states allow both sales models. To be sure, even before the rise of EVs, car quality and longevity had long been improving, and the number of new-car dealerships in the U.S. declined from about 22,000 in 2000 to about 18,000 in 2021 — though the remaining dealers

typically sell higher volumes each year. Because cars last longer and online retailing has become more popular in general, the selling of used cars has attracted new online dealers, and they are especially targeting younger consumers.

Of course, direct auto sales systems will still create some jobs, some car buyers still insist on test drives, and some consumers may prefer to keep buying a new car every few years. But longer EV life and fewer independent auto dealerships will almost certainly mean fewer garage and sales jobs at auto dealers as EVs gain market share.

Lack of Unionization: Another Economic Development Deficit[43]

Economic development "ripple effects" are calculated both "upstream," where we have documented there will be far fewer supplier jobs, and "downstream," or jobs created by the buying power of those people directly working at the EV assembly factory and factories making batteries and other components.

Because of the lack of unionization among foreign-nameplate auto-assembly factories in the United States, and because Tesla is non-union, it is possible that, absent labor-law reform or these companies ending their opposition to workers organizing, auto worker wages may stagnate.

As historian Timothy Minchin documents in *America's Other Automakers: A History of the Foreign-Owned Automotive Sector in the United States*, foreign-based manufacturers, even though they are unionized in other industrialized nations, have actively resisted unionization in the U.S.[44] Already, foreign companies with established U.S. factories — such as Volkswagen, Hyundai, Mercedes-Benz, Toyota and Volvo — have begun or announced EV production stateside.

If their anti-unionism persists, and these foreign producers keep gaining market share at the expense of the unionized carmakers (General Motors, Ford and Stellantis) the auto industry's *downstream* ripple effects will likely shrink as EVs gain market share.

The difference between top-tier union wages and benefits versus non-union pay levels can determine whether a family can own or improve a home, buy appliances, travel, dine out much, pay for higher education or save for retirement. Those spending activities — and the state and local taxes they generate — create more downstream jobs.

In one prominent case, it was public officials rather than corporate opposition that thwarted workers from gaining a union. In 2014, Volkswagen let it be known that it would prefer its Chattanooga workers to unionize so that the company could have a works council at the plant, as it does at every other of its plants around the world. (Works councils are labor-management problem-solving committees that Volkswagen employs to improve quality and safety.)

As the union vote approached, loud public opposition came from Gov. Bill Haslam, U.S. Senator Bob Corker (who, as mayor of Chattanooga, had negotiated the original incentive deal for the plant), state legislators and anti-union activists. State officials even hinted they would withdraw a $300 million subsidy offer then pending to add a new shift. The union vote narrowly failed.[45] It was a vivid display of the South's historical economic development brand: we will help employers suppress wages, even if the employer wants a union, because *that* would set a bad example.

Historically, the industry-wide pattern bargaining that the United Auto Workers achieved with the Big 3 auto makers helped lift the living standards of both union members

and many non-union workers. That's because when major employers are unionized in a labor market, even non-union employers have to pay better to compete for skilled labor. They also pay better wages and benefits to discourage unionization among their own workforces. Having national wage and benefit patterns also benefits the economy by forcing companies to compete on product quality and innovation, rather than on how far they can drive wages down. With manufacturing jobs increasingly automated and requiring that workers have math and other technical skills — and the prospect of chronic labor shortages as the Baby Boom cohort finishes retiring — good union wages and benefits will reduce turnover, improve quality, *and* maximize downstream economic development ripple effects.

FEDERALISM AND WASHINGTON'S PASSIVITY IN THE "ECONOMIC WAR AMONG STATES"

The so-called "second war among the states," i.e., for investment and jobs, is not a new issue. Indeed, it was a cover story of *Business Week* magazine — in 1976!

The root cause is our nation's Constitution with its federalist structure that gives states far more power and autonomy than is true in most industrial democracies. As that structure has evolved in economic development, it has enabled the site selection process to become wholly corporate-dominated by what Good Jobs First has dubbed the "tax break-industrial complex."[46]

By contrast, for example, the nations of Europe realized that this problem is so potentially corrosive to public budgets that they embedded a robust subsidy control system *into the founding constitution* of the Treaty of Rome forming the European Union — in 1957! Today, the Directorate General for Competition of the European Commission enforces strong, standardized rules curbing subsidy use across the EU's 27 member nations. Routinely, multinational corporations that extract big subsidy packages from U.S. states get no aid, or tiny amounts, for siting facilities in the EU.[47]

This all begs the issue of why the U.S. lacks an industrial policy. With the exception of defense procurement policy, the United States' federal government has been largely passive or laissez-faire ("allow them to do what they want"), failing to curb excessive state spending on megadeals like those now being given to EV and battery manufacturers.

That historical norm of Uncle Sam being absent was violated — but in a way that *worsened* the problem — by the previous presidential administration. In 2017, the White House actively assisted Taiwanese electronics manufacturer Foxconn in running a multi-state auction for what became a lavish (and ill-fated) subsidy package in Wisconsin. The current administration — and especially provisions of the CHIPS and Science Act — signal a possible reversal of Washington's passivity, though the provisions are largely framed as protecting vital technologies from Chinese domination, rather than domestic economic development reform.

Ultimately, a far more aggressive and explicit federal role for state restraint is the only long-term solution. Good Jobs First's policy menu for "Ending the Economic War among the States," is laid out in a white paper by that title on our website.[48]

POLICY CONCLUSION: STATES SHOULD VEER FROM MEGADEALS, STEER TO RESILIENCE

EVs should be a "triple-E, triple-bottom line" story: a win on energy, the economy, and equity. Instead of risking so many eggs in so few baskets, states should use public dollars to spread the benefits of EVs less riskily and more fairly.

Our advice to Washington, states and localities:

- Cap EV-plant subsidies at $35,000 per job, tied to the federal limits on some major programs.
- Attach robust Job Quality Standards that ensure at least market-rate wages and benefits (with living-wage floors), tied to inflation — and no deterrence to workers' freedom to organize.
- Let demand for EVs continue to be driven by more aggressive federal and state fuel-efficiency standards and by changing consumer preferences, which are very evident.
- Use the newly extended federal EV-buyer tax credits to deter states from subsidizing production: for every dollar a car's manufacturing is subsidized by state or local incentives, subtract a dollar from the federal purchase credit (or from any applicable state credit or other inducement).
- Proactively identify those existing factories, especially parts plants, at highest risk of closure due to waning demand for internal combustion drive trains. Focus on helping incumbent workers and communities retool and adapt.
- Instead of giving more federal research subsidies to start-ups (an important early boost to Tesla), use such monies to help existing automakers convert gasoline and diesel-powered production to EVs, with an incentive to retain and retrain incumbent workforces.
- Deny federal- and state-regulated procurement bidding rights to any vehicle or parts manufacturer found guilty of violating the National Labor Relations Act within the last five years.
- Encourage transit agencies and government fleet purchasers to use the U.S. Employment Plan (USEP) RFP structure to: increase domestic content; increase hiring of women, people of color, veterans, and returning citizens; and promote higher job quality.
- Ensure that prevailing electrician wages apply to the installation of EV charging stations and use proven labor-management apprenticeship programs to address the labor shortage facing smart grid and other electrical upgrade needs.
- Invest in electric buses (for state-supported, transit agency, and school district fleets) especially to improve air quality in environmental justice communities.
- Invest in training — and retraining — for auto mechanics to make the switch.
- Stop frittering away budget surpluses on corporate giveaways.

APPENDIX A

Known EV and EV Battery Facilities and Subsidies (Alphabetical by State)

Company	Value of Known Subsidies	Year	Facility Type	State	Locality
Mercedes-Benz	24,700,000	2017	OEM / electric SUV / battery plant	Alabama	Vance, Tuscaloosa County
Mercedes-Benz	?	2018	OEM/ Battery Production	Alabama	Woodstock, Bibb County
New Flyer	?	2018	OEM	Alabama	Anniston
Atlis Motor Vehicles	?		Pickup	Arizona	Mesa
ElectraMeccanica	8,000,000	2021	3-Wheeler (SOLO model)	Arizona	Mesa
Kore Power	69,300,000	2021	Battery Production	Arizona	Buckeye in Maricopa Co.
LG Energy Solution	79,160,000	2022	Battery Production	Arizona	Queen Creek
Lucid Motors	54,500,000	2021	Car	Arizona	Lordstown
Nikola Motors	46,500,000	2020	Heavy Truck/ OEM	Arizona	Coolidge
Canoo	?	2022	Corporate headquarters, technology hub and development facilities	Arkansas	Bentonville
BYD	1,450,000	2019	OEM	California	Lancaster
Canoo	?			California	Torrance
Faraday Future	?		Crossover Utility Vehicle	California	Hanford
Green Power Motor	?		Bus, School bus, delivery van	California	Porterville
Karma Automotive Fisker	?	2015	Car	California	Moreno Valley
Maxwell	?	?	OEM	California	Los Angeles County
Mullen Technologies	?		HQ, design	California	Brea
Phoenix Motorcars	?		Buses, Shuttles (medium duty vehicles)	California	Anaheim
Proterra	3,000,000	2015	Bus Manufacture	California	San Gabriel Valley
Proterra	?	2020	Battery Production	California	Los Angeles County
QuantumScape Battery	?	2021	Battery Production	California	San Jose
Sila Nanotechnologies	?	2021	Battery Production	California	Alameda
Tesla	15,000,000		EV Assembly	California	Fremont
Xos	?	2021	OEM	California	Los Angeles County
Zoox	?	2018	OEM	California	Foster City
SolidPower	?		Battery Production	Colorado	Louisville
Saft	15,200,000	2009	Battery Production	Florida	Jacksonville
Hyundai	1,840,000,000	2022	EV assembly + Batteries	Georgia	Savannah/Bryan County
Rivian	1,476,899,999	2021	EV Assembly + Battery	Georgia	Stanton Springs
SK Battery	300,000,000	2020	Battery Production	Georgia	Commerce
Teklas	?	2020	Headquarters and EV parts supplier	Georgia	Gordon County
Lion Electric	8,445,000	2021	School Bus, Heavy Truck, Transit Bus	Illinois	Joliet
Rivian	7,500,000	2016	EV Assembly	Illinois	Normal
Electric Last Mile Solutions	13,000,000	2021	Delivery Van	Indiana	Mishawaka

Company	Value of Known Subsidies	Year	Facility Type	State	Locality
NFI ARBOC	?	2021	OEM	Indiana	Middlebury
Stellantis-Samsung	186,600,000	2022	Battery Production	Indiana	Kokomo
Workhorse	?		Delivery Van	Indiana	Union City
Panasonic	1,274,800,000	2022	EV Battery	Kansas	De Soto, Jonson County
Ascend Elements Inc	9,500,000	2022	Battery Production	Kentucky	Hopkinsville in Christian County
BlueOvalSK = Ford + SK Innovation	410,000,000	2021	EV / Battery Production	Kentucky	Glendale in Hardin County
Envision AESC	121,800,000	2022	Battery	Kentucky	Bowling Green
General Motors	3,000,000	2019	OEM/Assembly Plant	Kentucky	Bowling Green
Quadrant	?	2018	Battery Production	Kentucky	Louisville
Toyota	212,500,000	2021	Truck fuel cells	Kentucky	Georgetown
Syrah Technologies LLC	22,112,959	2018-2021	Battery Elements Production	Louisiana	Vidalia in Concordia Parish
SES	?	2021	Battery Production	Massachusetts	Woburn
New Flyer	?	2017	Bus manufacturing	New Mexico	Crookston
New Flyer	?	2017	Bus manufacturing	New Mexico	St. Cloud
Pure Watercraft	?	2021	OEM	New Mexico	Mayer
A123	?	2020	Battery Production	Michigan	Novi
Akasol	?		Battery Production	Michigan	Detroit
American Battery Solutions	?		Battery Production	Michigan	Lake Orion
Bollinger	150,000,000	2022	OEM	Michigan	Flat Rock, Rawsonville, Dearborn
General Motors	1,761,000,000	2020	EV assembly (trucks), battery production	Michigan	Lansing area, Orion Township
Hercules Mobility Company - Hercules Electric Vehicles	?	2018	Pickup	Michigan	Detroit
LG Energy Solutions	152,650,000	2022	Car batteries	Michigan	Holland
Mullen Technologies	?	2021	Advanced engineering and manufacturing center	Mississippi	Tunica
Nissan	?	2022	OEM	Mississippi	Canton
Ford	355,000,000	2022	OEM	Missouri	Claycomo
Tesla	1,287,000,000	2014	EV battery	Nevada	Washoe County
iM3NY	?		Battery Production	New York	Endicott
New Flyer	2,000,000	2017	OEM	New York	Jamestown
Viridi Parente	?		Battery Production	New York	Buffalo
Arrival	394,477	2021	Battery Assembly (“Microfactory “)	North Carolina	Charlotte
Arrival	1,563,918	2021	Electric delivery vans for UPS (“Microfactory “)	North Carolina	Near Charlotte Airport
Arrival	No subsidies	2020	North American headquarters	North Carolina	Charlotte
Toyota 51%/ Panasonic 49%	859,800,000	2021	EV Battery	North Carolina	“Near Greensboro”
VinFast	1,254,000,000	2022	OEM	North Carolina	Chatham County/Slier City

Company	Value of Known Subsidies	Year	Facility Type	State	Locality
American Battery Solutions	?		Battery Production	Ohio	Springboro
Fisker / Foxconn	?	2021	EV car, truck, tractor	Ohio	Lordstown
Ford	205,000,000	2022	Traditional and EV car production expansion	Ohio	Avon Lake
Foxconn	?			Ohio	Lordstown
General Motors + LG Chem	13,800,000	2020	Battery Production	Ohio	Lordstown
Lordstown Motors	20,000,000	2020	Pickup	Ohio	
Canoo	300,000,000	2021	CUV, MPDV, Pickup, OEM	Oklahoma	Pryor
Canoo	?	2021	R&D, software development	Oklahoma	Tulsa
Canoo	?	2021	A customer support and finance center	Oklahoma	Oklahoma City
USA Rare Earths	?		Battery Production	Oklahoma	Stillwater
Arcimoto	?	2017	OEM	Oregon	Eugene
Arcimoto	?		3-Wheel EV Assembly	Oregon	Eugene
Arrival	500,000	2020	Electric bus assembly ("Microfactory")	South Carolina	Rock Hill
Mercedes-Benz	?	2022	eSprinter vans	South Carolina	Ladson/North Charleston
Oshkosh	9,000,000	2021	USPS Delivery	South Carolina	Spartanburg County
Polestar Cars (Nissan)	?	2021	EV Production	South Carolina	Ridgeville
Proterra	750,000	2021	Battery Systems	South Carolina	Greer, Spartanburg County
Volvo	?	2022	EV Manufacturing	South Carolina	Ridgeville
BlueOvalSK = Ford + SK Innovation	884,000,000	2021	EV Battery/OEM	Tennessee	Stanton
Axle Manufacturing/Sese Industrial Services US Corp	1,500,000	2021	EV Parts Supplier	Tennessee	Chattanooga
DENSO	40,000,000	2017	EV and Hybrid Parts	Tennessee	Maryville
Envision now, was Nissan	70,700,000	2022	OEM	Tennessee	Smyrna
General Motors	35,000,000	2020	EV Production	Tennessee	Spring Hill
General Motors + LG Energy Solutions = Ultium Cells	60,000,000	2021	Battery Production	Tennessee	Spring Hill
Gestamp	?			Tennessee	Chattanooga
Local Motors	?		AV Shuttle	Tennessee	Knoxville
Microvast Power Solutions	8,000,000	2021	Commercial Vehicle Batteries	Tennessee	Clarksville/Montgomery County
Nissan	?	2000	OEM	Tennessee	Decherd
Volkswagen	55,000,000	2019	SUV	Tennessee	Chattanooga
Canoo	?			Texas	Justin
Drako Motors	?		Super Car[2]	Texas	Austin
Tesla	?	2022	HQ Relocation	Texas	
Tesla	69,400,000	2020	EV Assembly	Texas	Austin or North Austin
GreenPower	3,500,000	2022	EV school buses manufacturing	West Virginia	South Charleston
Sparkz	?		Battery Production	West Virginia	South Charleston
Oshkosh	?			Wisconsin	Oshkosh
TOTAL	**$13,802,526,35**				

ENDNOTES

1 Dave Williams, Capitol Beat News Service. August 9, 2022, at: https://www.morgancountycitizen.com/news/georgia-lawmakers-looking-for-transparency-accountability-from-development-authorities-in-wake-of-rivian-hyundai-deals/article_5cc8046e-17fd-11ed-be9a-9bc91472b93b.html.

2 Kevin Williams, The Drive, August 5, 2022. "VinFast Wants You to Subscribe to Your Own Car's Battery. Here's What to Know," at: https://www.thedrive.com/guides-and-gear/vinfast-wants-you-to-subscribe-to-your-own-cars-battery-heres-what-to-know.

3 Reuters, "EV maker Canoo has 'substantial doubt' about going concern as cash runs low," May 12, 2022, at: https://www.reuters.com/business/autos-transportation/ev-maker-canoo-has-substantial-doubt-about-going-concern-cash-runs-low-2022-05-10/.

4 Bloomberg. "Rivian Leads EV Slump After Investors Shun Money Losers." August 11, 2022 at: https://www.bloomberg.com/news/articles/2022-08-11/rivian-leads-ev-slump-as-investors-shun-money-losers-tech-watch.

5 CNBC. "Rivian rolls back big price increases on preorders after customer backlash," March 3, 2022, at: https://www.cnbc.com/2022/03/03/rivian-rolls-back-big-price-increases-on-pre-orders-after-customer-backlash.html.

6 The following narrative derives from numerous passages of the contract and exhibits between the State of Georgia, the four-county joint development authority, and Rivian, at: https://www.georgia.org/sites/default/files/2022-05/jda-rivian_-_economic_development_agreement.pdf

7 Provision 5.2 of the contract between the JDA, State, and Rivian: "Provisions Precedent to Closing," at (a)(ii): "The Project Site has been acquired by the State and the Facility Site has been leased to the JDA under the State Lease…"

8 The Georgia-Rivian agreement makes no secret of its use of this constitutional work-around: "In order to establish the bond-financed sale-leaseback structure that is necessary for the provision of certain of the incentives contemplated herein, including, without limitation, ad valorem property tax savings for the Project, the JDA shall issue the Project Bonds." Page 25 of the agreement.

9 See an exceptionally blunt and candid admission of this constitutional work-around from the Georgia Government Finance Officers Association at: https://ggfoa.org/press-releases/development-authorities-as-financing-vehicles-in-georgia

10 The gross value of the effective property tax abatement is $700 million, to be offset by $300 million in Payments In Lieu of Taxes, for a $400 million net abatement.

11 *Atlanta Journal-Constitution*. "Rivian deal a political wedge near future plant." May 19, 2022, at: https://www.ajc.com/news/rivian-deal-a-political-wedge-near-future-plant/WKNCOSW66JA2TDLXOYCNWJZBNI/

12 See https://no2rivian.org/about-us/

13 PETITION FOR WRIT OF CERTIORARI by Richard M. Haynes et al in Superior Court of Morgan County, June 21, 2022, at: https://no2rivian.org/wp-content/uploads/2022/06/Petition-For-Writ-Of-Certiorari.pdf

14 Morgan County Superior Court, State of Georgia, Civil Action File No. 2-22-SU-CA-128, ruling issued September 29, 2022.

15 See the two counties' FY21 Annual Comprehensive Financial Reports at: https://ted.cviog.uga.edu/financial-documents/sites/default/files//budgetdoc/financial-report/county-walton-fy2021-financial-report.pdf and at https://www.morgancountyga.gov/DocumentCenter/View/3232/FY-2021-Morgan-County-ACFR?bidId=. Oddly, the Morgan County School District reports no abatement losses, even though school districts are typically the biggest losers to abatements: https://www.audits.ga.gov/ReportSearch/download/28428. Walton County's Board of Education ACFR is not posted to the Georgia Department of Audits and Accounts website.

16 Re: $15 million from the Quick Action Closing Fund: this is a cash grant with a first installment of $3 million due after the company spends $48 million and completes 10% of the construction at the facility. So far no payments have been made, according to the state disclosure site, at: https://www.okcommerce.gov/reporting-compliance/

17 Brianna Bailey, "Land and millions of dollars for infrastructure are part of a deal to lure a startup electric car maker to Oklahoma," *The Frontier*, October 13, 2021; https://www.readfrontier.org/stories/land-and-millions-of-dollars-for-infrastructure-are-part-of-a-deal-to-lure-a-startup-electric-car-maker-to-oklahoma/

18 Brianna Bailey quote is taken from "Oklahoma's contract with electric car maker under fire" article by Brent Skarky in Oklahoma's News 4, Mar 15, 2022: https://kfor.com/news/oklahoma-legislature/oklahoma-governors-contract-with-electric-car-maker-under-fire/ The state contract details are from: Brianna Bailey, "Oklahoma officials waived competitive bidding to give EV startup Canoo a potentially lucrative statewide contract," *The Frontier*, March 14, 2022, at: https://www.readfrontier.org/stories/oklahoma-officials-waived-competitive-bidding-to-give-ev-startup-canoo-a-potentially-lucrative-statewide-contract/. In the contract with Walmart, Canoo agreed not to sell any vehicles to Amazon. (Walmart rival Amazon owns a large stake in Rivian.)

19 Rhett Morgan, "Sinking Canoo?; Electric vehicle maker, courted by Oklahoma, issues troubling financial report," The Daily Oklahoman, May 12, 2022. Via LexisNexis.

20 Bob Webster, "Canoo Pryor Delayed Again," The Pryor Information, July 1, 2022; https://www.pryorinfopub.com/news/

canoo-pryor-delayed-again/article_2e4f3e90-f903-11ec-8e01-6bf31c77ea2e.html

21 Dale Denwalt, "Walmart to buy Canoo EVs; Okla.-made vehicles for online order deliveries," The Daily Oklahoman, July 13, 2022. Via LexisNexis.

22 "Canoo reports loss of $164 million in second quarter," Tulsa World, August 8, 2022. Via LexisNexis.

23 Remarkably, the contract defines "total payroll cost" (i.e., the basis for the 10% calculation) to even include deferred compensation, flexible-spending benefits and voluntary retirement deferrals. House Substitute for SENATE Bill No. 347, page 4.

24 Kevin Hardy, "[Johnson County], De Soto and Kansas add millions more in incentives toward Panasonic battery plant." *Kansas City Star*, July 28, 2022, via Nexis. Thomas Friedstad, "De Soto approves TIF, setting the table for Panasonic's incoming megaproject," *Kansas City Business Journal*, July 22, 2022.

25 The APEX text and Kansas-Panasonic contract are in "House Substitute for Senate Bill No. 347," at: http://www.kslegislature.org/li/b2021_22/measures/documents/sb347_enrolled.pdf and in "Incentive Agreement Between the Kansas Department of Commerce And EV Battery Corporation of USA," signed by EV Battery Corporation of USA on July 12, 2022, and in "Attracting Powerful Economic Expansion Act, APEX Program; House Sub. for SB 347," by the Kansas Legislative Research Department, at: http://kslegislature.org/li/b2021_22/measures/documents/summary_sb_347_2022.pdf. See also Kevin Hardy and Katie Bernard, "'Shocking.' Kansas secures no jobs or pay commitments in Panasonic's $4B battery plant," *Kansas City Star*, July 25, 2022, via Nexis.

26 *Mass Transit*, August 15, 2022. "Bus manufacturing workers at New Flyer Facility in Jamestown form union with Communications Workers of America," at: https://www.masstransitmag.com/management/press-release/21277362/communications-workers-of-america-cwa-bus-manufacturing-workers-at-new-flyer-facility-in-jamestown-form-union-with-communications-workers-of-america .

27 Communications Workers of America, May 26, 2022. Bargaining Update, at: https://cwa-union.org/news/bargaining-update-201

28 See details on the U.S. Employment Plan history and successes at: https://jobstomoveamerica.org/resource/u-s-employment-plan-2/.

29 Jobs to Move America. "Major Electric vehicle manufacturer signs first multi-state agreement with community and civil rights group for equitable hiring and good jobs," press release, May 26, 2022, at: https://jobstomoveamerica.org/press-release/major-electric-vehicle-manufacturer-signs-first-multi-state-agreement-with-community-and-civil-rights-group-for-equitable-hiring-and-good-jobs/.

30 See details at: https://jobstomoveamerica.org/press-release/electric-bus-manufacturer-byd-motors-renews-landmark-community-benefits-agreement/.

31 Alexa Aispuro, Chispa League of Conservation Voters, June 23, 2022. "Environmental, Economic Justice Groups Urge Lion Electric to Negotiate Community Benefits Agreement Ahead of New Facility Opening, Electric School Bus Funding," at: https://chispalcv.org/%EF%BF%BC%EF%BF%BCenvironmental-economic-justice-groups-urge-lion-electric-to-negotiate-community-benefits-agreement-ahead-of-new-facility-opening-electric-school-bus-funding-led-by-the-members-of-a/

32 "March 31, 2022: NHTSA Finalizes CAFE Standards for MYs 2024-2026," at: https://www.nhtsa.gov/laws-regulations/corporate-average-fuel-economy.

33 See NHTSA press release dated March 31, 2020 at: https://www.nhtsa.gov/press-releases/us-dot-and-epa-put-safety-and-american-families-first-final-rule-fuel-economy.

34 National Conference of State Legislatures: "State Policies Promoting Hybrid and Electric Vehicles," April 26, 2022, at: https://www.ncsl.org/research/energy/state-electric-vehicle-incentives-state-chart.aspx. The report includes an interactive map that details all 47 states' plus DC's efforts.

35 U.S. Environmental Protection Agency press release, "Volkswagen Clean Air Act Civil Settlement," at: https://www.epa.gov/enforcement/volkswagen-clean-air-act-civil-settlement#investment.

36 Electrify America press release, June 28, 2022. "Electrify America Raises $450 Million — Siemens Becomes Minority Shareholder; Company Intensifies Commitment to Rapid Deployment of Ultra-Fast Charging," at: https://media.electrifyamerica.com/en-us/releases/190.

37 Josh Bivens, Economic Policy Institute blog, January 23, 2019. "Updated employment multipliers for the U.S. economy," at: https://www.epi.org/publication/updated-employment-multipliers-for-the-u-s-economy/

38 "Electrification May Disrupt the Automotive Supply Chain," by the Congressional Research Service, February 8, 2019, at: https://sgp.fas.org/crs/misc/IF11101.pdf.

39 Bloomberg. "Parts and service: the coming EV disruption that nobody's talking about." October 24, 2021, at: https://www.autoblog.com/2021/10/24/electric-vehicle-parts-service/.

40 Consumer Reports, September 26, 2020. "Pay Less for Vehicle Maintenance with an EV," at: https://www.consumerreports.org/car-repair-maintenance/pay-less-for-vehicle-maintenance-with-an-ev/.

41 University of Michigan Prof. Dan Crane maintains a pro-direct sales website at: https://profdancrane.com/direct-distribution/.

42 Connecticut Office of Legislative Services, 2019-R-0088, February 27, 2019. "Arguments for and Against Direct Sales by Motor Vehicle Manufacturers," at: https://www.cga.ct.gov/2019/rpt/pdf/2019-R-0088.pdf.

43 For more on the rich history of the United Auto Workers' pro-environmental advocacy, and the significance of EV developments, see: Ramón Cruz and Cindy Estrada, October 5, 2022 in *Nonprofit Quarterly*. "[Bargaining for the Common Good's] New Frontier: Autoworkers and the Environmental Movement," at: https://nonprofitquarterly.org/bcgs-new-frontier-autoworkers-and-the-environmental-movement/. See also the UAW's useful primer on changes the rise of EVs will bring to the industry at: "Taking the High

Road: Strategies for A Fair EV Future," UAW Research Department, 2019, at: https://uaw.org/wp-content/uploads/2019/07/190416-EV-White-Paper-REVISED-January-2020-Final.pdf.

44 Timothy Minchin. *America's Other Automakers: A History of the Foreign-Owned Automotive Sector in the United States*. University of Georgia Press, 2021.

45 Greg LeRoy, Good Jobs First blog. "In Volkswagen Union Vote, Conservatives Declare Open Season on Free Markets." February 17, 2014, at: https://goodjobsfirst.org/volkswagen-union-vote-conservatives-declare-open-season-free-markets/.

46 To learn about the 85-year development of the United States' tax break-industrial complex, see chapters 2 and 3 of *The Great American Jobs Scam: Corporate Tax Dodging and the Myth of Job Creation*, (Berrett-Koehler, 2005), by Greg LeRoy, at: https://goodjobsfirst.org/gajs/.

47 Greg LeRoy and Kenneth Thomas, "Lessons for the U.S.: How the EU Controls Bidding Wars for Jobs and Investment," *Shelterforce*, June 18, 2019, at: https://goodjobsfirst.org/lessons-us-how-eu-controls-bidding-wars-jobs-and-investment-2/.

48 Good Jobs First, February 2019, "Ending the Economic War Among the States," at: https://goodjobsfirst.org/ending-economic-war-among-states/.

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OCTOBER 2022