

Fleet Infrastructure Vision for EV Recharging (The FIVER) *for NJ*

Rapid Post-Pandemic Engagement of NJ's Skilled Workforce into the Electric Fleet Transformation

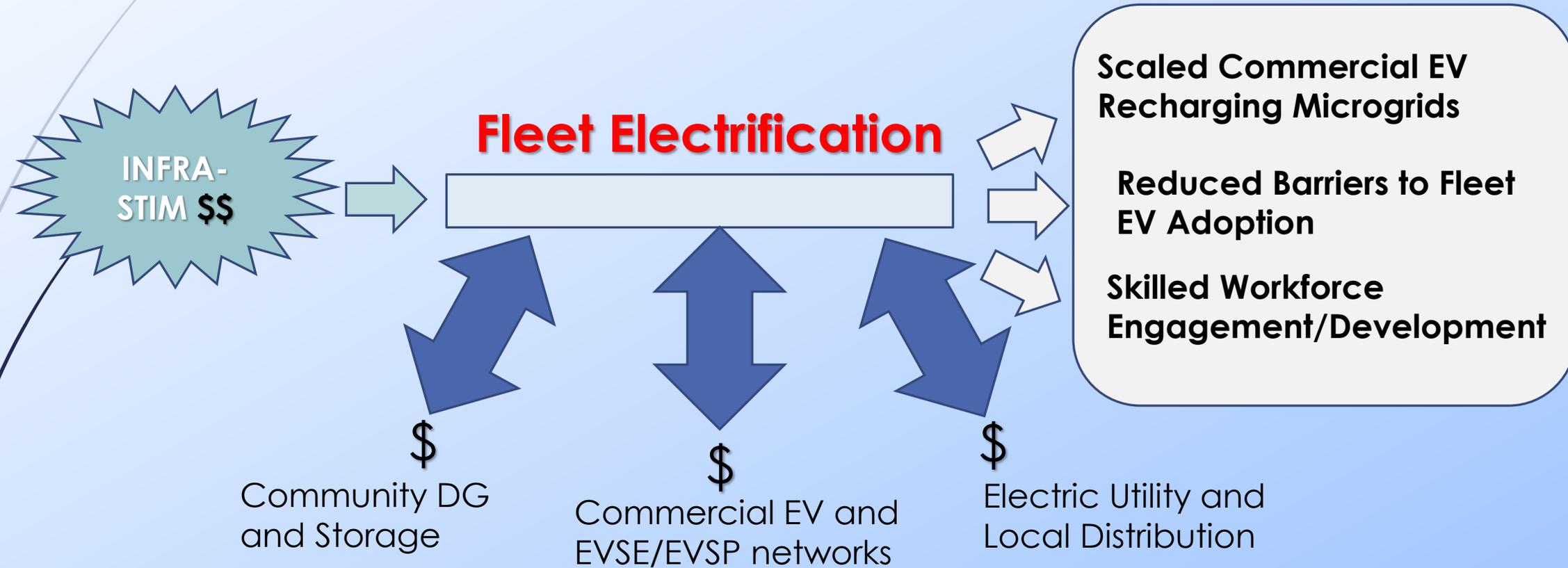
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- Put **\$5M** of federal funding to work by the start of 2021, attracting equivalent matching private capital.
- Put **5 %** of pandemic-displaced union workers back to work by EOY21
- Enable the initial conversion of **500** fleet vehicles to electric drive
- Create **5** initial microgrid-based prototype fast charging facilities

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The **FIVER** Focus

Drive an *actionable* energy jobs creation program with **coherence and focus** on the highest yielding** recovery and stimulus opportunity available to our post-pandemic NJ economy



** based on # of full time jobs created versus traditional electric utility programs

Go With the Flow, BUT **GO FAST**

Align the focus to already started initiatives in transportation and energy that bring synergistic and scalable cross-benefit solutions, and get people engaged quickly.

- ▶ NJ had **already been making great strides** in both electric transportation and energy policy reformation through initiatives such as the Energy Master Plan, TC-DER Microgrid Program, TREC Evolution (need name), and EV Bill (need name)
- ▶ The coronavirus pandemic has painfully exposed the many **brittle** facets of our legacy-driven centralized, extractive, and wasteful industrial **business models** that clearly need reform. Now is the window of opportunity and the political will to back it.
- ▶ Electric Utilities sought rate basing investment for EV Infrastructure but have recently been rebuffed in favor of market driven solutions. Utilities derive additional revenue from EV load growth and have rate basing paths with this.
- ▶ Virtually all manufacturers of commercial vehicles have launched programs to build electric versions. This emerging sector includes transit, school, and shuttle buses; heavy, medium and light duty *trucks*; passenger cars (i.e., taxis)
- ▶ The Board and Advisory – People and roles – facilitate a rapid alignment of goals and reduction of collaboration barriers.

Realize **IMMEDIATE** Benefit

Develop a tactical action plan for the **NJ Reopening and Recovery Advisory Council** on efficient capture and maximum leverage of stimulus money coming for our economic restart.

- ▶ Government funding would accelerate the build out of the charging infrastructure required to electrify fleets while remaining coherent to grid modernization and decentralization efforts currently underway. Put simply, a substantial investment in commercial fleet recharging infrastructure now would achieve the following important goals that strongly align with New Jersey's primary and urgent initiatives:
- ▶ Immediately engage a largely idled "remote" workforce of utilities, governments, and transit agencies into valuable planning activities that apply off the shelf technologies for shovel ready projects improving the operational competitiveness of multiple industry segments.
- ▶ Fast track these largely outdoor essential construction projects to receive focused and expedited site preparation, utility interconnection, and equipment ordering. **START WORKING!**
- ▶ Build workstreams that are highly immune to potential future lockdowns driven by a second or third wave of the COVID-19 epidemic. Start workforce training and certification programs.
- ▶ Remove (or at least reduce) the "chicken and egg" barrier to starting on electric drive transformation decisions by fleet owners and managers.
- ▶ Show significant progress toward decarbonizing the transportation segment (Strategic Goal #1 from the Energy Master Plan)
- ▶ Build highly distributed islands of community energy resilience in preparation for future public emergencies.(ie Sandy II, Cyber-attack, or COVID-22)
- ▶ Open productive and fair paths for utility business model transformation that engages broader community risk and reward options, and reduces wealth extraction through shareholder profit draw.

Motivating **CHALLENGES**

- ▶ Pandemic response has decimated the US economy and created a **Jobs Emergency** and exposed the desperate need for coordinated leadership
- ▶ Slow pace of financing for distributed grid edge infrastructure including DERs, electric vehicle charging infrastructure, on-site building management systems and 'smart' assets, devices, appliances
- ▶ **Energy** (and **Transportation**) are two highly politically scrutinized industries, innovation and disruption is constrained by incumbent interests
- ▶ New market entrants face high costs and high barriers to entry
- ▶ The pace of electrification, access and efficiency/productivity needs to accelerate to meet climate change targets
- ▶ Customers today cannot 'decarbonize' their transportation fuel without tight collaboration from the electricity sector and long delays on grid upgrade and interconnection.

The *PLAYERS* at the Table

► Utilities

Utilities have historically been stable job creators for NJ, but do not proactively drive any disruptive innovation that would upset the often conflicting balance of maximizing shareholder payout and driving more efficient or market driven energy system solutions.

► Unions

Good union jobs have been the foundation for the economic stability of NJ middle class for decades, and these have been gradually displaced as our manufacturing and service sector has faced international and regional competitive pressure. Skills and trade education and advancement opportunities have also been limited.

► Universities

Universities have become change agents that can effectively collect, model, and analyze data revealing significant trends, and best practice solutions to emerging threats and opportunities.

► EV/EVSE Manufacturers

This area is important to assure that the latest trends in vehicles and recharging interconnection standards are reflected so that developed solutions and recommended practices and policy change do not depart from practical implementation.

► Industry Associations

TBD

► Energy Solution Consulting

Consultants bring expertise from a variety of technical fields as well as regional jurisdictions that can introduce shared learning opportunity. These also represent a potentially independent facilitator role to ensure balanced input and timely delivery of work product for the group.