

national**grid**

# Accelerating fleet electrification with utility advisory programs



# Utilities are key partners to plan for the electric fleet transition.

Utilities across North America, including National Grid, are actively supporting their customers in fleet electrification initiatives. They facilitate these efforts for various reasons, such as helping customers achieve decarbonization targets, improving the economics of fleet operations, enhancing local air quality, and better planning and support for necessary infrastructure deployments.

**Utilities are a natural partner for public and private fleet operators, as they understand the grid impacts of adding the large load an electrified fleet often represents. And utilities need to be engaged early to ensure that grid infrastructure is upgraded to reliably handle the charging needs of many electric vehicles (EVs).**

Fleet electrification advisory programs are becoming a staple program model to engage large and small fleets, including business, municipal, school, transit, and government customers.

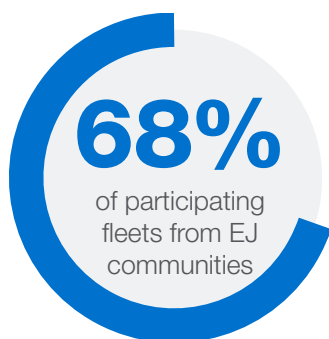
While many utilities are in the early stages of creating fleet-focused programs, National Grid has been actively supporting customer fleet electrification assessments for many years. Our Massachusetts fleet advisory services program has delivered comprehensive fleet assessments to more than 150 public and municipal fleets to help those customers develop a roadmap toward electrification, evaluating more than 11,000 vehicles. The experience of conducting more than 150 different fleet electrification assessments has provided us, along implementation partner ICF many lessons learned critical to guiding our future electrification support efforts and can help other utilities that are considering or moving forward with similar program models.

For example, National Grid initially had a 30 percent goal of engaging and supporting environmental justice fleets; **ultimately, about 68 percent of fleets participating in our program were from environmental justice communities.**

This white paper highlights the benefits of fleet electrification, the fleet operator process from start to finish, results from our program, and how to get started by engaging with your utility early.



## Results from Our Fleet Advisory Services Program to Date



**>11,000**

on-road vehicles assessed

**159**

fleet assessments have been provided through June 2025

# Benefits of fleet electrification



## Operations and maintenance cost reduction

EVs lower operations and maintenance costs. They're more efficient, less expensive to fuel, and require less maintenance over time, lowering the Total Cost of Ownership (TCO) for many use cases.



## Emissions reduction

Fleet vehicles have both lower efficiency and more miles traveled leading to a disproportionate impact on greenhouse gas emissions (CO<sub>2</sub>) and particulate matter pollution (PM<sub>2.5</sub>). Medium- and Heavy-Duty Vehicles (MHDVs) in particular are a huge opportunity: they are only ~10% of the vehicles on the road, but ~1/3 of the CO<sub>2</sub> and ~2/3 of the PM<sub>2.5</sub> air pollution.



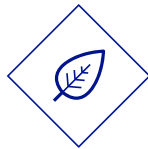
## Financial incentives available

EVs can be supported through utility, state, and federal programs, and utility or state programs can provide potentially supporting >40% of the total project costs. Utility advisory programs can provide fleets with project guidance and connect them with the applicable incentives and programs best suited for them.



## Driver and passenger experience

Electric engines provide smooth acceleration, deceleration, and a quiet ride, leading to a safer, more comfortable experience. Quieter, smoother rides can increase health and satisfaction for both drivers and passengers. Reducing noise pollution improves the driving experience for drivers and passengers, as noise has been found associated with stress, poorer sleep, impaired cognitive performance, and an increase in cardiovascular challenges.<sup>1</sup> Further, the smoother ride of EVs can reduce whole-body vibration from a vehicle, which can lead to physiological challenges and pain.<sup>2</sup> Battery packs also lower the center of gravity, with better handling and responsiveness, reducing the risk of roll-over in a collision.



## Air pollution and health

According to the American Lung Association, diesel exhaust is attributed to impaired brain development, lower test scores, respiratory diseases such as asthma, and cancer. EVs don't have tailpipe emissions, which means cleaner air for your drivers, staff, and local community. For drivers, the health benefits are significant—drivers are no longer exposed to pollutants like particulate matter and nitrogen oxides that are linked to cardiovascular disease and respiratory problems.

### Vehicles in Operation:

MHDVs are a small slice of the fleet

**10%**

of all vehicles  
on the road are  
MHDVs

### CO<sub>2</sub> Contribution:

MHDVs are significant

**1/3**

of total CO<sub>2</sub>  
emissions comes  
from MHDVs

### PM<sub>2.5</sub> Pollution:

MHDVs are the large majority

**2/3**

of PM<sub>2.5</sub> air pollution  
originates from  
MHDVs

<sup>1</sup> Environmental Noise and the Cardiovascular System, Journal of the American College of Cardiology, February 2018.

<https://www.sciencedirect.com/science/article/pii/S0735109717419309?via=ihub>

<sup>2</sup> A Review on Vibrations in Electric and Hybrid Electric Vehicles, Journal of the Institution of Engineers (India), February 2023.

<https://link.springer.com/article/10.1007/s40032-023-00930-3>



# The fleet electrification journey: supported by utility programs

Utility fleet EV programs are designed to guide and support organizations through the entire electrification journey, from initial planning to realizing long-term cost savings.

## Phase 1



### Planning

Laying the groundwork and strategic decisions.

- Finding a utility point of contact
- Planning EV / EVSE adoption (e.g. a Fleet Advisory Services Program)
- Flexible connections

## Phase 2



### Infrastructure

Building out the necessary charging and vehicle capabilities.

- Infrastructure Make-Ready Programs
- EV charger rebates
- Vehicle rebates

## Phase 3



### Operating Cost Savings

Maximizing efficiency and financial benefits post-deployment.

- Demand charge reduction solutions
- Managed charging systems
- Off-Peak rebates
- Vehicle-to-Grid

# Benefits of planning and early utility engagement

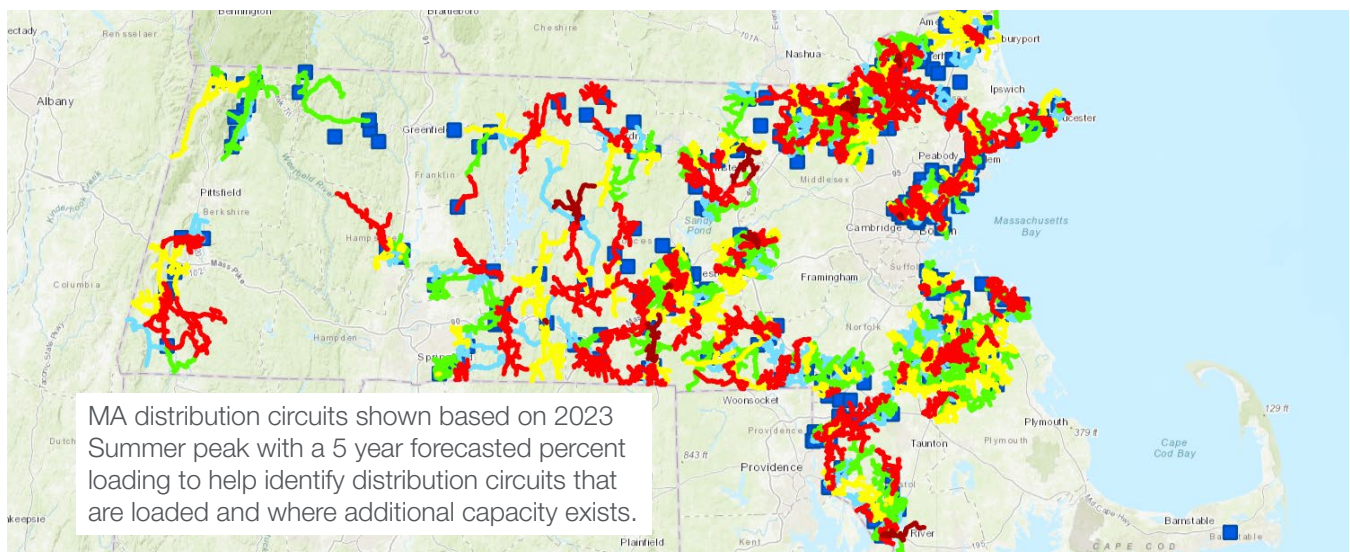
Electrifying a fleet of trucks or buses can require significant levels of grid capacity — even as much as large buildings or industrial sites. Grid capacity can sometimes be insufficient, especially since fleets tend to cluster. This is part of the natural expansion of the electric grid, but it does require engagement with your utility.

**Fleet operators have many tools available to help with the planning process:**

- **System data portals for grid capacity data:**
  - National Grid’s MA Example:  
[nationalgridus.com/Business-Partners/MA-System-Portal](https://nationalgridus.com/Business-Partners/MA-System-Portal)
- **“Step 0” or desktop reviews:**  
Many utilities offer a short turn around desktop review. For example, in National Grid territory customers can initiate a capacity request and receive a review in approximately 2 weeks.

**More than 60% of MA Phase 3 distribution feeders have at least 500 kW of available capacity.**

*National Grid’s MA System Capacity Portal*



Source: [nationalgridus.com/Business-Partners/MA-System-Portal](https://nationalgridus.com/Business-Partners/MA-System-Portal)

**New National Tool for fleets (coming soon): EPRI’s GridFAST portal**

This new tool will simplify the EV project initiation process for fleets with many sites.

## Here’s how GridFAST works at each project stage



### Project Input

Customers will gather essential project information to prepare for early communication with utilities about EV charging projects.



### Utility Match

GridFAST will vet customer information and match them to the appropriate utility. Customers will later receive tailored advice from a utility advisor.



### Capacity Information Exchange

GridFAST will provide a secure channel for communication between customers and utility representatives to address the next steps and refine projects as needed.



### Preparation for Service Request

Customers will finalize project information with the utility for a service request submission.



### Initiate Service Request

Customers will submit a service request to the utility. At this point, the utility will work with the customer to energize their project.

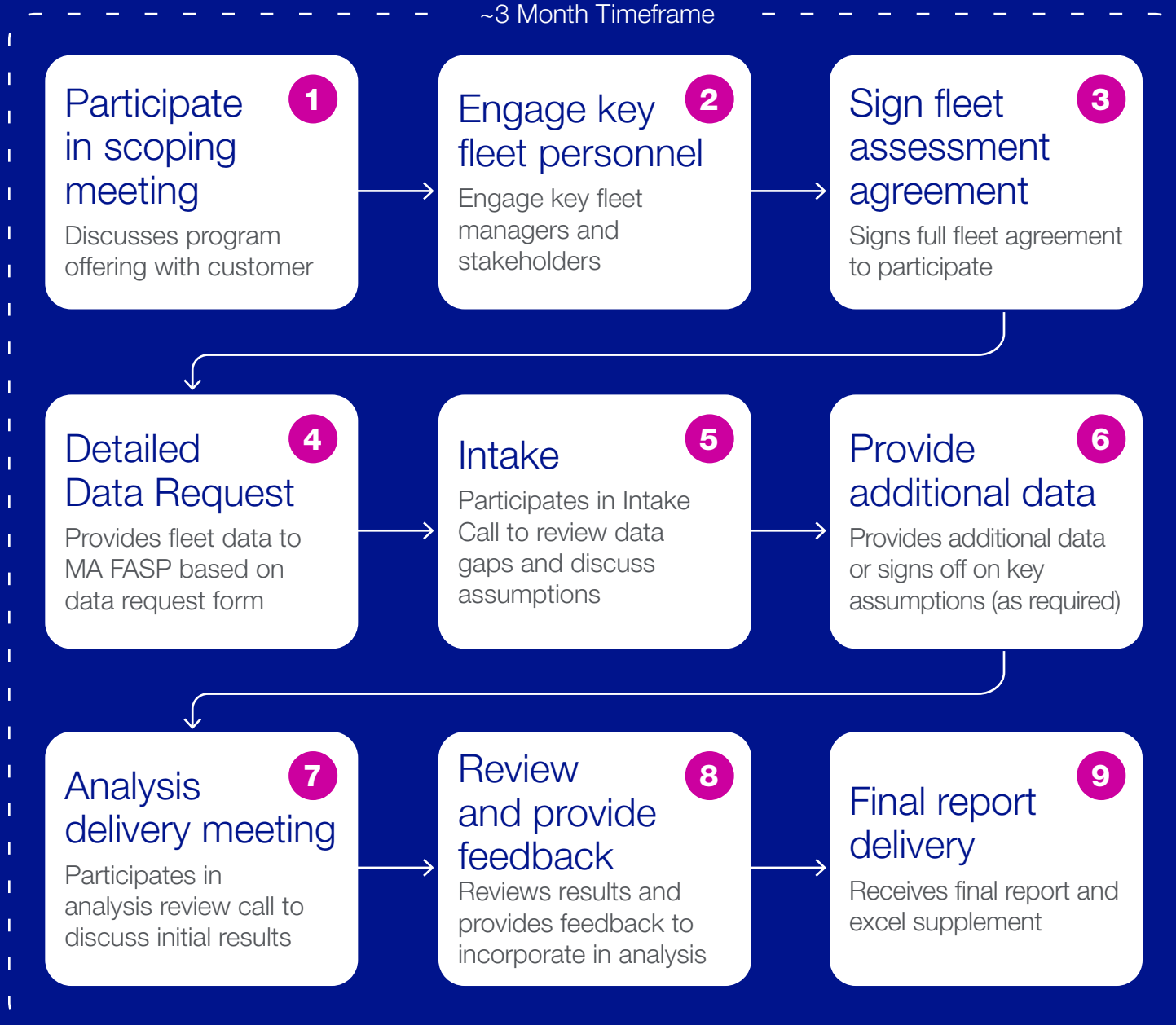
# Details of the National Grid Fleet Advisory Services Program (FASP)

When public fleet customers express interest in MA FASP, they are guided through the scoping and intake processes by their designated MA FASP Account Manager. These Account Managers serve as the primary point of contact for prospective customers, assigned from the initial customer interaction.

They then proceed through this journey on the right, request and receive a review in approximately 2 weeks. Learn more about the National Grid FASP here: <https://fleetadvisoryma.nationalgrid.com/>

## FASP Scoping and Intake Processes

~3 Month Timeframe



Following initial report, customers receive ongoing semi-annual analysis updates / fleet conversion check-ins

# How to reach out to your utility

There are many options for fleets to get started today. Explore the resources available below, or reach out to your local utility as soon as possible.

- EV Fleet Hub  
[nationalgridus.com/ev-fleet-hub/](https://nationalgridus.com/ev-fleet-hub/)
- EEI database of FASP programs  
[eei.org/en/issues-and-policy/electric-transportation/evprograms](https://eei.org/en/issues-and-policy/electric-transportation/evprograms)
- Investigate your utility’s website for EV Points of Contact
- EPRI GridFAST portal  
[gridfast.com/about?url=home](https://gridfast.com/about?url=home)

## Results from Our Fleet Advisory Services Program to Date<sup>1</sup>

### Assessments & Vehicles Evaluated

**157**

Assessments  
Completed

**>11k**

On-Road  
Vehicles Assessed

### EVs Recommended (TCO<sup>2</sup> Positive)

**>7k**

EVs  
Recommended

This represents a

**~63%**

TCO Positive

### Recommendation Rates by Vehicle Type

LDVs<sup>3</sup>

**~69%**

TCO Positive

MHDVs<sup>4</sup>

**~56%**

TCO Positive

### Lifetime TCO Savings

**~\$350 Million**

in Lifetime Total Cost of Ownership Savings

### GHG<sup>5</sup> Emission Reduction Potential

**>1 Million Metric Tons**

of GHG Emission Reduction Potential

<sup>1</sup> Results through June 2025

<sup>2</sup> Total Cost of Ownership

<sup>3</sup> Light-Duty Vehicles

<sup>4</sup> Medium- and Heavy-Duty Vehicles

<sup>5</sup> Greenhouse Gas