Executive Summary

The Genesee-Finger Lakes Regional Fleet Electrification Feasibility Study is a strategy for advancing fleet electrification in the nine-county region. This study provides information on the economic, operational, and environmental benefits of fleet electrification; identifies challenges and opportunities; and offers insights on how fleet managers can begin the electrification process. The goal of this study is to provide a "roadmap" for fleet managers and other regional stakeholders to follow when beginning the fleet electrification process. This study seeks to demystify the fleet electrification process by relating best practices, discussing why fleet managers are undertaking this process, explaining how technical and policy challenges were overcome, and identifying potential funding opportunities to offset the costs of fleet electrification.

The Fleet Electrification Feasibility Study is divided into five (5 sections):

1. Introduction to fleet electrification in the Genesee Finger Lakes Region
2. Economic and workforce development
3. Case studies
4. Recommendations
5. How-To Guides and Resources

The US Department of Energy characterizes all–electric vehicles (EV) as vehicles that have an electric motor instead of an internal combustion engine (ICE). The vehicle uses battery technology to power the electric motor and must be plugged in to a wall outlet or charging equipment, also called Electric Vehicle Supply Equipment (EVSE). Because it runs on electricity, the vehicle emits no exhaust from a tailpipe and does not contain the typical liquid fuel components, such as a fuel pump, fuel line, or fuel tank. Whether driven by state or federal mandates to reduce emissions, the need to balance budgets by lowering operating and fuel costs, a desire to reduce environmental impacts, or simply trying to get ahead of the transition to EVs, fleet managers are increasingly interested in electrifying their fleets. The decision of whether to electrify a fleet is dependent on an individual fleet's operational needs. Public transit, school bus, municipal, and organizational fleets can benefit from electrification through lower vehicle operating, maintenance, and lifecycle costs. When it comes to fleet electrification, local government agencies and companies have a unique opportunity to lead by example.

New York has made considerable progress in reducing greenhouse gas (GHG) emissions; since 1990 GHG emissions have fallen by 13%, and most of New York's GHG reductions have come from the electricity sector. While this progress is substantial, significantly more action is needed to reach an 85% reduction in GHG by 2050, and 70% renewable energy by 2030 as set by the Climate Act. This progress can be supported by the widespread use of electric vehicles. New York State has more electric vehicle registrations and public charging stations per capita than most states; and the nine county Genesee Finger Lakes Region has almost 6,500 registered EVs and over 200 public charging stations.

Section 2 provides an overview of state and region-wide progress that will support the momentum needed in growing the energy sector economy and outlines the current workforce and economic development conditions in the region.

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Despite economy-wide job losses due to the COVID-19 pandemic, employment in New York State's alternative fuel sector climbed, seeing job growth by almost five percent largely driven by hybrid electric and electric vehicle sub-technologies. Alternative transportation supply chain industries have heavy concentrations of establishments and employment in the Genesee Finger Lakes Region, specifically in Monroe County and Erie County to the west. These industries are poised to grow during the next few years.

To grow the alternative fuel and EV sectors the following commitments were deemed necessary from regional workforce development partners:

- Work with businesses to ensure that their jobs are good jobs and can be long term careers.
- Connect prospective workers with opportunities to train for those good jobs.
  - Recruit in underserved communities
  - Recruit youth
- Provide necessary support to help prospective workers to succeed in training for and to retain and advance in those jobs.
- Regional partners will need to support businesses by helping them to overcome any barriers to equitable treatment of their workers, including any artificial barriers in the hiring and advancement of their workers.

The transportation sector is the largest contributor to GHG emissions in the U.S. disproportionately impacting low-to-moderate income (LMI) and minority communities. To meet the state's decarbonization goals, more work will need to be done to ensure equitable access to electric vehicles. Electric vehicles and infrastructure growth can be an opportunity to support the region's disadvantaged communities and stimulate the economy with EV related tourism.

Tourism is an important industry that drives economic development in the region. In 2019 tourism was a $3.3 billion industry, but due to the pandemic, visitor spending in the region plummeted 40% in 2020. This has caused much of the region to refocus and recraft critical messaging centered around the products and residents of their own communities and promoting the region to those who are within a five-hour driving market. Pulling from the five-hour driving market opens the region to expanding its electric vehicle infrastructure to attract additional guests to local communities and to downtown businesses. If people know that they can charge their vehicle in your community, they will stop to shop, eat, take in the natural scenery, and stay overnight in a local hotel. Charging station infrastructure will increase the exposure within community as guests, media, and prospective residents notice charging stations and the community's commitment to the goals of the Climate Act.

In Section 3 case studies from Fairport Electric, the City of Rochester, and Rochester Genesee Regional Transit Authority (RGRTA) are provided. These partners share their experiences as they have transitioned to electric vehicle fleet vehicles. They have indicated that they had positive experiences in adding electric vehicles to their fleets. Long term strategic planning is necessary to determine an effective strategy for fleet electrification and potential future buildout. Fleet managers need a very clear understanding of how their current vehicles are used, how far they travel, and under what conditions they must operate, before introducing electric vehicles. Long-term strategic planning for electric vehicles should include ways to engage with the community and publicize

the benefits of fleet electrification. Publicizing the community benefits of electrification may encourage private citizens to become interested in EVs for their own use. Most importantly, the case study partners indicated that fleet managers looking to transition to electric vehicles must be patient and open minded. This new equipment will work differently and there may be different ways agencies can use this equipment to meet their needs.

Section 4 describes policy, design and implementation recommendations that should be taken at each level of government, (federal, state, and local) to support the switch to electric vehicles and make the 2020s the decade of transition to electric vehicles. Section 5 provides step by step guidance to support The fleet electrification process provides a list of resources available.

Making the transition to electric vehicles will not only ensure New York can achieve the goals of the Climate Act but will also ensure that we reduce emissions, improve air quality, and see reduced operational costs. To see the full circle of benefits that electric vehicles and other alternative fuel sources can provide federal, state, and local policies will need to be updated and future proofed. Municipalities, developers, community planners, architects and engineers will all need to develop design standards that accommodate EVs and other alternative fuel transportation.