

# Clean Mobility Career Pathways Report

2025 EDITION

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As Michigan leads the nation in clean vehicle growth, new career opportunities are opening across the automotive and fuel industries. This report explores technical and entry-level pathways that will shape the future of mobility and power the state's clean energy transition.



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Clean Fuels Michigan is a statewide trade association for the alternative fuel and electric vehicle industries. We are dedicated to advancing clean fuels in the state that put the world on wheels. [Contact us](#) for more information about joining the association or to get involved. Clean Fuels Michigan members contributed to this report through the Workforce Development Member Work Group.

The Michigan Clean Fuels Institute is a nonprofit organization dedicated to clean mobility research, education, and initiatives in Michigan.

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## INTRODUCTION

As Michigan's automotive industry undergoes a shift toward clean vehicle technology, a wide array of new career opportunities is emerging across the industry. This report explores key technical and entry-level career pathways in the electric vehicle and alternative fuel industries, from manufacturing and infrastructure installation to maintenance and repair. These roles offer accessible entry points for individuals to contribute to the state's clean transportation future, often without requiring extensive formal education.

Recognized for its rich automotive legacy, Michigan stands at the forefront of the transition to clean mobility. With a deeply rooted automotive history, Michigan boasts a highly skilled workforce ready to adapt to the demands of clean mobility. In 2024, Michigan ranked second nationally for the number of people employed in the clean vehicle sector, with [31,000 Michiganders working in the field](#). The number of clean vehicle jobs in Michigan grew by more than 10% between 2023 and 2024, making it one of the fastest-growing job markets in the state. As Michigan advances toward ambitious transportation decarbonization goals and deployment of EVs and alternative fuels continues to grow, so does the need to attract, train, and support a diverse workforce equipped to power the clean mobility transition.

This updated report builds on Clean Fuels Michigan's first [EV Career Pathways Report](#) released in 2024. This update expands the report in scope to reflect the evolving demands of the clean transportation workforce. Version 2.0 includes:

- New and emerging career profiles in alternative fuels
- Updated training and certification pathways
- Updates to industry-led workforce initiatives
- Industry data to reflect the alternative fuels landscape in Michigan

The careers outlined in this report not only present long-term opportunities for individuals to establish themselves in the clean mobility ecosystem but also serve as a stepping stone for further career advancement and upskilling. As the demand for clean vehicles continues to rise, so too does the need for skilled workers to manufacture, maintain, and innovate within this rapidly evolving industry. **This report highlights the diverse pathways available to individuals seeking to enter this dynamic and impactful field, ultimately fostering a skilled workforce poised to drive the future of mobility forward.**

## CLEAN MOBILITY CAREERS



### Electric Vehicle Technician

EV Technicians inspect, maintain, and repair automobiles that run on electricity. They plan and perform basic car maintenance and vehicle repairs. The job of automotive service technicians and mechanics has evolved from simple mechanical repairs to high-level technology-related work. Integrated electronic systems and complex computers regulate vehicles and their performance on the road. Fixing problems with these systems requires workers to use computerized shop equipment and work with electronic components as well as traditional hand tools.

#### Required Education:

Training typically begins in high school or a postsecondary vocational school or community college. Certification from the National Institute for Automotive Service Excellence (ASE) is usually required to work for larger repair shops or at dealerships. Formal education programs can last from a few weeks of on-the-job training to a 2-year associate's degree. On-the-job training is necessary before a worker can begin to work independently. It typically takes 2 to 5 years of experience to become a fully qualified automotive service technician through ASE.

#### Training Programs Available:

Programs, such as the National Alternative Fuels Training Consortium (NAFTC), have been developed to train workers on a wide variety of skills needed to work on electric or alternative fuel vehicles. NAFTC provides curricula and training to secondary and postsecondary students studying automotive technology as well as automotive technicians who are already working in the field. Typical training programs on servicing electric vehicles take about 16 weeks to complete.

#### Career Outlook:

The demand for automotive mechanics and technicians is expected to grow more modestly than other careers in clean mobility, with only [2% growth expected through 2030](#). However, given the significant differences between electric vehicles and traditional vehicles, there is expected to be significant growth in the demand for technicians with expertise in servicing and maintaining EVs. EVs have unique maintenance requirements and diagnostic procedures, necessitating specialized training and expertise. Workers with this expertise will be in increasing demand as more drivers switch to EVs.

## CLEAN MOBILITY CAREERS: Electric Vehicle Technician



### MEMBER HIGHLIGHT:



Clean Fuels Michigan member **Legacy EV** provides various educational offerings to individuals, institutions, and businesses to provide training on EV fundamentals to prepare the next generation of technicians with the skills and knowledge necessary to service and maintain the growing number of EVs on the road. Legacy EV's programs include virtual and in-person options, including High Voltage Safety Training and a 5-day EV Fundamentals Certification Bootcamp where participants wire, program, commission, tune, and practice fault finding in various EV systems using fully functional EV training benches. Participants in the program earn industry-recognized credentials and certifications with Legacy EV training programs.

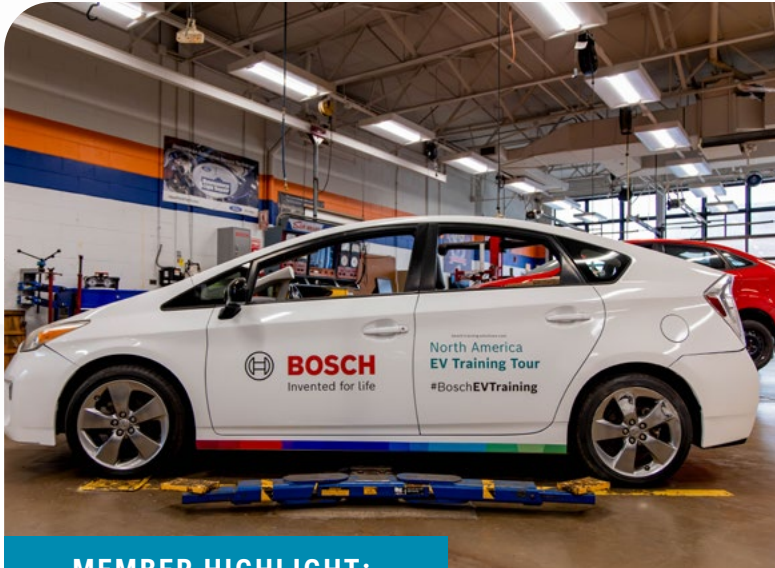
In addition to these core offerings, Legacy EV recently launched a fully virtual [Level 2 High Voltage Safety Certification Series](#). This four-part live training builds on Level 1 Safety Awareness and is designed for workforce and industry professionals to practice creating electrically safe work conditions, performing zero voltage verification, and conducting advanced diagnostic tests such as bonding and insulation resistance. Its virtual, modular format makes it a flexible resource for both workforce and academic settings, ensuring accessibility without compromising rigor.

Legacy EV also offers three educational programs—[Intro to E-Mobility](#), [EV Tech](#), and [EV Build](#)—which use product-agnostic curriculum and training for educational institutions interested in electrifying their automotive programs. Included with each program is instructor training, turnkey curriculum, tools, and PPE. These programs teach students the foundations of EV fundamentals and high voltage safety, ensuring they have the knowledge and skills needed to work safely as an EV technician.

### Resource Links

- [Intro to E-mobility](#)
- [EV Tech](#)
- [EV Build](#)
- [Level 2 High Voltage Virtual Safety Training](#)

## CLEAN MOBILITY CAREERS: Electric Vehicle Technician



### MEMBER HIGHLIGHT:



Clean Fuels Michigan member **Bosch** and the [Bosch Technician Training Academy](#) offer a comprehensive EV/Hybrid Training Program designed to prepare technicians for the rapidly evolving world of electric vehicles. Through a combination of seminars, webcasts, online modules and in-person training, the program builds a strong foundation in EV/Hybrid safety, diagnostics and repair. The structured pathway takes learners step by step, from safety awareness to mastering advanced high-voltage systems, ultimately leading to receiving a Bosch Master EV/Hybrid Technician Certification.

A highlight of this program is the [Bosch EV Training Tour](#), a hands-on one-day course that brings real-world EV training directly to technicians, colleges, and business partners across the country. In this immersive class, participants cover electric motor principles, AC/DC and DC/AC conversion, battery technology, onboard safety systems and workplace safety protocols, including PPE requirements and high-voltage hazard awareness. The training also focuses heavily on essential maintenance and troubleshooting diagnostics, equipping technicians with practical skills they can apply immediately in the workshop.

With both online and in-person options available, Bosch ensures that training is accessible and flexible to meet the needs of today's technicians. Anchored in North America's automotive hub of Detroit, Michigan, Bosch is a trusted partner to the shop and leverages its local expertise and global network to deliver world-class training that meets the demands of the industry. This multi-phase program is designed to build confidence and expertise at every level, empowering technicians to safely and effectively service the next generation of vehicles while positioning their shops for long-term success in the evolving automotive landscape.

## CLEAN MOBILITY CAREERS



### Propane Vehicle Technician

A propane vehicle technician is responsible for the maintenance, repair, and installation of propane-powered vehicle systems. Technicians apply traditional automotive repair skills while also specializing in propane fuel systems, ensuring that vehicles operate safely and efficiently. Their work includes diagnosing fuel system issues, performing routine maintenance, and following special safety protocols for handling propane fueling systems. As more fleets adopt propane vehicles for their lower emissions and cost savings, demand for skilled technicians in this field is growing.

#### Required Education:

Propane vehicle technicians typically begin with a high school education and a foundational background in automotive technology. Many enter the field with prior experience as automotive technicians, often gained through work experience, an associate degree, or other certification in automotive technology. Specialization in propane fuel systems typically comes through hands-on experience, apprenticeships, or entry-level technician roles focused on alternative fuel vehicles. Additional training in propane safety and fuel system handling is often provided by employers, manufacturers, or technical programs.

#### Training Programs Available:

Prospective workers seeking to specialize in propane vehicle systems have access to several industry-recognized training programs. Notable options include the Propane Autogas Vehicle Training Program from the National Alternative Fuels Training Consortium (NAFTC) and the Certified Employee Training Program offered by the Propane Education and Research Council (PERC). These trainings provide industry-standard curriculum focused on propane safety, fuel system installation, and diagnostics. In addition to these in-person training programs, various online training courses and workshops are available. Training durations can range from as short as a one-day workshop to several weeks for more in-depth, hands-on training.

#### Career Outlook:

Propane is gaining traction as a cleaner, more cost-effective fueling option for medium- and heavy-duty fleets. As the number of propane vehicles increases, so does the demand for skilled technicians trained in propane vehicle systems. In Michigan alone, there are more than 10,000 propane vehicles currently in operation, with that number rising each year as more fleet operators make the switch. This growing adoption creates stronger job prospects for technicians who can install, maintain, and repair propane fuel systems, positioning this role as an essential part of the state's clean mobility workforce.

## CLEAN MOBILITY CAREERS: Propane Vehicle Technician



### MEMBER HIGHLIGHT:

## ROUSH<sup>®</sup> CLEANTECH

Clean Fuels Michigan member **ROUSH CleanTech** offers industry-leading training programs for technicians working on propane-powered vehicles. The CleanTech Factory Technician Workshop is a two-day, in-person training session that combines classroom learning with extensive hands-on practice. Participants gain a comprehensive understanding of propane fuel properties, shop safety, and fuel system assembly through guided facility tours and practical exercises. Training includes removing and installing fuel system components and using the Roush Diagnostic Tool in service scenarios.

ROUSH CleanTech also offers an Autogas Academy, a full-day program designed to turn participants into “propane Autogas experts.” This course covers the Roush manufacturing process, propane Autogas as a fleet fuel, maintenance best practices, and the financial and operational benefits of switching fleets to propane. Attendees learn how to operate and maintain a propane-powered school bus, maintain fuel systems, and calculate potential return on investment. Participants receive a certificate of completion at the end of the course. Together, these training opportunities equip technicians with the technical skills, safety knowledge, and industry-led curriculum to excel in servicing and operating propane-powered vehicles.

## CLEAN MOBILITY CAREERS



### Electric Vehicle Supply Equipment Technician

Electric Vehicle Supply Equipment (EVSE) Technicians are responsible for inspecting electric vehicle charging stations and their components to ensure they are clean and functioning within designed specifications. Typical responsibilities include performing break/fix services for stations experiencing communication, software, and technical issues. Technicians focus on field-related activities, including diagnosing charging station faults, performing repairs, and resolving operational issues. The role involves supporting existing and new customers with site surveys, maintenance of charging products, and assisting with factory failure analysis.

#### Required Education:

A high school diploma or equivalent is a common requirement for EVSE Technician roles. Additionally, industry-recognized certifications like the EVSE Field Technician Certification from SAE International are becoming a standard expectation for employers.

#### Training Programs Available:

SAE International launched its [EVSE Field Technician Certification](#) program in April 2024. This certification represents an industry-backed body of knowledge and was established to address the growing need for standardized training of technicians for EV charging stations. Training for technicians is available at authorized training providers and can be completed as quickly as 4 weeks.

#### Career Outlook:

As the adoption of electric vehicles continues to grow, the need for reliable and accessible charging becomes increasingly important. A recent study done by Michigan State University suggests that [Michigan will need to deploy more than 65,000 EV Chargers](#) to meet the state's goal of having 2 million EVs by 2030. EVSE technicians will play a critical role in maintaining and repairing this statewide network of EV charging stations.

The need for EVSE technicians is projected to increase dramatically as EV chargers are being rapidly deployed in Michigan. With the proliferation of electric vehicles in the state, there is a growing need for skilled technicians to address maintenance issues, troubleshoot problems, and ensure reliable charging infrastructure to accommodate increasing demand. Michigan can expect to see as many as [4,000 new jobs](#) tied to the deployment and maintenance of EVSE by 2030.

## CLEAN MOBILITY CAREERS



### Electric Vehicle Battery Manufacturing

The manufacturing of electric vehicles involves different components than those used in traditional combustion engines. Most notably, manufacturing EV batteries and battery components requires a unique set of skills. Battery manufacturing workers are involved in assembling battery cells and modules, conducting battery testing, and ensuring quality assurance to guarantee the efficiency, reliability, and safety of EV batteries. As the automotive industry increases its EV offerings, opportunities in battery manufacturing are poised for exponential growth, offering promising career paths for individuals with an interest in sustainable technology and engineering innovation.

#### **Required Education and Training:**

Most manufacturing positions require only short-term on-the-job training to familiarize workers with the production process and with any equipment they use. Higher-skilled manufacturing positions, such as mechanists, require an apprenticeship.

#### **Career Outlook:**

As electric vehicles become increasingly prevalent, the demand for skilled professionals in battery manufacturing is expected to increase dramatically. Automotive manufacturers are investing heavily in expanding their battery manufacturing capabilities, and battery manufacturers in other industries are looking to increase their scope to include EV batteries. This translates to a multitude of job opportunities within the battery manufacturing sector.

Michigan leads the country in announced EV battery manufacturing capacity, with [six manufacturing plants expected to have a capacity of 140 GWh per year by 2028](#). The manufacturing plants announced in Michigan are projected to create more than 7,000 jobs.

## CLEAN MOBILITY CAREERS



### Electric Vehicle Manufacturing

The manufacturing of electric vehicles involves unique processes that differ from traditional combustion engines and, therefore, requires a unique manufacturing process. Nonetheless, many workers involved in electric vehicle manufacturing have experience in traditional vehicle manufacturing. EV manufacturing involves a variety of steps, from the manufacturing of individual parts to the assembly of the finished vehicle.

#### Required Education and Training:

Most manufacturing positions require only short-term on-the-job training to familiarize workers with the production process and with any equipment they use. Higher-skilled manufacturing positions, such as mechanists, require an apprenticeship.

#### Career Outlook:

As the automotive industry shifts towards the production of electric vehicles, the demand for a skilled manufacturing base will continue to increase. Traditional auto manufacturers are investing heavily in EV production facilities and retooling their existing manufacturing sites to accommodate EV assembly lines. Additionally, new companies that specialize in EV production are emerging, diversifying the existing job market and providing abundant opportunities for growth.

Michigan has already seen significant growth in manufacturing capacity for electric vehicles. Already, Michigan-based manufacturers have announced investments in EV manufacturing facilities that will [create more than 5,000 new jobs](#). Growth in the EV manufacturing sector looks favorable as EV manufacturers continue to look to Michigan to site new production facilities. Michigan can expect to see as many as [17,000 new jobs](#) in automotive manufacturing by 2030.

## A CLEAN MOBILITY CAREER PATHWAY

The clean mobility industry offers a wide range of technical careers that provide strong opportunities for entry-level employment, while also allowing workers to build skills, earn credentials, and advance into higher-paying and specialized roles. Many positions in EV and alternative fuel vehicle technology or manufacturing can be accessed with certifications and short-term technical training, creating a low barrier to entry for students, career changers, and workers entering the sector.

As workers gain new skills, they can move into positions in engineering, management, or specialized technology areas. This pathway represents just one example of how a career in clean mobility can evolve over time.

### SAMPLE CLEAN MOBILITY CAREER PATHWAY :

1

#### ENTRY-LEVEL TECHNICAL ROLES

- **Roles:** EV or alternative fuel vehicle technician, battery assembly technician, manufacturing operator, charging station installer
- **Credentials:** Short-term certifications, industry-recognized technical credentials, vocational or certificate programs
- **Goal:** Gain hands-on experience and foundational technical knowledge

2

#### INTERMEDIATE TECHNICAL AND SPECIALIZED ROLES

- **Roles:** Senior technician, EV service specialist, manufacturing lead, installation project coordinator
- **Credentials:** Stackable certifications, associate degree in automotive technology, electrical technology, or renewable energy systems
- **Goal:** Expand technical expertise, supervisory experience, and industry-specific knowledge

3

#### ADVANCED TECHNICAL AND ENGINEERING ROLES

- **Roles:** Electrical engineer, battery systems engineer, EV powertrain engineer, renewable energy systems engineer
- **Credentials:** Bachelor's degree in electrical engineering, mechanical engineering, or related fields; advanced certifications
- **Goal:** Transition into engineering, design, or technical leadership roles

4

#### LEADERSHIP AND SPECIALIZED ADVANCED ROLES

- **Roles:** Senior engineer, R&D engineer, program manager, policy and technology analyst
- **Credentials:** Master's or graduate degree in electrical engineering, EV battery engineering, sustainable energy systems, or related fields
- **Goal:** Lead advanced projects, research and development, or policy initiatives within the clean mobility sector

## BUILDING THE TALENT PIPELINE

### Opportunities for K-12 Engagement and Early Exposure

Building a strong clean mobility workforce starts well before students enter college or technical training programs. Many of today's in-demand careers in electric vehicles, charging infrastructure, and alternative fuels didn't exist a generation ago, which means students often have little awareness of these opportunities unless they are intentionally introduced early in their education. By integrating clean mobility topics into STEM learning, schools can spark curiosity, develop relevant technical skills, and inspire students to pursue further training in these emerging fields. Early exposure helps students see a clear connection between classroom learning and real-world careers, creating a steady talent pipeline that can support Michigan's growing clean transportation sector for decades to come.

To support this, several clean mobility-focused curriculum resources are available for K–12 educators. These programs offer hands-on projects, interactive lessons, and career exploration activities that can be embedded into existing science, technology, and career technical education courses. Some available resources to introduce clean mobility topics into K-12 coursework include:

- **Highland Electric Fleets Clean Energy and Transportation Curriculum**

Clean Fuels Michigan member Highland Electric Fleets, in partnership with the Children's Environmental Literacy Foundation, offers a curriculum designed to introduce students in grades 6-12 to topics related to clean energy, sustainable transportation, and the role of electric school buses in reducing emissions. This resource provides interactive lessons and real-world data and case studies that allow students to explore the technological and environmental impacts of electric transportation. It includes hands-on activities that challenge students to think about the economic, environmental, and community benefits of adopting sustainable transportation options.

[Resource link here](#)

- **EV Innovators Club from Legacy EV**

Clean Fuels Michigan member Legacy EV created the EV Innovators Club, a 15-lesson, NGSS- and CTE-aligned curriculum that gives middle school students an immersive entry point into the electric vehicle industry. Guided by the unit driving question, "How do EVs turn energy into motion while helping build a sustainable future?", students investigate the science behind batteries, motors, charging systems, and emissions before applying their learning to build and drive a fully functional electric go-kart.

By combining hands-on building, real-world engineering applications, and data-driven decision making, the EV Innovators Club connects classroom science to clean mobility careers. Students leave with practical skills, systems thinking, and inspiration to join the next generation of EV innovators. [Resource link here](#)

- **University of Michigan Electric Mobility Exposure**

The University of Michigan College of Engineering's Center for Digital Curricula has developed a series of free, standards-aligned, interactive lessons for K-8 students to explore the world of electric mobility. Covering topics from electric school buses to EVs and drones, these digital lessons blend science and engineering concepts with career exploration to inspire Michigan's next generation of clean mobility professionals. The program also offers professional learning for teachers to effectively integrate these lessons into their classrooms, helping students envision their own futures in the fast-growing electric mobility sector. [Resource link here](#)



### Post-Secondary Training for the Clean Mobility Workforce

Michigan's network of community colleges, technical schools, and other post-secondary institutions are pivotal in educating and training Michigan's existing robust workforce in the automotive industry. These institutions are now adapting rapidly to meet the evolving needs of the clean mobility sector. While most programs still operate within the framework of traditional automotive service technician training, it is becoming increasingly common to see EV, hybrid, and alternative fuel powertrain and infrastructure instruction embedded directly into existing degree and certification pathways. This approach ensures that graduates enter the workforce equipped with skills relevant to the vehicles and technologies they will encounter in their jobs.

Collaboration between schools and industry has been a key driver of these curriculum updates. Post-secondary institutions are partnering with automakers, EV charging infrastructure providers, and other organizations to align training with current technology and safety standards. These partnerships often involve equipment donations and internship or co-op placements, giving students hands-on experience before graduation.

Post-secondary programs are increasingly aligning coursework with industry-recognized certifications such as [ASE's EV and Hybrid specialties](#), the [National Alternative Fuels Training Consortium credentials](#), [SAE's EVSE Field Technician Certification](#), and the [Propane Education and Research Council's Certified Employee Training Program](#). This alignment not only enhances the credibility of the programs but also ensures that graduates are meeting the requirements for employers across the clean mobility sector.

In addition to two- and four-year programs, many institutions are developing short-term certificate and micro-credential programs designed for incumbent workers seeking to upskill or transition into clean mobility careers. These flexible offerings are critical to meet the immediate workforce needs of employers while providing career advancement opportunities for Michigan's existing automotive workforce. Across the state, post-secondary institutions are future-proofing their curriculum to prepare students for a transportation industry that is increasingly fuel-diverse. These programs are ensuring Michigan remains a leader in automotive talent development.

## INDUSTRY INSIGHTS: HOW MICHIGAN'S CLEAN MOBILITY SECTOR IS DEVELOPING

Michigan's clean mobility sector is rapidly expanding, creating significant workforce opportunities across multiple industries. Electric vehicle production and adoption are driving demand for a wide range of skilled roles, including manufacturing, software development, installation, and supply chain management. These trends demonstrate that careers in EV technology are not only growing but also central to the state's economic future.

### Key Facts: Electric Vehicles and Charging Infrastructure

- In 2024, nearly **34,000 Michiganders** were employed in the clean vehicles industry, with 15,000 working in EV-related roles.
- U.S. employment in plug-in hybrid vehicles has grown **54.5%** over the past three years
- U.S. employment in EVs has grown **78.8%** over the past three years.
- Expansion of EV and battery manufacturing is expected to generate over **931,000** indirect jobs across sectors supporting the EV supply chain, including raw material extraction, component suppliers, and logistics.
- Growth in charging infrastructure is projected to create more than **160,000** jobs by 2032.

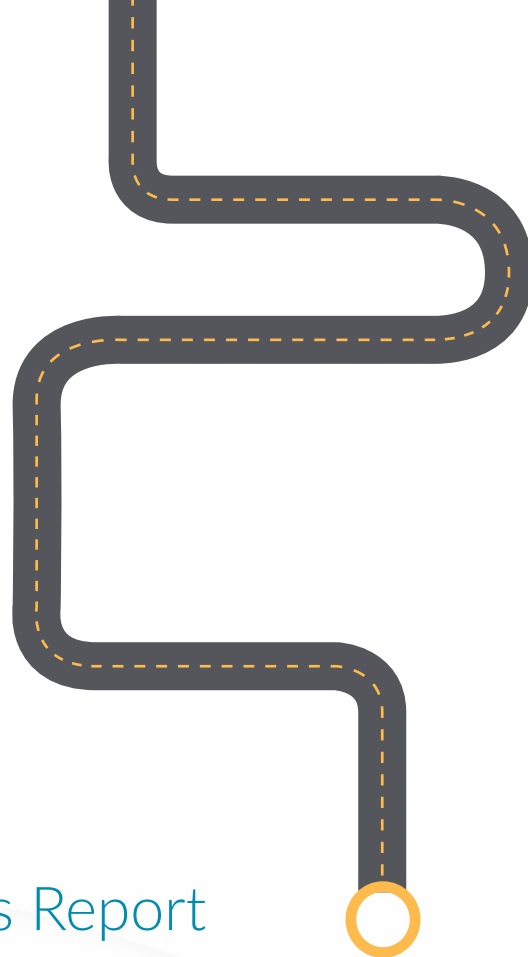
The alternative fuel industries, including hydrogen, ethanol, biodiesel, and renewable diesel, renewable natural gas, and more, are experiencing strong job growth. These sectors offer additional high-demand career pathways in production, research, and infrastructure development.

### Key Facts: Alternative Fuels

- U.S. ethanol industry employment has grown **11%** over the past three years; non-ethanol biofuels employment has increased **12.7%** over the same period.
- Hydrogen and fuel cell employment in the U.S. has grown **95.3%** over three years.
- In 2024, the U.S. had **19,604 jobs** in the hydrogen industry, including approximately 1,778 (9%) in Michigan.
- Additional workforce opportunities are expected from expanding domestic production across automotive, infrastructure, and fueling supply chains.

More insights into how the clean mobility industry is growing in Michigan are available in [Clean Fuels Michigan's Fueling Facts Report](#).

These industry trends highlight the diversity and scale of career opportunities emerging in Michigan's clean mobility ecosystem. As the EV, charging infrastructure, and alternative fuel industries continue to grow, the demand for skilled workers in manufacturing, engineering, software, installation, logistics, and research roles is also increasing. Preparing Michigan's workforce to fill these high-demand positions is critical to supporting the state's transition to a high-tech and innovative economy, ensuring that students and job seekers are ready to step into the careers that are shaping the future of clean mobility.



## Clean Mobility Career Pathways Report



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