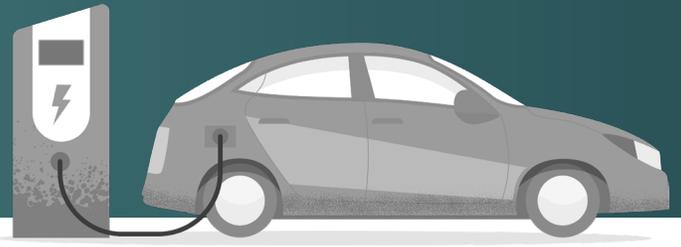


THE PUBLIC HEALTH AND ENVIRONMENTAL BENEFITS OF EV ADOPTION



Electric vehicles (EVs) are a cleaner choice than those powered by an internal combustion engine. Below we outline some of the ways that fossil fuel exposure negatively impacts human health and how EVs are better for our environment.



PUBLIC HEALTH IMPACTS OF GASOLINE & DIESEL EXPOSURE

Fossil-fuel-powered vehicles emit harmful pollutants, many of which have been linked to adverse health effects, and decreased air quality. Exposure to petroleum vapors causes a laundry list of symptoms including headaches, nausea, dizziness, and nose and throat irritation. Did you know:

- + Particulate matter (PM2.5) consists of small inhalable particles measuring less than 2.5 micrometers in diameter and come from a variety of sources, including combustion from vehicle engines. PM2.5 is hazardous to human health because it can carry toxic pollutants deep into lower airways.
- + **Diesel particulate matter** (DPM) is a subset of particulate matter that's smaller in size and is released from combustion of diesel engines. DPM has been linked to cancer and asthma, and has been found to worsen the effects of lung and heart disease.
- + Diesel and gasoline-powered vehicles also release nitrogen oxides (NOx). NOx can corrode teeth, cause headaches, impair lung function, irritate the eyes, and make it difficult to breathe.
- + Children exposed to traffic pollution exhibit hampered lung development, increasing their risk for heart and lung disease later in life, according to a [2007 study](#).
- + Fossil-fuel-powered vehicles also release carbon monoxide (CO). Approximately [50,000 people in the U.S.](#) visit the emergency room each year due to CO poisoning.
- + Studies have linked living near high-traffic areas to a myriad of health issues, including asthma, cardiovascular disease, chronic obstructive pulmonary disease, and dementia. Roughly 30 to 45 percent of city-dwelling North Americans live near a busy road.



“We feel great concern about the impact of climate change, and we want to have a healthy world to pass on to our kids and future generations. Supporting community solar for our electricity usage and driving an EV are two ways of the many ways we play a role in addressing climate change. What I didn't realize is what a fun, convenient car we would be getting.”

Andrea S., Albany County NY, Nissan Leaf driver

Photo credit: Chargepoint



ENVIRONMENTAL JUSTICE

Lower income communities and communities of color, especially in urban areas, face higher levels of exposure to diesel emissions. These groups also suffer from higher rates of negative health outcomes attributed to diesel.

- + The Union of Concerned Scientists published a **report** in 2019 that found that people of color in New York were exposed to significantly more PM2.5 emissions compared to white residents. Among the key findings:

Compared to white residents, Asian Americans were exposed to twice as much PM2.5, Latinos were exposed to 80% more, and African Americans were exposed to 72% more.

The West Bronx has the highest rate of exposure to vehicle emissions in the state. The West Bronx is home to predominantly minority communities where 70 percent of the population are Latino residents and 29 percent are African American residents.

The study specifically recommends the electrification of vehicles as a way to reduce pollution.

- + The disparities seen in New York City’s coronavirus hospitalization and death rates can be linked back to **the uneven distribution of pollution.**



ENVIRONMENTAL BENEFITS OF EV ADOPTION

In addition to the long list of deleterious health effects, emissions from diesel and gasoline-powered vehicles have been disastrous for the environment. By cutting down on greenhouse gas (GHG) emissions, EVs will play a big part in the fight against climate change.

- + The transportation sector is the **largest source** of GHG emissions in the United States. In New York State, transportation accounts for **over one-third** of total GHG emissions.
- + Diesel and gasoline-powered vehicles release GHGs, **a leading cause** of climate change. We are already seeing some of the effects of this increase in temperature including rising sea levels, more extreme weather events, and heat waves of increased duration and temperature.
- + **According to the EPA**, PM2.5 has a variety of negative environmental effects, including causing the acidification of lakes and streams, disrupting the nutrient balance in river basins and waters near the coast, depleting soil nutrients, and playing a role in the creation of acid rain.
- + EVs have a **much smaller** carbon footprint on average than conventional cars. As our power grid switches to renewable energy like solar, wind, and hydropower, EVs will become an even cleaner way to get around.



“After waiting and watching EV technology for years, I finally took the plunge and purchased my Tesla last November. I have no regrets at all. I feel like I am in the future and am so thrilled to NOT be dependent on fossil fuels.”

Jason S., Albany County NY, Tesla driver

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