VELOZ®

LEADING THE ELECTRIC VEHICLE REVOLUTION

EV EMERGENCY FACT SHEET

Dangerous weather events and natural disasters are becoming increasingly frequent and destructive across the United States. Regardless of the type of vehicle you drive, it is harrowing to endure and escape an emergency. **The Veloz Strategic Communications Working Group has developed the following fact sheet to help illustrate the benefits of EVs during emergencies.**

TOPLINE:

- EVs are statistically far less likely to catch fire than their gasoline counterparts.
- Road vehicles (gas or electric) can be both assets and liabilities during natural disasters and other emergencies.
- Specialized training for first responders and advancements in EV safety features are improving rapidly so the public can feel confident in the safety EVs.
- EVs have unique advantages that can help save lives during emergencies.
- EVs are a solution to weather-related emergencies made worse by climate change.

KEY FACTS:

- **An EV is much less likely to catch fire than a gas car.**
    - A gas car is up to 100 times more likely to catch fire than an EV. There are 1,529.9 gas vehicle fires per 100,000 sales of gas vehicles and 25.1 EV fires per 100,000 sales of EVs.
    - Comparative Risk: Fires in gasoline or diesel-powered cars are over 80 times more common than in EVs.

- **EV battery fires are being effectively managed by firefighters in real-world situations, and specialized training efforts are helping firefighters get better at what they do best: fighting fires and saving lives.**
    - Gasoline, diesel, and EV battery fires are all dangerous to bystanders and firefighters, and all require specialized equipment to handle them.

- Fire departments rarely encounter EV fires, but they're already carefully tracking data and making the proper preparations to better address them.
- Firefighters, engineers, and scientists are collaborating closely to develop better guidance and training for dealing with EV fires.
- Organizations like the National Fire Protection Association have developed free training programs for firefighters, police, and EMS personnel that focus on effectively addressing fires involving lithium-ion batteries in EVs.
- The Alternative Fuels Data Center provides a range of training resources tailored for first responders.
- Manufacturers are continually enhancing the safety features of EVs to ensure they remain reliable under various conditions, including natural disasters.
- Other resources:
  - evfiresafe.com

- **EVs are immune to gasoline shortages and gas contamination caused by leaks during emergencies.**
  - Blackouts are common during and after natural disasters, shutting down gas stations - which cannot pump fuel without electricity - and EV chargers.
  - Even in cases where gas stations have access to generators, fuel supply can still be bottlenecked by anything that disrupts road access for fuel tankers (including traffic jams, floods, downed trees, collapsed tunnels, and damaged bridges).
  - Severe weather can cause catastrophic damage to gasoline infrastructure. During Hurricane Harvey, storage tank failure resulted in at least 145,000 gallons of fuel and toxic pollutant spillage. Hurricane Ida forced two-thirds of Louisiana's oil refinery capacity offline as facilities took on floodwater and wind damage, causing a major supply crisis throughout the country.
  - During Hurricane Idalia, dozens of gas stations in Florida ran out of fuel, while at least 29 others sold contaminated gas that destroyed engines and generators during the peak of the evacuations.
  - Data shows that EVs retain 95 percent of their range in temperatures of 90 degrees Fahrenheit or below; whereas, gas-powered cars can lose as much as 25% in fuel economy in hot weather.

- **EVs can idle for longer periods during evacuation traffic jams.**
    - The range of an EV does not significantly decrease while sitting in traffic, whereas a gas-powered car wastes about half a gallon of gas every hour while idling.
    - During evacuations from natural disasters, traffic jams can be deadly. It's common for gas-powered vehicles to run out of fuel and become stranded, creating roadblocks for evacuees and emergency vehicles.
    - Carbon monoxide poisoning is a serious risk associated with idling internal combustion engines during snowstorms or in enclosed spaces like garages. EVs can be plugged in and run in a garage, without the fear of carbon monoxide poisoning.

- **EVs can be universally charged from any standard electrical outlet, including those supplied by generators.**
    - A Level 1 EV charger fits in the trunk of a car and connects to any standard 120v AC outlet. While it's not the fastest option for recharging an EV, it offers unprecedented flexibility in emergencies.
    - Many of the most popular EV SUV and light truck models have electrical outlets in the trunk, allowing important devices such as phones, radios, and flashlights (or even other EVs) to be recharged from a high-capacity battery.
    - Conversely, providing backup fuel to a gas vehicle usually involves plastic containers, which are associated with inhalation, fire, and explosion risks, especially when left in vehicles for extended periods of time.

- **EVs are more likely to be fully charged at the start of an emergency because many EVs are plugged in at home. Gas vehicles are less likely to have a full tank.**
    - 88% of EV owners charge at home, and 54% of EV owners have installed a Level 2 charger for home use. It's common practice for EV owners to always be plugged in when they're at home or wherever public charging stations are available.
    - Roughly one-third of drivers wait for their gas light to come on before they stop to fill up their tank.

  - Blackouts happen when electrical infrastructure is damaged by wind, falling trees, building damage, or lightning. Gasoline shortages are often driven by demand spikes that occur days or weeks before an emergency, leaving drivers unable to refuel their gas vehicles ahead of an evacuation order.

- **EVs have the potential to support the electric grid and mitigate the impacts of an emergency or even prevent blackouts.**
- EVs are batteries on wheels. New technology will allow households and businesses to use the energy stored in EVs to relieve strained grids, store energy, and provide electricity when it's needed most.
- Called "vehicle to grid" or V2G, there are numerous ways that EVs can help provide electricity to the grid and more energy security. Programs testing this technology are already underway.
- The backup energy source of an EV battery has the potential to provide families with power security.
- EVs can help people run their appliances or drive them away from danger when the lights go out and the gas stations shut down.