UNDERSTANDING EV CHARGING.

20 MIN TO FULL CHARGE

Rapid DC fast charge stations allow you to recharge any EV more quickly!

Electric vehicle ownership is increasing globally and our expectation as customers is to be able to recharge as fast as a standard fuel vehicle. The standard low level domestic charging system is low power and very slow.

A popular view of modern technology is that over time these items will become cheaper to purchase, smaller, lighter, more efficient, and in the case of EVs, to hold more charge and recharge more quickly. History shows us that these things are indeed likely to happen, but today's reality is that we don't have the power capacity and availability to recharge all the EVs we currently have let alone an increased number. Herein lies the problem...

The Grid Gap

In the past, the power offered to consumers through the electricity grid network was available at a minimal level compared to the current need. The energy demands were generaly well met with their adequate supply.

Today there are more consumers and consumer needs in which peak demand is higher, than the grid capacity. When demand is greater than supply this creates a shortfall, an incapacity, or a gap in the networks ability to deliver. We call this the **Grid Gap™**.

As this Grid Gap increases there will be major challenges meeting our day-to-day needs and expectations.

Grid Ability Versus Availability

The power battle is between the **ability** our power grid network has to produce electricity and the level of delivery **available** where needed. Domestic and business energy consumers are the casualties of this battle.

Some scenarios include:

- Utility has the ability to produce but can't get the energy to its consumers.
- Utility does not have the ability and there are no options for the consumer.

Hydrogen Solution

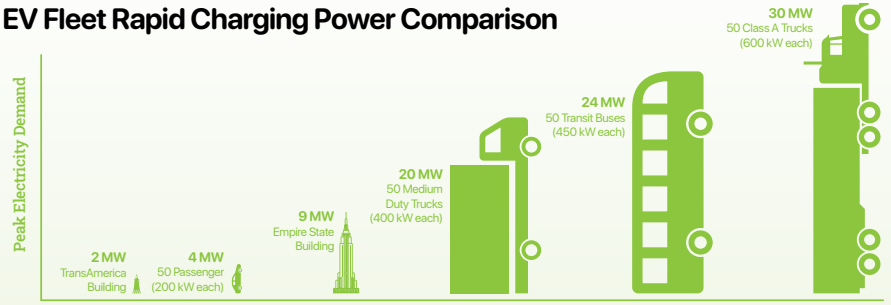
This is a very simplified discussion of the energy challenges faced today, but out of it comes an exciting opportunity for Hydrogen.

Hydrogen power solutions can provide power in places currently hard to service by the energy retailers without environmental impacts or availability issues.

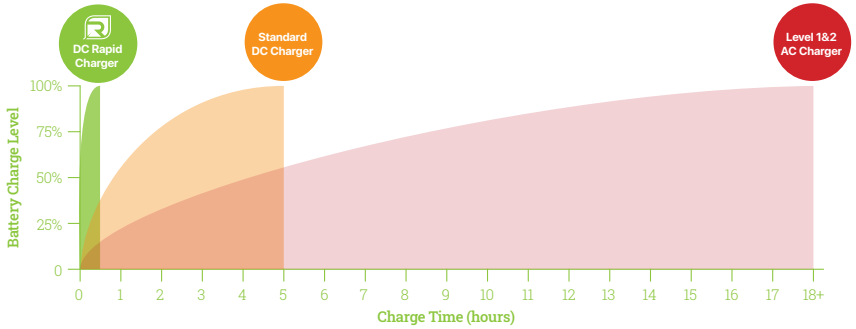
Hydrogen power solutions can also deliver high power needed for EV rapid charge stations regardless of location while also providing grid support and facility backup power.

Plus, the source of energy Hydrogen can be created with excess grid power and very effectively stored for future grid energy needs.

EV Fleet Rapid Charging Power Comparison



Time to Charge



Charger and Battery Size