

## The 10 hour charging window

If you can charge at home, the most convenient time is when you are asleep. Getting in bed - 8 hours sleep- a shower in the morning - probably 10 hours.

## Charging strategies in the the Garage

The tendency is for articles to underrate level 1 charging or to recommend level two charging that has two to three times more power (and cost) than needed.

### Choose a strategy to match your driving.

#### Low demand

The average driver in the US drives 35 miles day. 10 hours on a Level 1 charger should get 45 or so miles, So your charging is covered. If the level 1 charger that comes with your car does less, buying a higher amp Level 1 charger might not help. All charging rates are set by the car. Supplement with public chargers or get a Level 2.



If your electrical box is full (above), you have few options. Upgrading service to the house, adding auxiliary box and then 240v circuit will be very expensive. With unused slots in the box, (above center) you can add 240v outlet or direct wire a charger.

#### middle demand

For those with a longer commute, a Level 2 charger would be needed to add 90 or more miles each night. A L2 unit at 12 to 16 amps would add 30 to 40 kWh in a 10 hour period. A basic 16 amp Level 2 charger can sell for as little as \$170 and would plug into a 240V outlet.



#### High demand

With larger traveling distances a 32 amp charger would completely charge almost all current EVs from near empty to 100% in 10 hours. ( adding 75 kWh) People that would want to recommend higher amp chargers are wasting your money. And some EVs might not accept the higher Level 2 charging levels.



Share an outlet : e.g. Plug in two things. If device on primary outlet is not in use, the second outlet goes live. I might make an opening so the electric drier outlet adjacent to my garage can be used for EV charging. Perhaps an inexpensive one like the one at shown (left)