

## **NC CLEAN ENERGY**

## **TECHNOLOGY CENTER**

**Advancing Clean Energy for a Sustainable Economy** 

## North Carolina Electric Vehicle Marketplace - Battery Electric Vehicles | 2019 / 2020

All-electric vehicles (EVs) use a battery pack to store the electrical energy that powers the motor. EVs are sometimes referred to as battery electric vehicles (BEVs). EV batteries are charged by plugging the vehicle in to an electric power source. Both heavy-duty and light-duty EVs are commercially available. EVs are typically more expensive than similar conventional and hybrid vehicles, although some cost can be recovered through fuel savings, a federal tax credit, or state incentives. – *U.S. Department of Energy Alternative Fuels Data Center* 



|      | Addi e-tion                     |                     |                             |                              |                               |  |  |  |  |
|------|---------------------------------|---------------------|-----------------------------|------------------------------|-------------------------------|--|--|--|--|
| Year | Combined Fuel<br>Economy (MPGe) | Total Range (miles) | Battery<br>Charging<br>Time | Battery<br>Capacity<br>(kWh) | Base Model MSRP<br>(2019 USD) |  |  |  |  |
| 2019 | 74                              | 204                 | 10 hrs (240V)               | 95                           | \$74,800                      |  |  |  |  |



|      | BMW i3                          |                     |                             |                              |                               |  |  |  |  |
|------|---------------------------------|---------------------|-----------------------------|------------------------------|-------------------------------|--|--|--|--|
| Year | Combined Fuel<br>Economy (MPGe) | Total Range (miles) | Battery<br>Charging<br>Time | Battery<br>Capacity<br>(kWh) | Base Model MSRP<br>(2019 USD) |  |  |  |  |
| 2019 | 113                             | 153                 | 5 hrs (240V)                | 42                           | \$44,450                      |  |  |  |  |



| Chevrolet Bolt EV |                                 |                        |                             |                              |                               |  |  |  |
|-------------------|---------------------------------|------------------------|-----------------------------|------------------------------|-------------------------------|--|--|--|
| Year              | Combined Fuel<br>Economy (MPGe) | Total Range<br>(miles) | Battery<br>Charging<br>Time | Battery<br>Capacity<br>(kWh) | Base Model MSRP<br>(2019 USD) |  |  |  |
| 2020              | 118                             | 259                    | 10 hrs (240V)               | 60                           | \$42,110                      |  |  |  |



|      | Jaguar I-PACE                   |                        |                             |                              |                               |  |  |  |  |
|------|---------------------------------|------------------------|-----------------------------|------------------------------|-------------------------------|--|--|--|--|
| Year | Combined Fuel<br>Economy (MPGe) | Total Range<br>(miles) | Battery<br>Charging<br>Time | Battery<br>Capacity<br>(kWh) | Base Model MSRP<br>(2019 USD) |  |  |  |  |
| 2020 | 76                              | 234                    | 13 hrs (240V)               | 90                           | \$69,850                      |  |  |  |  |



|      | Nissan Leaf (40 kWh battery pack) |                        |                             |                              |                               |  |  |  |  |
|------|-----------------------------------|------------------------|-----------------------------|------------------------------|-------------------------------|--|--|--|--|
| Year | Combined Fuel<br>Economy (MPGe)   | Total Range<br>(miles) | Battery<br>Charging<br>Time | Battery<br>Capacity<br>(kWh) | Base Model MSRP<br>(2019 USD) |  |  |  |  |
| 2019 | 112                               | 150                    | 8 hrs (240V)                | 40                           | \$29,900                      |  |  |  |  |



| Nissan Leaf (62 kWh battery pack) |                                 |                        |                             |                              |                               |  |  |
|-----------------------------------|---------------------------------|------------------------|-----------------------------|------------------------------|-------------------------------|--|--|
| Year                              | Combined Fuel<br>Economy (MPGe) | Total Range<br>(miles) | Battery<br>Charging<br>Time | Battery<br>Capacity<br>(kWh) | Base Model MSRP<br>(2019 USD) |  |  |
| 2019                              | 108                             | 226                    | 11 hrs (240V)               | 62                           | \$36,550                      |  |  |



| Nissan Leaf SV/SL (62 kWh battery pack) |                                 |                        |                             |                              |                               |  |  |
|---|---------------------------------|------------------------|-----------------------------|------------------------------|-------------------------------|--|--|
| Year                                    | Combined Fuel<br>Economy (MPGe) | Total Range<br>(miles) | Battery<br>Charging<br>Time | Battery<br>Capacity<br>(kWh) | Base Model MSRP<br>(2019 USD) |  |  |
| 2019                                    | 104                             | 215                    | 11 hrs (240V)               | 62                           | \$38,510                      |  |  |



|      | Porsche Taycan 4S               |                        |                          |                              |                               |  |  |  |  |
|------|---------------------------------|------------------------|--------------------------|------------------------------|-------------------------------|--|--|--|--|
| Year | Combined Fuel<br>Economy (MPGe) | Total Range<br>(miles) | Battery Charging<br>Time | Battery<br>Capacity<br>(kWh) | Base Model RSRP<br>(2019 USD) |  |  |  |  |
| 2020 | 106                             | 242                    | 9 hrs (11 kW AC)         | 93.4                         | \$103,800                     |  |  |  |  |



|      | Tesla Model 3 Long Range AWD    |                     |                             |                              |                               |  |  |  |
|------|---------------------------------|---------------------|-----------------------------|------------------------------|-------------------------------|--|--|--|
| Year | Combined Fuel<br>Economy (MPGe) | Total Range (miles) | Battery<br>Charging<br>Time | Battery<br>Capacity<br>(kWh) | Base Model MSRP<br>(2019 USD) |  |  |  |
| 2019 | 116                             | 310                 | 10 hrs (240V)               | 74                           | \$47,990                      |  |  |  |



|      | Tesla Model 3 Standard Range Plus |                        |                             |                              |                               |  |  |  |
|------|-----------------------------------|------------------------|-----------------------------|------------------------------|-------------------------------|--|--|--|
| Year | Combined Fuel<br>Economy (MPGe)   | Total Range<br>(miles) | Battery<br>Charging<br>Time | Battery<br>Capacity<br>(kWh) | Base Model MSRP<br>(2019 USD) |  |  |  |
| 2019 | 133                               | 240                    | 9.5 (240V)                  | 50                           | \$38,990                      |  |  |  |



|      | Tesla Model S Long Range        |                        |                             |                              |                               |  |  |  |  |
|------|---------------------------------|------------------------|-----------------------------|------------------------------|-------------------------------|--|--|--|--|
| Year | Combined Fuel<br>Economy (MPGe) | Total Range<br>(miles) | Battery<br>Charging<br>Time | Battery<br>Capacity<br>(kWh) | Base Model MSRP<br>(2019 USD) |  |  |  |  |
| 2019 | 111                             | 370                    | 12 hrs (240V)               | 100                          | \$79,990                      |  |  |  |  |



|      | Tesla Model X Long Range        |                        |                             |                              |                               |  |  |  |  |
|------|---------------------------------|------------------------|-----------------------------|------------------------------|-------------------------------|--|--|--|--|
| Year | Combined Fuel<br>Economy (MPGe) | Total Range<br>(miles) | Battery<br>Charging<br>Time | Battery<br>Capacity<br>(kWh) | Base Model RSRP<br>(2019 USD) |  |  |  |  |
| 2019 | 96                              | 325                    | 12 hrs (240V)               | 100                          | \$84,990                      |  |  |  |  |



| Tesla Model Y Long Range |                                 |                        |                          |                              |                               |
|--------------------------|---------------------------------|------------------------|--------------------------|------------------------------|-------------------------------|
| Year                     | Combined Fuel<br>Economy (MPGe) | Total Range<br>(miles) | Battery Charging<br>Time | Battery<br>Capacity<br>(kWh) | Base Model MSRP<br>(2019 USD) |
| 2020                     | 80                              | 273                    | 8 hrs (11 kW AC)         | 75                           | \$48,000                      |

- \* Information and photos were sourced or estimated from www.fueleconomy.gov and vehicle manufacturer websites.
- \* MSRP shown does not include tax credits.
- \* Availability for non-base models was assumed if any version of a given model was available.
- \* A vehicle was considered available if it could be ordered and delivered to a given dealership.
- \* As possible, only vehicle specifications for the most recent model year were reported.
- <sup>1</sup> Electric range refers to a drive state in which the electric motor in the vehicle is engaged.

NC STATE UNIVERSITY