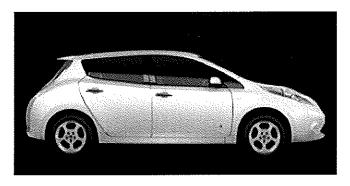
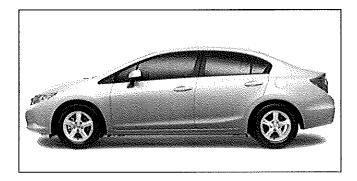
## **Alternative Fuel Vehicle Comparison**

Mark D Larsen June 16, 2013



2013 Nissan Leaf Electric



VS.

2013 Honda Civic Natural Gas

For many years Utah has offered a \$2,500 tax incentive for the purchase of a natural gas car, yet only a paltry \$605 for an electric vehicle. Since the very purpose of such incentives is to encourage citizens to drive cleaner vehicles and improve the air quality in the state, that discrepancy is inexplicable, inequitable, and indefensible.

During the last legislative session, I provided representatives and senators two reports with verifiable data to help them correct that inequity: <u>Utah Air Quality and EVs</u> and <u>Leaf vs. Honda CNG</u>. Nonetheless, the legislators still passed HB0096 which retained those very same disparate incentives! There are only four possible explanations for that decision:

- 1. They didn't bother to read the data.
- 2. They read the data, but didn't understand them.
- 3. They read the data, understood them, but didn't believe them.
- 4. They read the data, understood them, believed them, but... they care more about subsidizing the natural gas industry than improving the air quality in Utah.

I have subsequently updated the data for the latest 2013 model year to try once again to enlighten our lawmakers. Like in the previous reports, I have included below the figures for the sole natural gas car available to the public, the Honda Civic CNG. As for EVs, there are many to choose from by several automakers, but for the sake of simplicity I will use the stats for the best selling one to date, the Nissan Leaf.

I hope that this time the legislators will actually consult the comparisons in the following table. If so, they might finally realize that EVs are indisputably the *cleanest and most efficient vehicles* on the market. They consequently deserve an incentive at least equal to —if not higher than—that awarded to the Honda CNG.

With the air quality in Utah growing exponentially worse every year, it is high time that our lawmakers faced the cold, hard facts. If in the next session they again fail to correct this discrepancy, citizens will have no choice but to conclude that they are engaged in crony capitalism —no matter the cost to our environment and health.

CATEGORY	Nissan Leaf EV	Honda Civic CNG
EPA Smog Scores: 1 (worst) to 10 (best) in Utah	10 Bin 1 CNSXV0000LLA  10 ZEV CNSXV0000LLA	8 Bin 2 DHNXV01.8BDT  9 PZEV DHNXV01.8BDT
Greenhouse Gas Emissions:  lbs. per 100 miles in Utah	Upstream: 29 + Tailpipe: 0 	Upstream: 28 + Tailpipe: 48 76
EPA MPGe Ratings	City: 129 Combined: 115 Highway: 102	City: 27  Combined: 31  Highway: 38
Average Fuel Costs per 100 miles in Utah	\$2.49	\$5.12
Purchase Price:	MSRP: \$28,800 - federal incentive: \$7,500 \$21,300	MSRP: \$26,465 - federal incentive: \$0 \$26,465
Maintenance Costs 5 years of service  Interior Capacity: volume in cubic feet  Safety Ratings crash test results	\$1,506	\$2,157
	Passengers: 92 + Cargo: 24	Passengers: 95 + Cargo: 6
	Frontal: 會會會合 Side: 會會會合 Rollover: 會會會合 OVERALL: 會會會合	Frontal: 濟會會合 Side: 會會合合 Rollover: 濟會會合 OVERALL: 會會會合合

Miles of Range 90% of fuel	75	200
	26 minutes to 80% (Public QuickCharge 480V DC)	20 minutes to 100% (Public Fast-Fill Station)
Refueling Time from empty	4 hours to 100% (home 240V EVSE)  20 hours to 100% (any 120V outlet)	2 hours to 100% (home FMQ-10 VRA)  5 hours to 100% (home FMQ-2 VRA)

## Sources:

- EPA Smog Scores and Greenhouse Gas Emissions
- EPA MPGe Ratings and Average Fuel Costs
- Purchase Price:
  - Leaf EV
  - Honda CNG
- Maintentance Costs:
  - Leaf EV
  - Honda CNG
- Interior Capacity
- Safety Ratings:
  - Leaf EV
  - Honda CNG
- Miles of Range
- Refueling Time:
  - Leaf EV
  - Honda CNG

