
Energy efficiency upgrades on a budget…tight budget!
But got them done!

About Hugo.

- Latino immigrant born and raised in El Salvador.
- Project coordinator for ECS.
- Clean energy consultant for Radio Kingston
- Background in solar electric, solar thermal, electric vehicles, charging stations, HVAC/MEP design, passive house and more!

Improvements overview

1. Solar electric system.
2. Air sealing and insulation
3. Air source heat pump water heater
4. Lighting, gave up cable, appliances.
5. Mini split heat pump
6. Electric vehicle but no charger
7. Other off-site options.

Household:
2 adults
1 kid
2 cats
2 guinea pigs
3 mice
1 old dachshund
More laundry

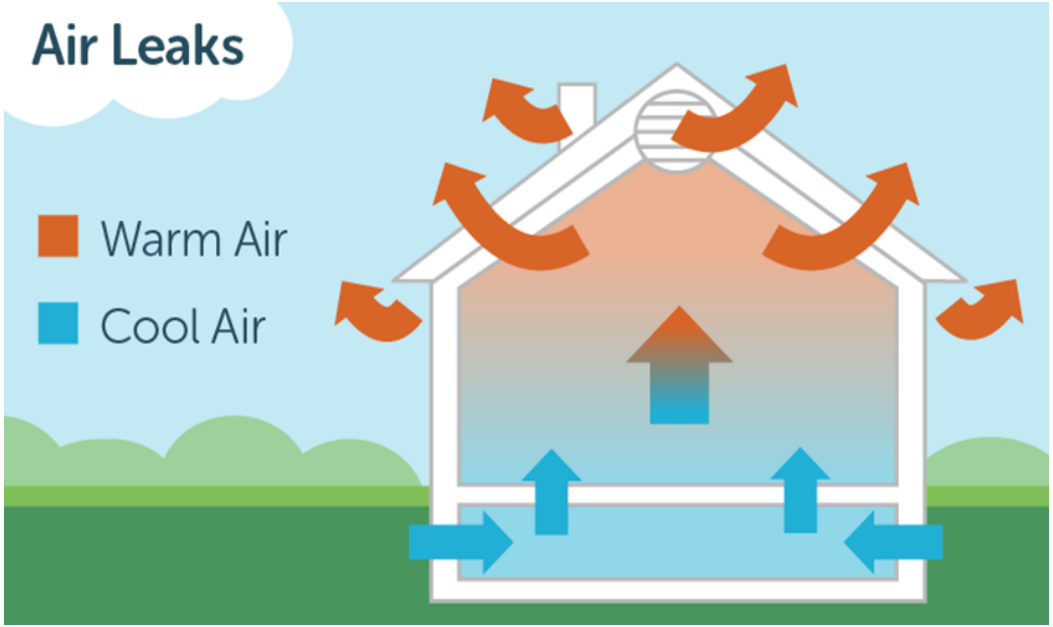
Energy improvements

1. Bought and installed a used solar electric system.

A 2,500watt PV system with Sharp modules and “Sunny Boy” inverter for $3,000 plus $1,150 for racking, disconnects, wiring, inspection. Paid in installments. Took several weekends to get it done but got it done!

Energy improvements

2. Air sealing and insulation to prevent conditioned air to escape the home.



Energy improvements

2. Air sealing and insulation of rim joist and attic done by Energy Conservation Specialists.

Rim joist air-sealing and insulation detail

Energy improvements

2. Air sealing and insulation of rim joist and attic done by Energy Conservation Specialists.

Total cost for materials and labor about $8,000
Half covered by the NYSERDA Assisted Home Performance subsidy, the other half the landlord.

Attic air sealing (not shown but all can lights and penetrations were sealed, trust me, I saw it done) and cellulose insulation.

Energy improvements

3. Installed an air source heat pump water heater

Bought it at Sears (remember them?) for $1,200 but financed the whole thing with the 0 % six-month promotion (pay it off) knowing that I'd get $500 from Central Hudson.

That rebate is now $750 !!!!!!!!!!!!
Average installed cost: $2,500 - $4,000

Energy improvements on a budget

4. Lighting, gave up cable, appliances.

Replaced all incandescent bulbs with CFL and have replaced most of them with LEDs now.

Removed bulbs where not used and removed fixtures where never really needed. #budget

Gave up cable (still got the flix) so no cable box using watts.

Not all appliances are energy star and a freezer was added. Apparently kid needs to be fed…occasionally.

Energy improvements

5 Had a mini split heat pump installed

Indoor unit.

Installed by RYCOR. Price: $3,750 minus $500 from Central Hudson minus $500 from NYSERDA minus $262 from HV Heat Pump Project (Mitsubishi) special discount for becoming data loggers guinea pigs. Yes, we're total nerds! Financed the installation cost ($2,987) with Synchrony bank

Energy improvements

A “heat pump” is an electro-mechanical device that can transfer (move) heat from one space to another. It can heat, cool or dehumidify the air in your home.

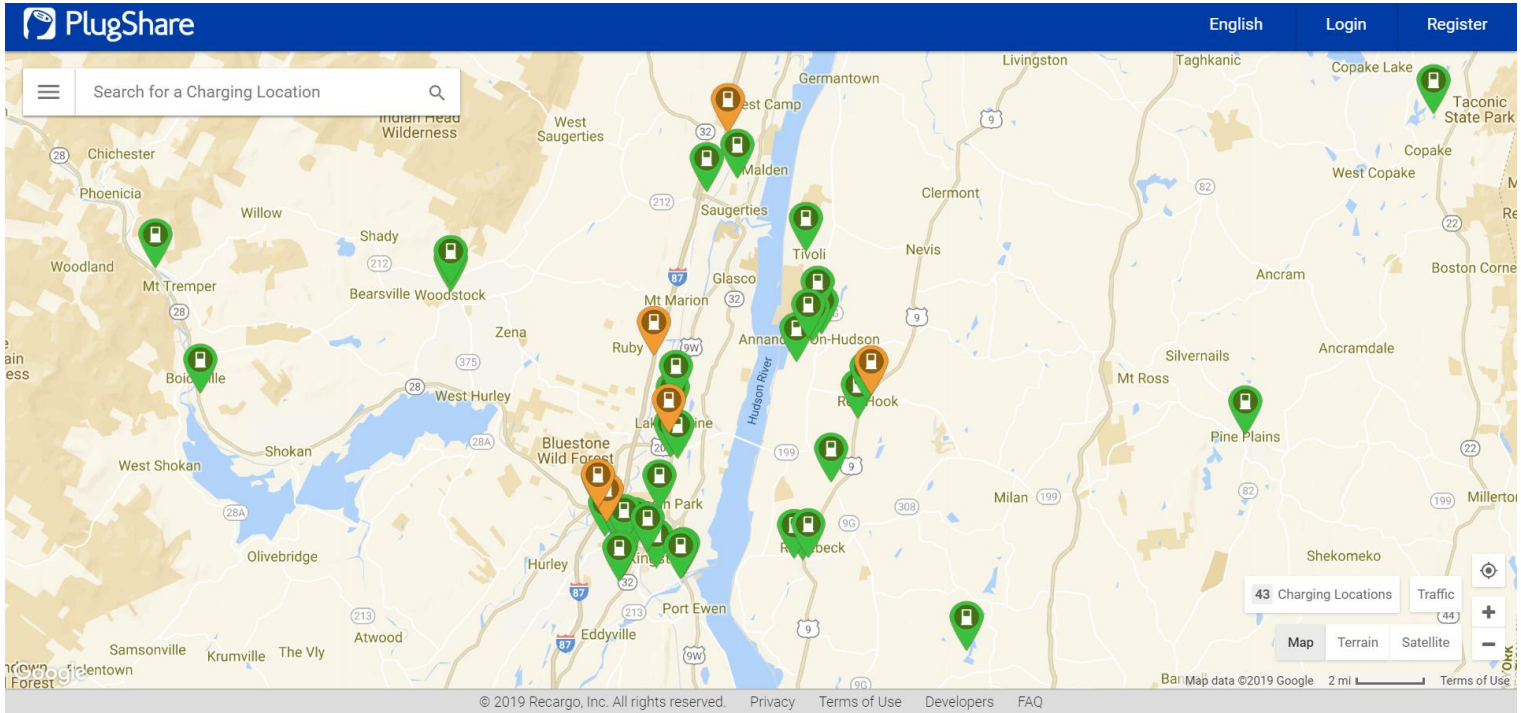
Outdoor condensing unit

Energy improvements

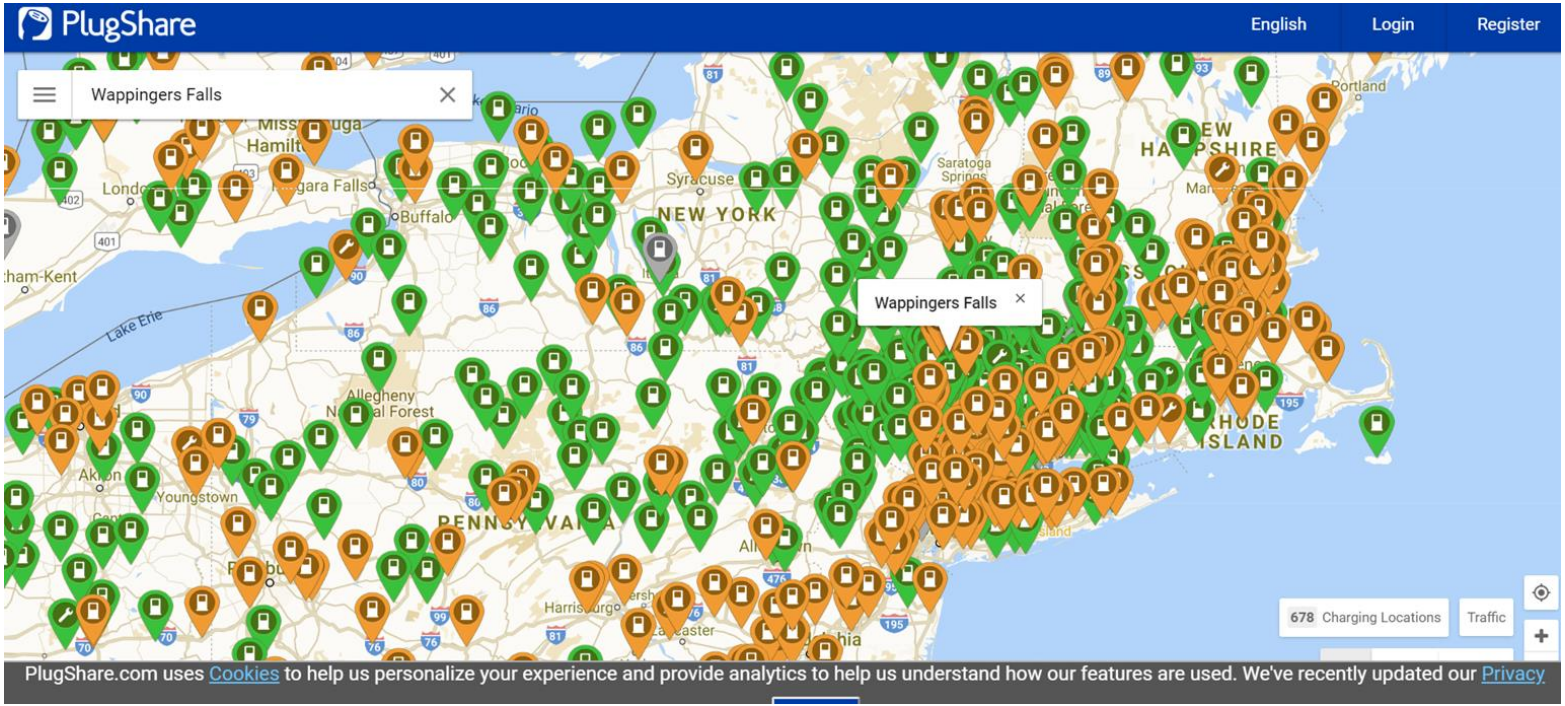
6. Got an electric vehicle but only using the “level 1” at home. Not the 240 Volt, Level 2. Why not? Cause we live in Ulster County!

But you can get a decent level 2 charger for $300-$800 plus $200-$400 labor for your home.

Charging stations around Kingston



Infrastructure NY-TriState



678 Charging stations of all types showing!

No Range anxiety here, specially with the pure electric 238 miles range of the Bolt!!

Drive Electric Hudson Valley

Energy improvements

7. Off site options: offset from hydro or community choice aggregation, EV Time of Use Rate from Central Hudson.

EV Time of Use Rate

» Central Hudson » Time-of-Use Billing » EV Time of Use Rate

Designed for residents with electric vehicles, the EV Whole Home Time of Use Rate enables owners to purchase electricity at lower rates during times when home vehicle charging is expected to be most frequent – after 7pm in the evenings and prior to 2pm during the day. This optional billing method converts your residential electric account to a time-based rate, billed at a higher cost during peak demand periods (2-7pm) and at a lower one all other times. By charging your vehicle during periods of lower demand, and shifting the majority of your other energy use to this same time structure, you may benefit from a lower bill. EV owners are able to test whether this rates works for them with Central Hudson's first year bill protection. Annual electric charges of customers on this rate for the first year are compared to what they would have paid under standard rates for the same period; if total annual electric charges would have been less by remaining on standard rates a refund is issued.

To qualify for the EV Whole Home Time of Use Rate, you must:

- Lease or own a registered Electric Vehicle, and provide us with the vehicle VIN number
- Ensure that the home you reside within and the location you will be charging your EV at are on the same account
- Agree that the minimum term of service is 12 months

EV Whole Home Time of Use Rate Application

Q & A

Remember:
Energy reduction
Energy conservation
Energy efficiency

Photo credit Seth Leitman at 2018 National Drive Electric Event in Dutchess County!


Thank
You For
Your
Time!