

# Electric Vehicle Supply Equipment Support Study

The team of WXY, Energetics and Barretto Bay Strategies created a series of EV guidance documents for the TCI region:

An **Assessment of Current EV and EVSE Deployment** in the TCI region;

An **EVSE Cluster Analysis**;

**Siting and Design Guidelines for Electric Vehicle Supply Equipment**;

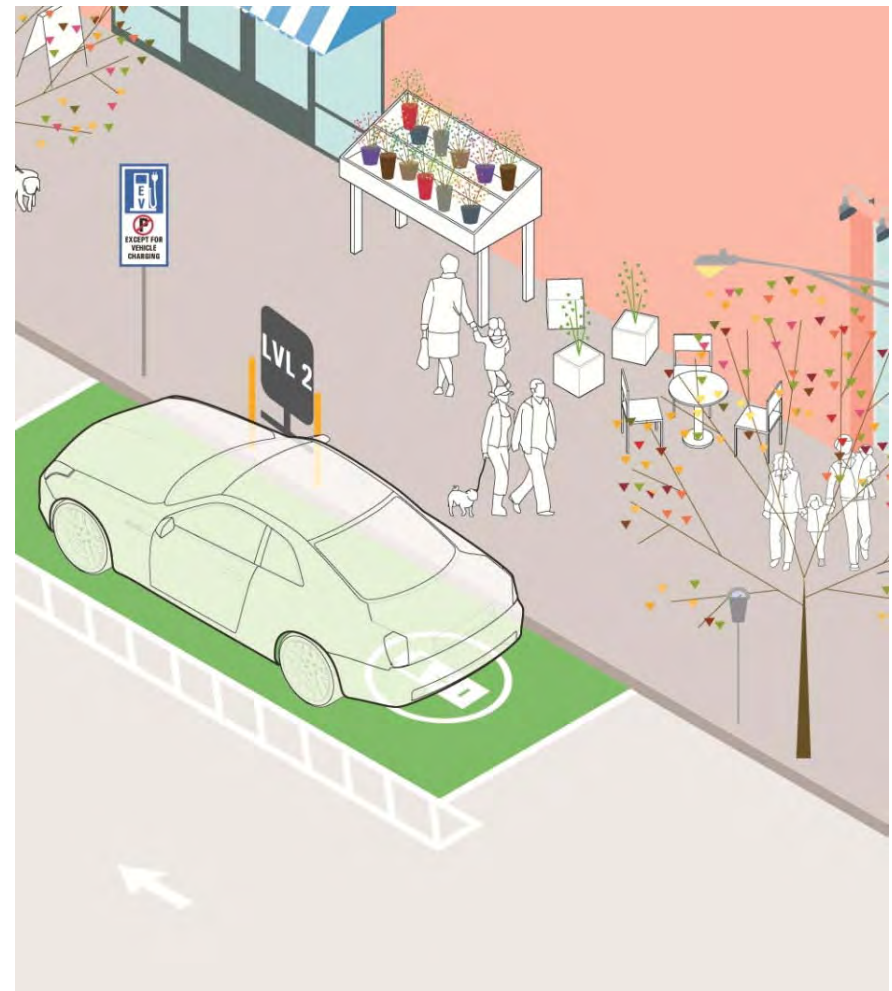
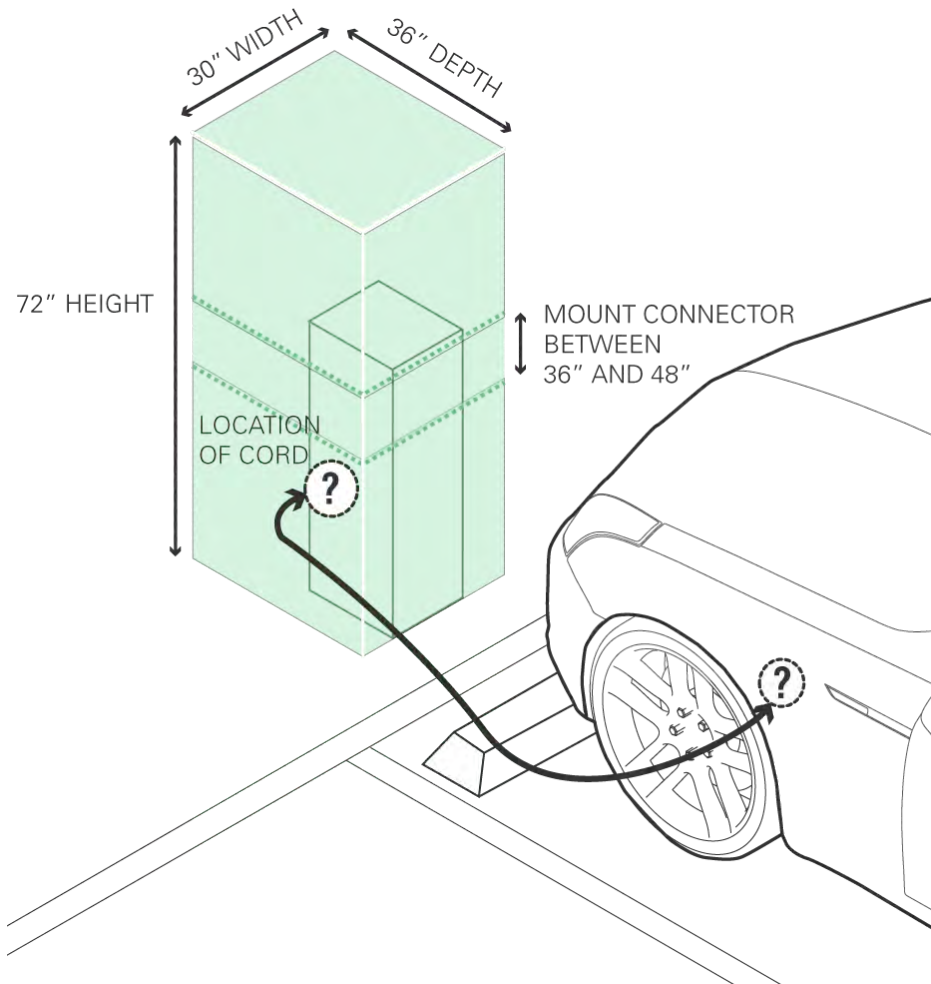
A report on **EV-Ready Codes for the Built Environment**; and

A **Guide to Planning and Policy Tools** for creating EV-Ready Towns and Cities.

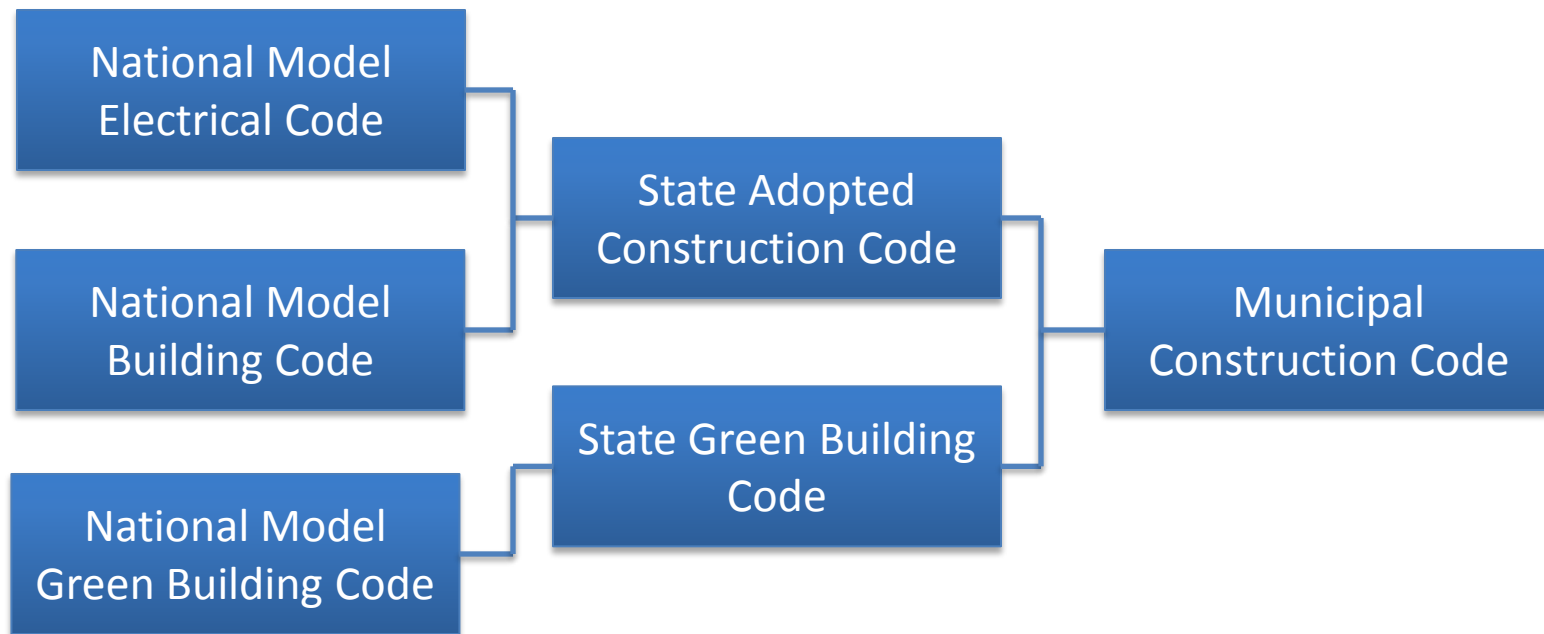
All available at [NortheastEVs.org](http://NortheastEVs.org)



# Siting and Design Guidelines



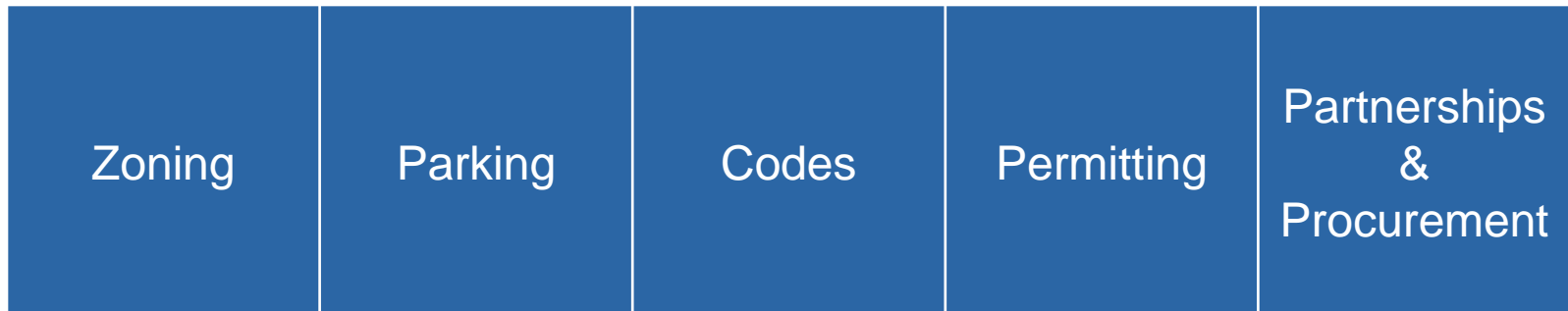
# EV-Ready Codes for the Built Environment



# Guide to Planning and Policy Tools

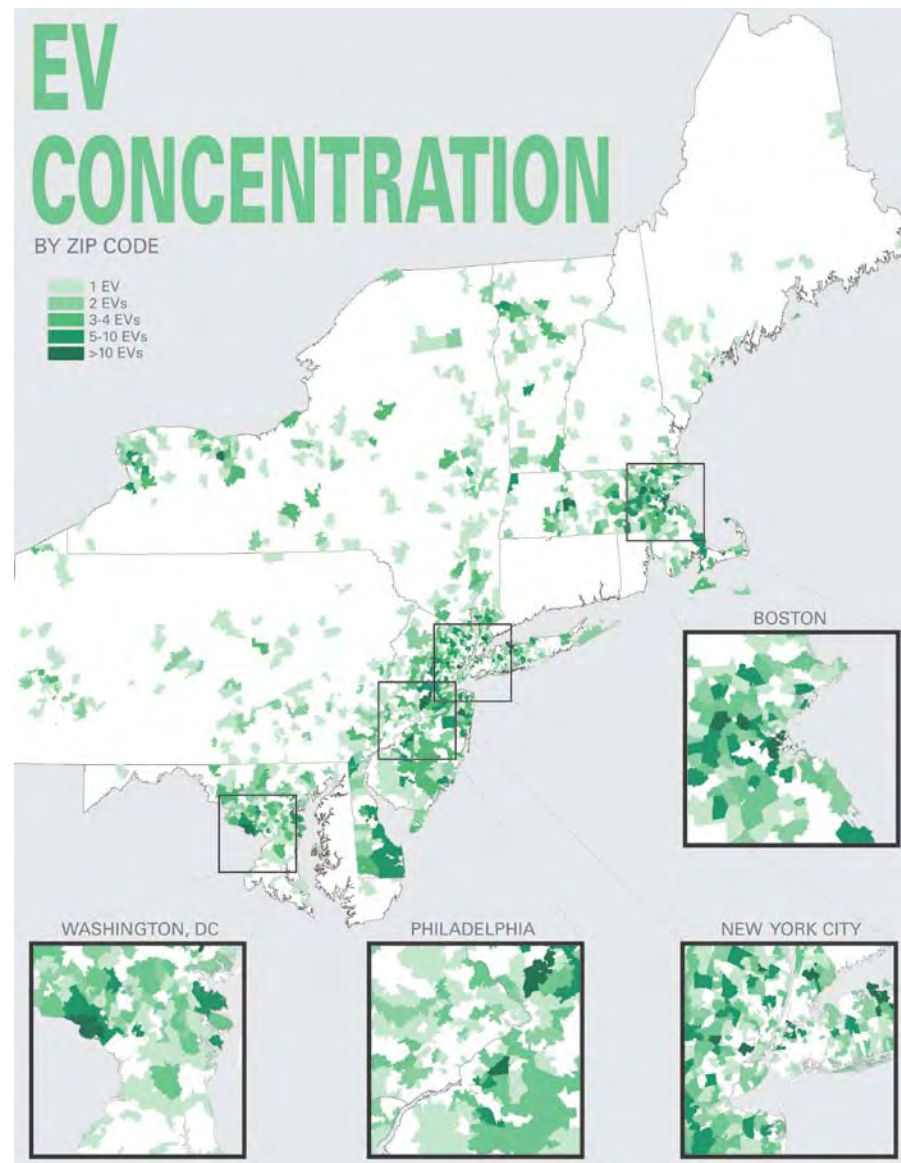
This report provides guidance to practitioners at all levels of state and local governments wishing to take action to implement EVSE deployment in their jurisdictions. The guide:

- Provides discussion and guidance regarding the steps to create, administer, and amend planning processes, rules, and regulations;
- Explores the potential for jurisdictions to encourage EV charging station installation and use; and
- Examines best practices for promoting EV-friendly zoning regulations, parking ordinances, building codes, permitting practices, and partnership and procurement policies.



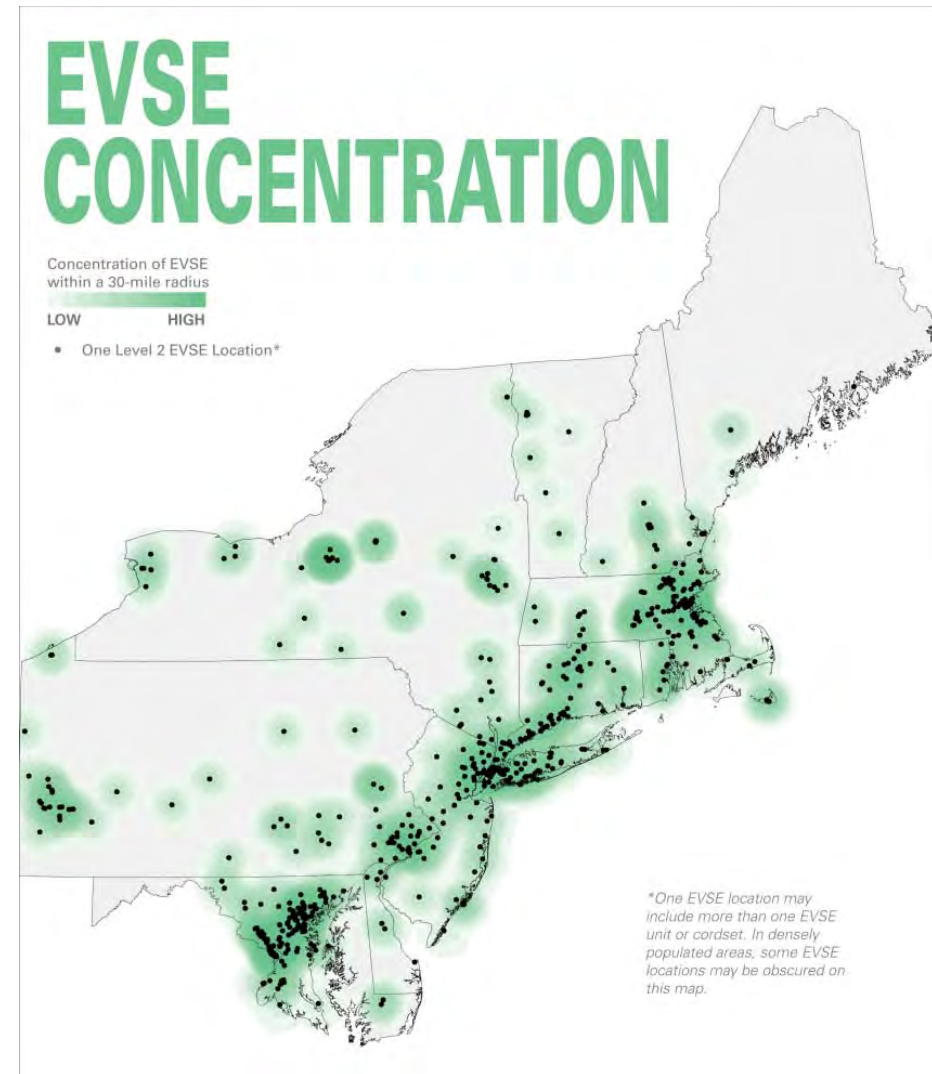
# Current EV Deployment

- EV ownership info was received from each state individually, except Connecticut, DC, and Rhode Island. No standard repository for this info
- Ownership is at the ZIP Code level
- There are large discrepancies in EV ownership on a state-by-state basis
- We see heaviest concentrations in the major metropolitan areas



# Current EVSE Deployment

- Data on EVSE was gathered from the Alternative Fuels Data Center
- A 30-mile driving range was used
- Most public EVSE are clustered around the I-95 corridor
- A significant portion of the region's EVSE is located at dealerships, which are not the most accessible locations,



# EV Ownership Demographic Analysis

Communities with EV ownership tend to be:

- Better-educated
- Wealthier
- Younger
- Suburban and Exurban communities connected to metropolitan areas
- Note: these are trends based on zip-code level data, and not representative of every EV owner



## DEMOGRAPHICS\*

The typical EV community is **YOUNGER**, more **EDUCATED**, **WEALTHIER**, **PROFESSIONAL** and low-density **EXURBAN & SUBURBAN**. All the above characteristics are greater in communities with **THREE OR MORE EVs**.

- **YOUNGER**, tech-savvy and eco-conscious

**6%** larger under 45 population

**1.5 Years** younger median age

- **WEALTHIER** and desiring to show off the latest eco-purchase

**38%** higher median household incomes

**47%** more households with income greater than or equal to \$200,000

- **Highly EDUCATED** and more concerned with energy security

**31%** more bachelor's degrees

**47%** more graduate degrees

- **SUBURBAN & EXURBAN DWELLERS** living in stable households

**40%** higher home values

**38%** more homes with four or more bedrooms

- **Diverse occupation base** with high percent in **MANAGERIAL** positions

**21%** more management, business, science and arts roles

**23%** more in professional and scientific industries

\*For ZIP codes and census tracts, based on 2010 Census and American Community Survey data

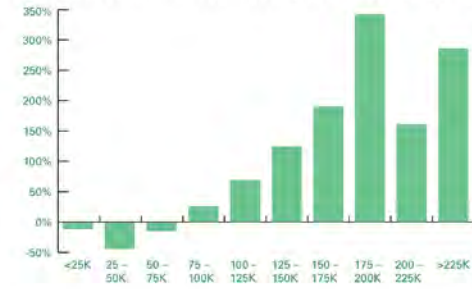
# EV Ownership Demographic Analysis

Further analysis assessment highlights that greater incidence of EV ownership correlates with:

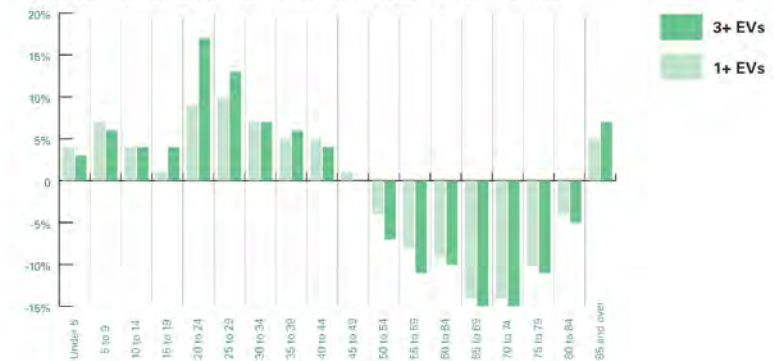
- Higher income
- Younger populations
- More bachelor's and graduate degrees

The report suggests that locations matching these demographics are the locations where greater EV ownership should be pursued

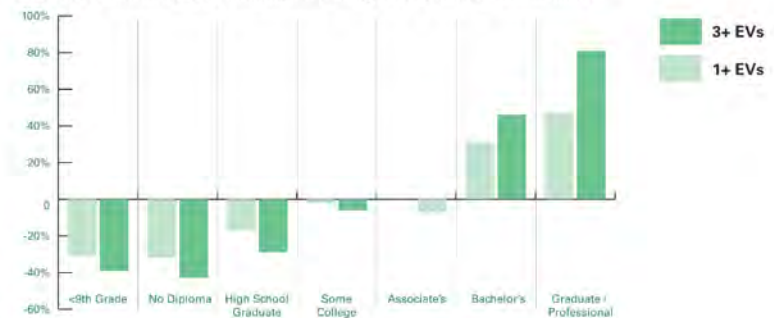
Correlation of communities' median household income with EV ownership



Age composition of EV communities compared to non-EV communities



Education attainment of EV communities compared to non-EV communities





# Analysis of Access to EV Dealership

- EV ownership is found to correlate with greater accessibility to dealerships.
- This was found by measuring the number of EV models at dealerships within each models' driving distance to each community in the region.
- The shows the impact of EV makers' decisions to initially release vehicles only to select markets

Vehicle	Type	Electric Range (miles)
Chevrolet Volt	EREV	35
Fisker Karma	EREV	33
Ford Focus Electric	BEV	76
Mitsubishi i	BEV	62
Nissan Leaf	BEV	73
Tesla Model S	BEV	160
Toyota Prius Plug-In	PHEV	11

## ACCESSIBILITY TO DEALERSHIPS

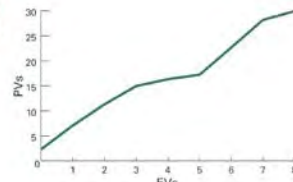
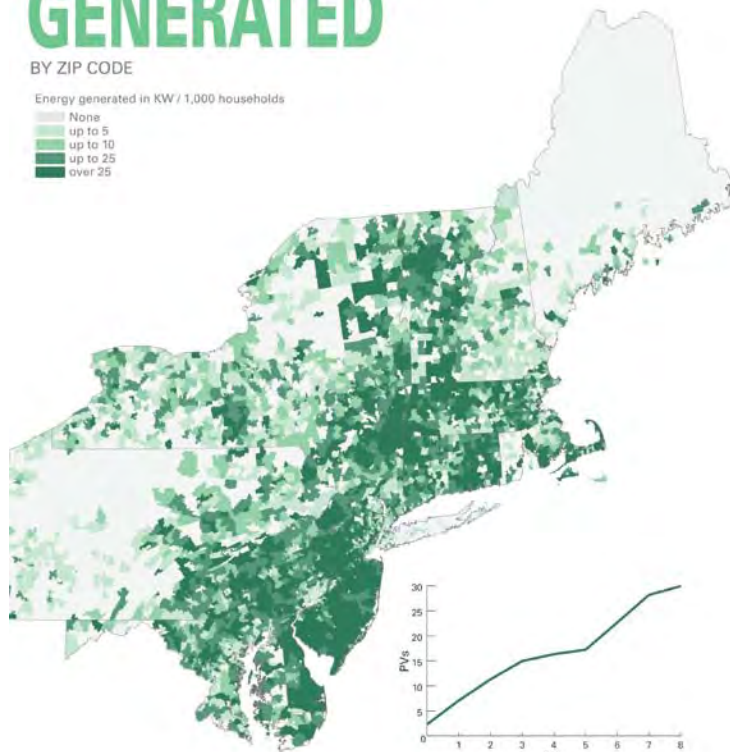


# Analysis of Environmental Impacts

## SOLAR ENERGY GENERATED

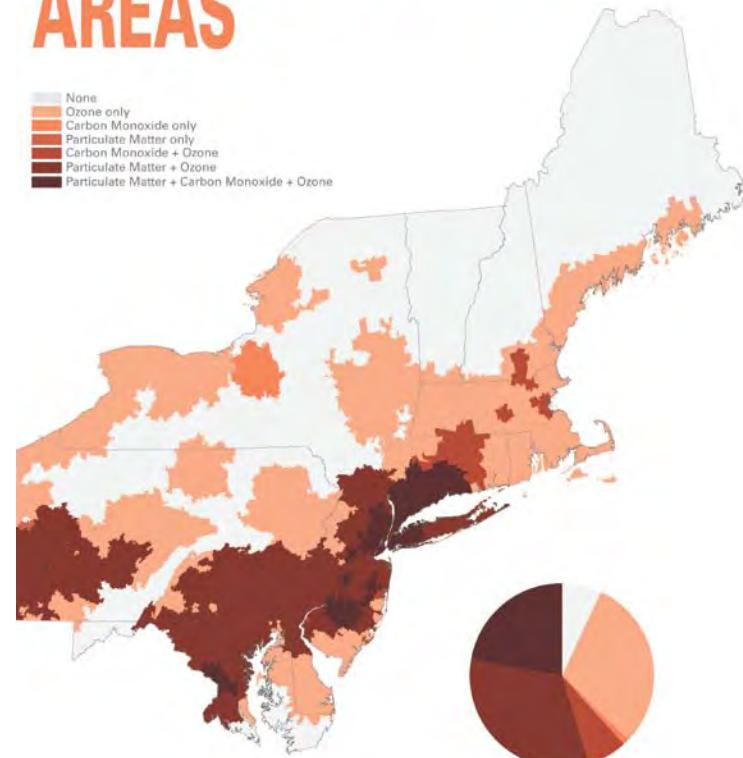
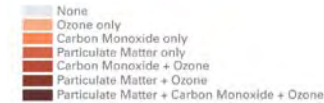
BY ZIP CODE

Energy generated in KW / 1,000 households

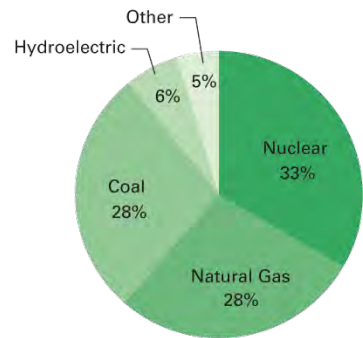


Average PV installation by # of EVs

## NON ATTAINMENT AREAS



Non-attainment for ZIP codes with EVs



Electricity Source in Region

# Further Info

Contact us with any further questions

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All reports are available at [NortheastEVs.org](http://NortheastEVs.org)

