



UTILITY ENERGY
REGISTRY | NEW YORK
SUPPORTING SUSTAINABLE COMMUNITIES

Community Energy Registry

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**Climate Smart
Communities**

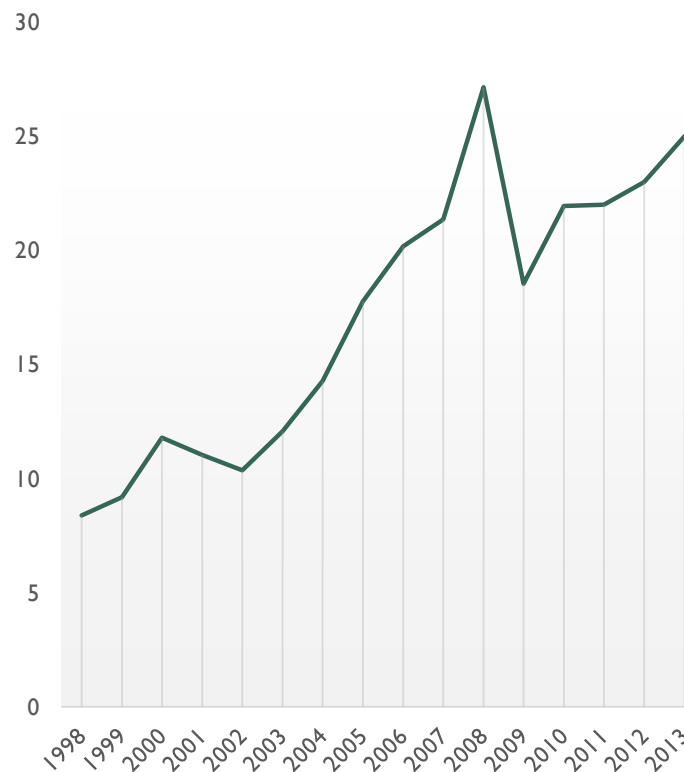


CLIMATE ACTION
ASSOCIATES LLC

ENERGY AND SUSTAINABILITY

- Energy consumption causes GHG emissions
 - Electricity and fossil fuel use in facilities
 - Electricity, natural gas, fuel oil, propane, used in buildings, operations & for lighting
 - Vehicle and equipment fleet
 - Gasoline, diesel, natural gas & LPG used in on and off-road equipment
- Energy is expensive
 - \$2 billion spent in the capital region per year
 - Efficiency saves money

1998 - 2014
Gasoline and Diesel Price
(\$\$/MMBTU)



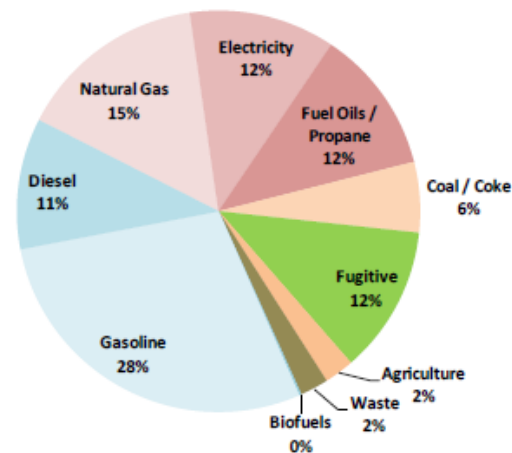
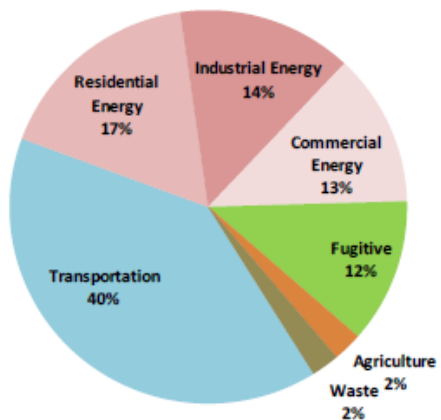
CAPITAL REGION GHG EMISSIONS

Table 2. Regional GHG Emissions By Sector and Source.

Sector	Energy (MMBTU*)	GHG (MTCDE)	Cost (\$)
Transportation	92,132,492	6,258,855	2,034,241,256
Residential Energy	50,545,185	2,707,593	1,253,684,694
Industrial Energy	36,851,803	2,258,018	426,936,148
Commercial Energy	32,956,047	1,984,986	839,997,242
Process and Fugitive		1,883,042	
Agriculture		379,096	
Waste		359,648	
Totals	212,485,527	15,831,238	4,554,859,339

Source	Energy (MMBTU)	GHG (MTCDE)	Cost (\$)
Natural Gas	45,417,113	2,410,377	499,434,373
Electricity	27,576,233	1,855,273	1,369,241,326
Fuel Oils / Propane	25,402,850	1,836,073	534,756,704
Coal / Coke	9,481,109	898,503	48,430,800
Biofuels	18,441,223	27,075	196,904,506
Gasoline	64,068,955	4,514,875	1,429,764,082
Diesel	22,098,044	1,667,275	476,327,547
Process and Fugitive		1,883,042	
Agriculture		379,096	
Waste		359,648	
Totals	212,485,527	15,831,238	4,554,859,339

*MMBTU is an energy unit equal to 1 million British thermal units



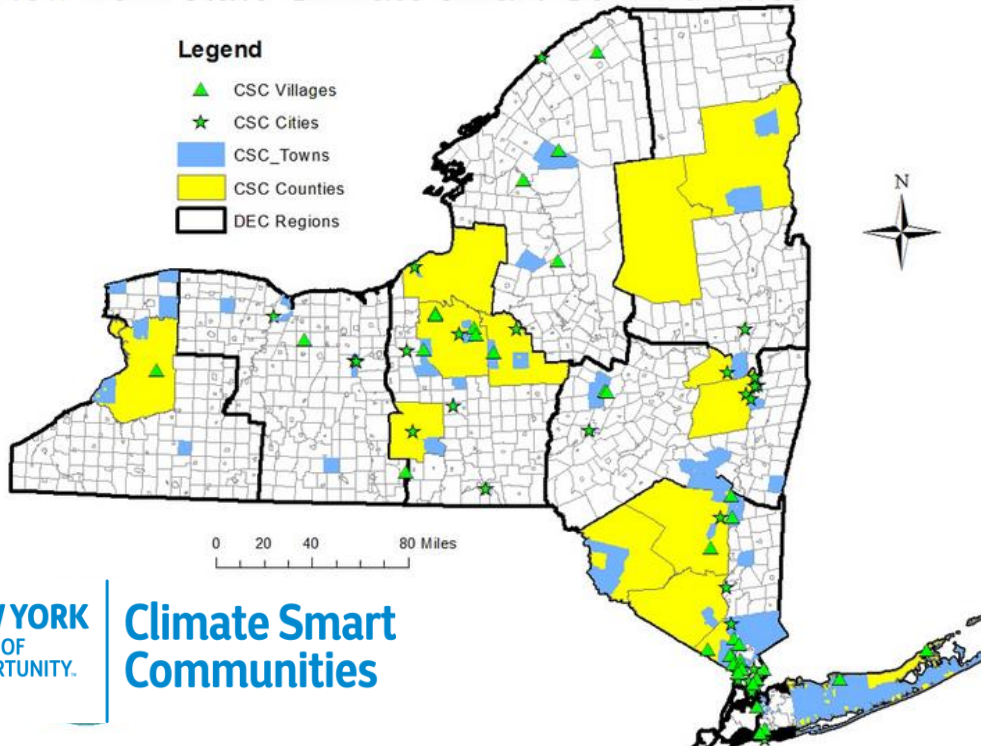
NEW YORK STATE IS COMMITTED

- **Goals:**
 - **40%** reduction in GHG emissions from 1990 levels by **2030**
 - **80%** reduction in GHG emissions from 1990 levels by **2050**
 - **50%** generation of electricity from renewable energy sources by **2030**
 - **600** trillion Btu increase in statewide energy efficiency (23% decrease in energy consumption in buildings)
- **State policies**
 - Regional Greenhouse Gas Initiative (RGGI), Community Risk and Resiliency Act, Reforming the Energy Vision
- **State support of local governments**
 - Climate Smart Communities and Cleaner, Greener Communities
 - DOS, DOT, DEC Initiatives



CLIMATE SMART COMMUNITIES PROGRAM

New York State Climate Smart Communities



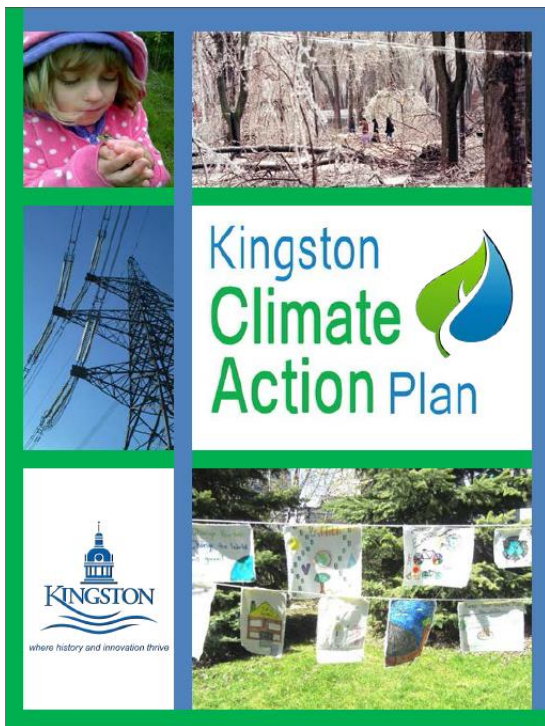
- State-local partnership to meet the economic, social, and environmental challenges of climate change
- Joint effort by 6 state agencies
- No fee to join, no cost to receive support
- Voluntary and flexible
- Climate Smart Community Goals:
 - Reduce Greenhouse Gas Emissions
 - Adapt to a Changing Climate
 - Save Tax Payer Dollars
 - Advance Community Goals
- 168 Climate Smart Communities across NYS, 21 in the Capital District

LOCAL GOVERNMENT GHG REDUCTION STRATEGIES

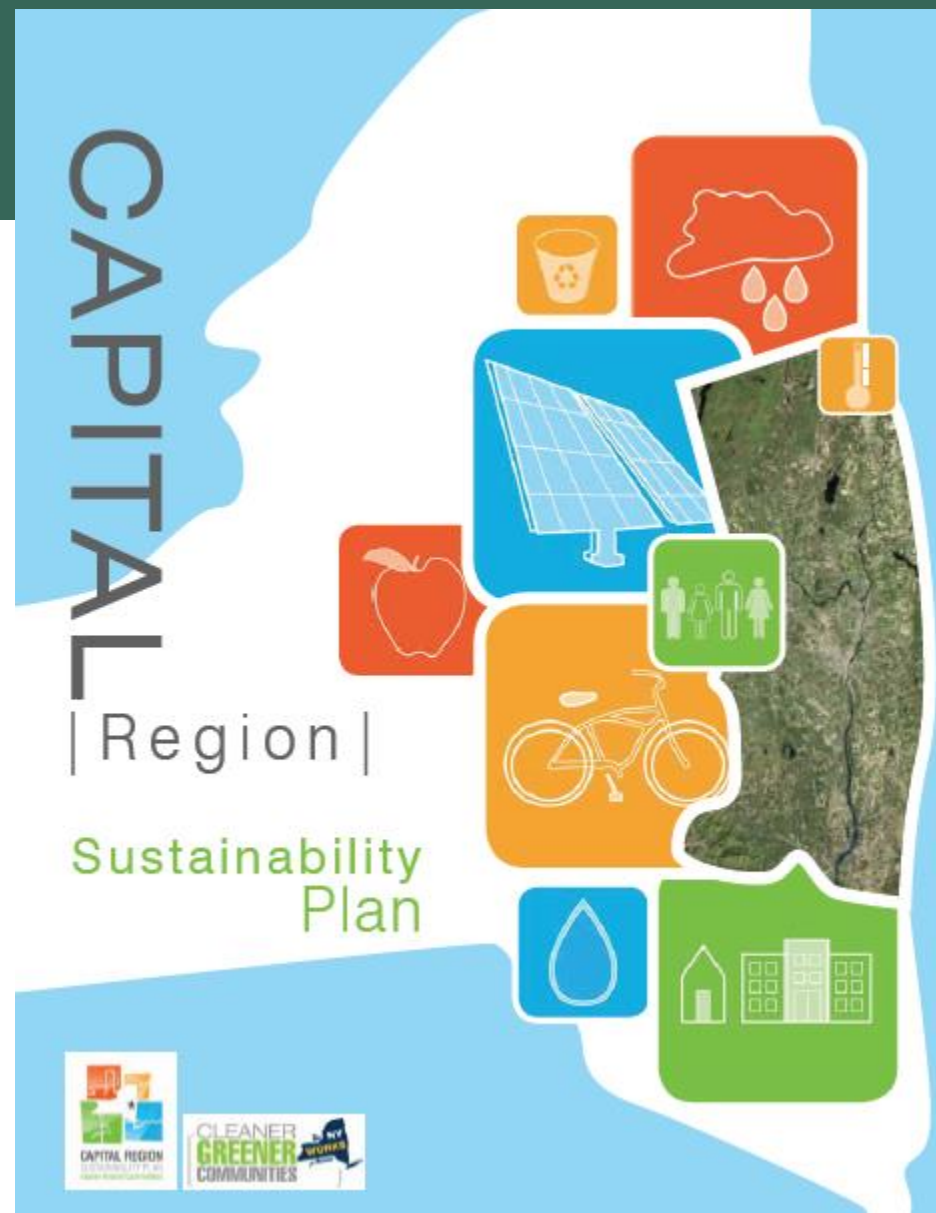


- Local governments can influence community energy use and community behavior:
 - Smart Growth policies
 - **Streamlined permitting and zoning for solar PV, EV charging stations**
 - Resource-efficient site design
 - Green space protection
 - Complete Streets
 - Transit Oriented Development
 - **Energize NY Financing**
 - **Community Choice Aggregation**

ENERGY AND CLIMATE PLANNING



BuildSmartNY
Five Cities Energy Plans
Albany ■ Buffalo ■ Rochester ■ Syracuse ■ Yonkers



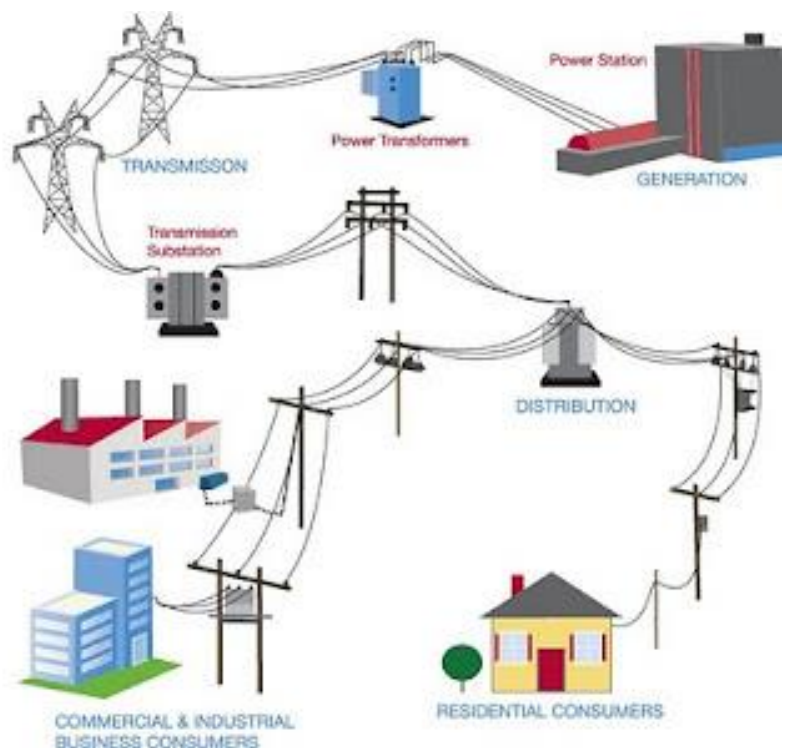
UTILITIES: MASTERS OF THE ENERGY HIGHWAY

- New York's Reforming the Energy Vision (REV)
 - Utilities as T/D agents, not generators
 - Encourage renewables and micro grids
 - Encourage community solar, net metering, and other initiatives
- Utilities hold the key to measuring local energy plan success
 - Meter all consumption at point of use
 - Beginning to geocode meters
 - Track renewable deployments- solar and other net meter applications
 - Measure costs, rates, and energy performance

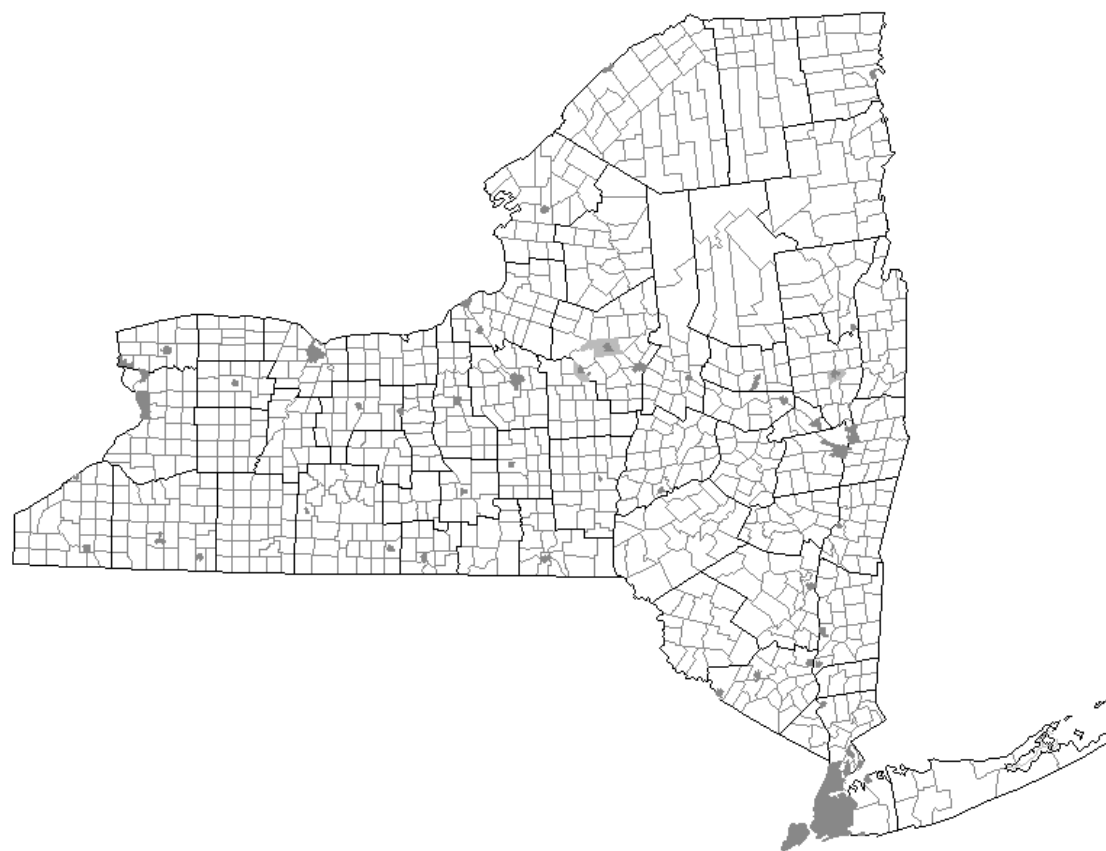
TRACKING ENERGY: THE GEOSPATIAL PROBLEM

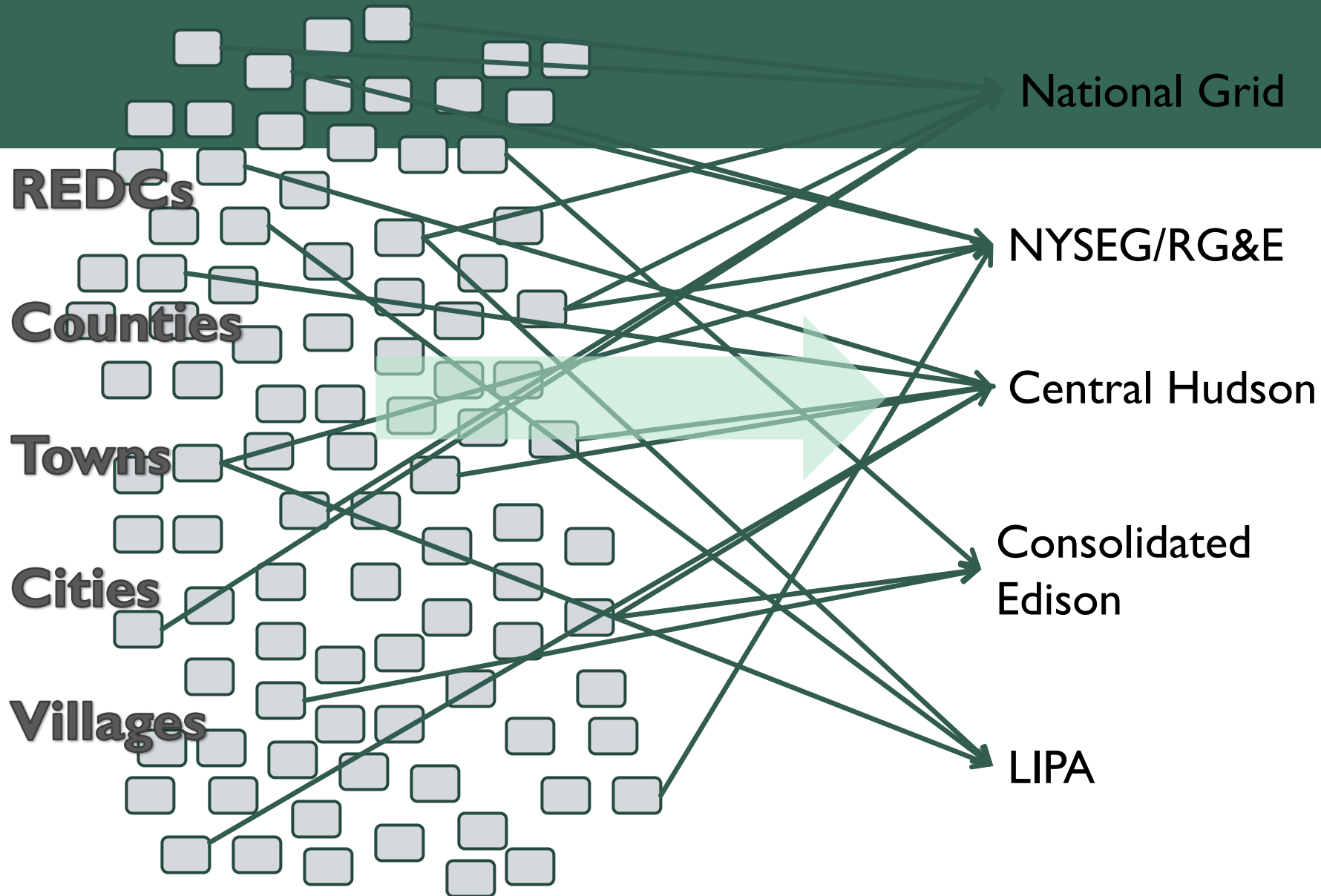
60+ Utilities

- Major Utilities (e.g., National Grid)
- Rural Cooperatives
- Municipal Utilities



1500+ Cities, Towns, and Villages





Inefficient.

NYSERDA has invested millions of dollars in high level energy, climate and sustainability planning at local and regional levels. Individual planners spend money chasing data.

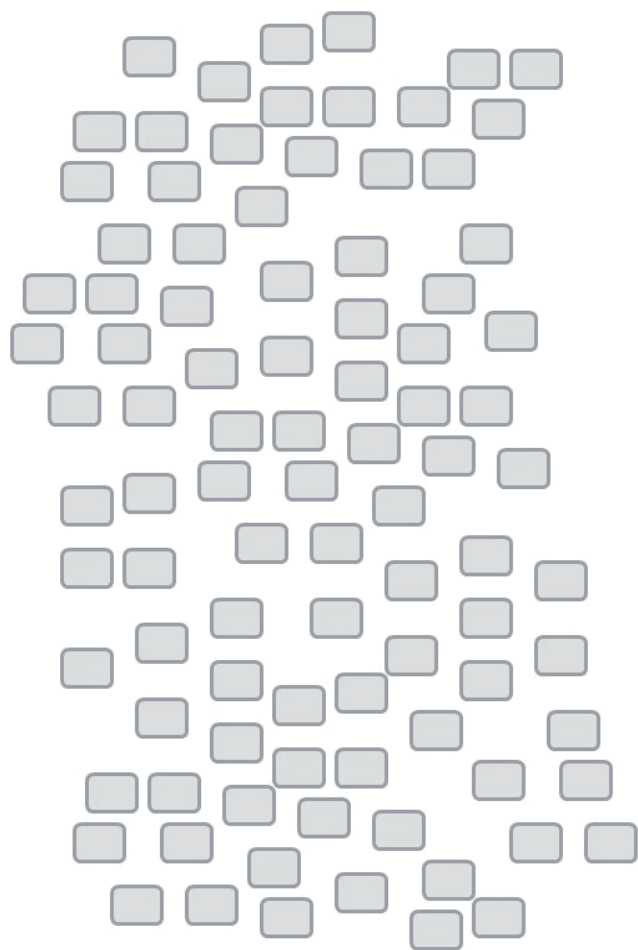
One-off requests are chaotic, expensive, create bad data and can not be sustained. Data for the same community and same year is inconsistent because individuals in a utility may pull data differently.

THE UTILITY WORKING GROUP

- Collaborative Group For Utility Technical Teams
 - Convened online, listserv and webinars
 - Joint technical brainstorming and learning
- Moderated by NYSERDA contractors
 - Assisted coordination and group strategy
 - Identified issues that needed to be addressed
 - Provided technical support



COORDINATED DATA STRATEGY



National Grid

NYSEG/RG&E

Central Hudson

Consolidated
Edison

Orange and Rockland

CROWDSOURCING: DISTRIBUTED RESPONSIBILITY

Define Data Ask

- CGC Phase I GHG Working Group
- Utility Working Group

Define Format

- Work with utilities
- Community Energy Report
- NYSERDA provided technical support (through CAA)

Define Process

- Maintain a Utility Liaison
- Update CERs annually
- NYSERDA to prompt them for data

Manage Data

- Data collection / analysis Tools
- Utility Energy Registry

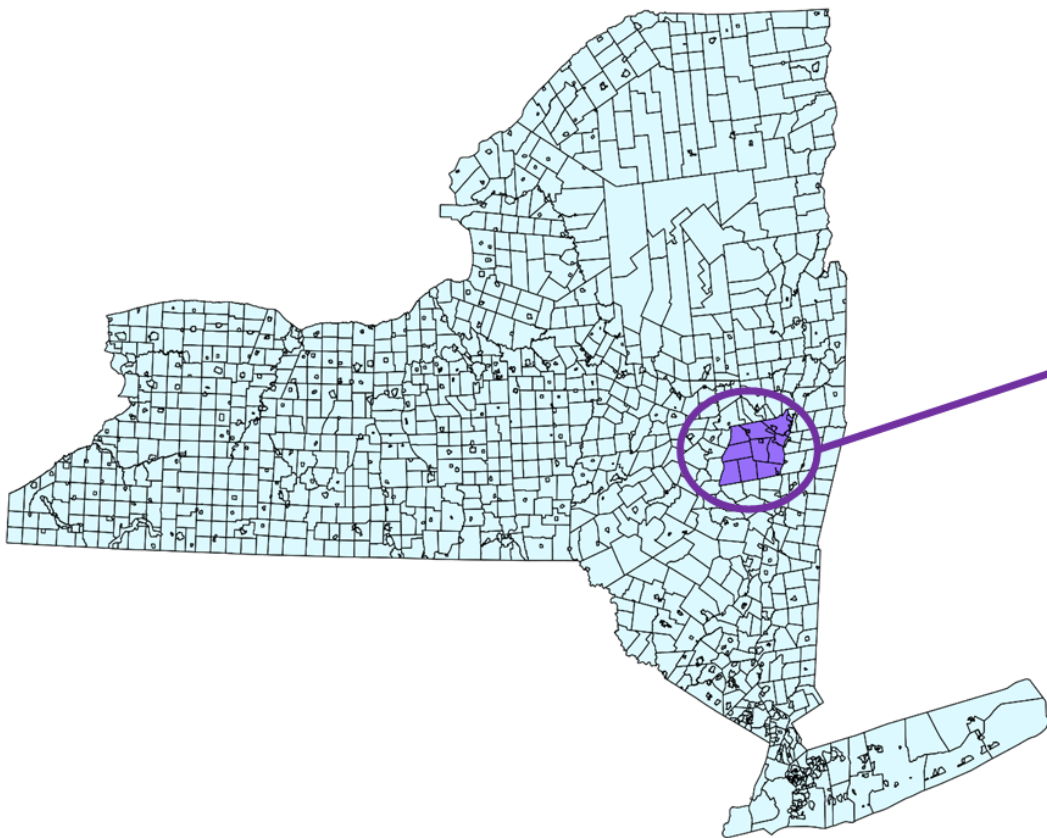
THE COMMUNITY ENERGY REGISTRY

<https://energyregistry.io>

- Crowdsourced energy data for community planning
 - Utilities provide data consumption data by NYSPSC revenue class
 - Transparent – no data transformation
 - Communities just “get data” without asking
- Awesome data model. 100% flexible 😊
 - Any data, any resolution, from any publisher.
 - Easily accept REV metrics like distributed generation, interconnection, energy cost rates, CCA potential, and other metrics
- Have comprehensive utility engagement
 - Completely voluntary
 - All major utilities have engaged: 1300 communities have data
- Designed for community planning: census based data
 - Data in community, zip code levels
 - Census block and track publishing available



THE CENSUS DATA MODEL



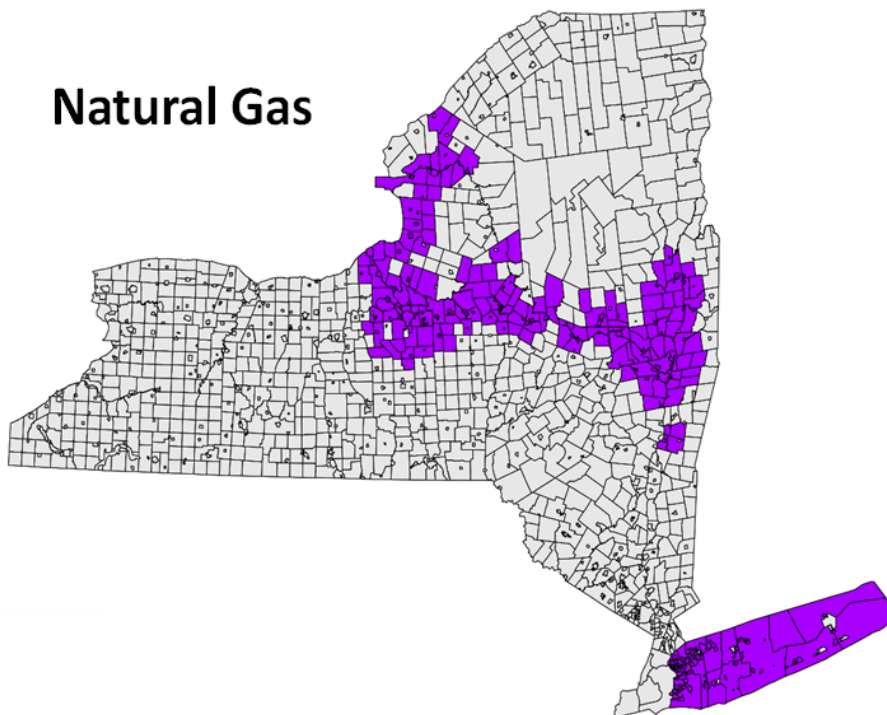
Census Names and Full FIPS codes

TYPE of MCD	MCD NAME	County	FIPS
City	Albany	Albany	3600101000
Village	Altamont	Albany	3601517
Town	Berne	Albany	3600106211
Town	Bethlehem	Albany	3600106354
Town	Coeymans	Albany	3600116694
City	Cohoes	Albany	3600116749
Town	Colonie	Albany	3600117343
Village	Colonie	Albany	3617332
Village	Green Island	Albany	3630521
Town	Green Island	Albany	3600130532
Town	Guilderland	Albany	3600131104
Town	Knox	Albany	3600140002
Village	Menands	Albany	3646536
Town	New Scotland	Albany	3600150672
Village	Ravena	Albany	3660675
Town	Rensselaerville	Albany	3600161181
Village	Voorheesville	Albany	3677684
City	Watervliet	Albany	3600178674
Town	Westerlo	Albany	3600179851

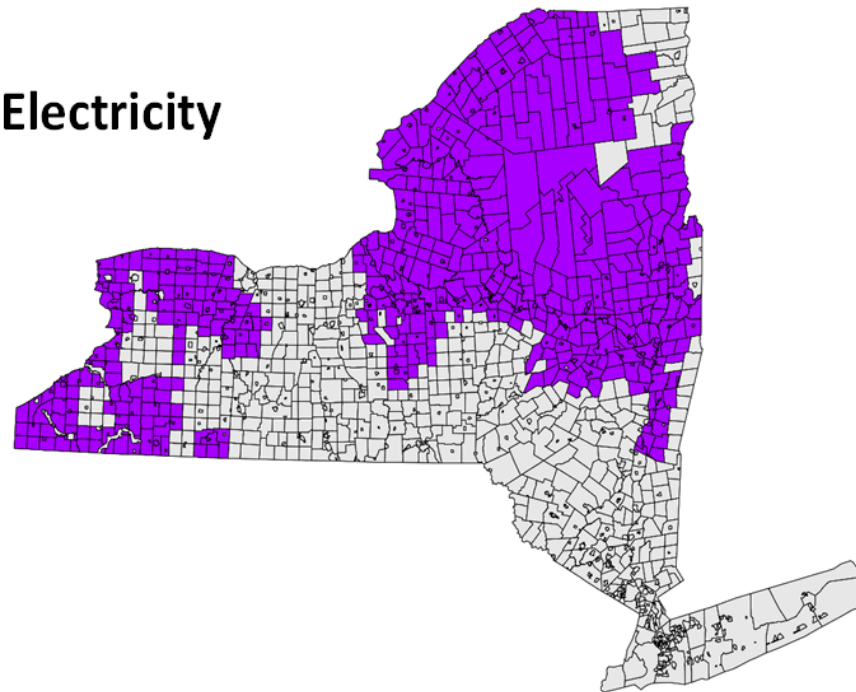
DIGITIZE ALL SERVICE TERRITORIES

nationalgrid Service Territory

Natural Gas



Electricity



THE COMMUNITY ENERGY REPORT (CER)

Standard Census Geography

Standard Energy Data

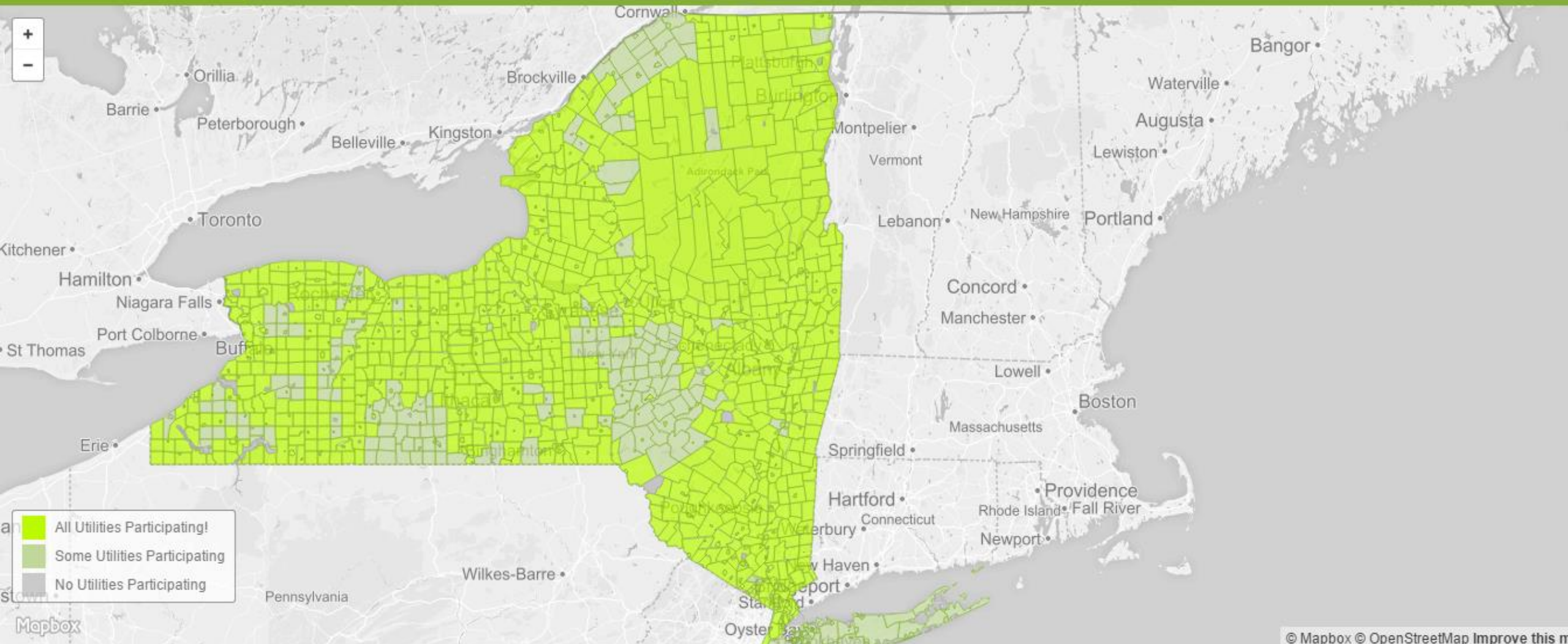
Census Common Identifier					Electricity Consumption (MWh)			Natural Gas Consumption (MMBTU)		
Row	Community	Form	FIPS (county)	FIPS (place)	Residential	Commercial	Industrial	Residential	Commercial	Industrial
1	Albany	City	36001	01000	430,340	345,555	200,340	2,300,400	1,200,345	678,660
2	Amherst	Town	36065	32770	56,354	35,000	12,300	N/A	N/A	N/A
3	Ashton	Town	36040	87550	45,338	10,344	5,677	N/A	N/A	N/A
4	Bethlehem	Town	36001	06354	120,500	57,898	65,309	675,300	540,400	200,201
5	Brainard	Village	36039	15040	23,000	12,344	N/A	45,400	23,322	N/A
6	Catskill	Village	36039	13013	65,200	30,299	3,000	127,300	65,800	12,400
7	Columbia	County	36021		2,303,500	3,200,500	1,200,450	24,500,350	12,340,300	16,740,004
8	Dublin	Town	36021	23200	18,540	12,400	N/A	76,700	56,100	N/A
....
....
239	Victory	Town	36049	45440	132,899	234,400	235,300	1,400,500	1,130,870	1,340,000
240	Vista	Village	36049	45667	14,300	12,200	N/A	35,678	45,000	N/A
241	Watervliet	City	36001	78674	37,800	35,300	1,300,450	69,800	34,289	5,600
242	Weschester	County	36119		3,200,432	2,356,005	4,300,541	15,400,350	11,240,300	8,725,100



PARTICIPATING UTILITIES

EXPLORE MAP

GET DATA



Legend:

- All Utilities Participating!
- Some Utilities Participating
- No Utilities Participating

Mapbox

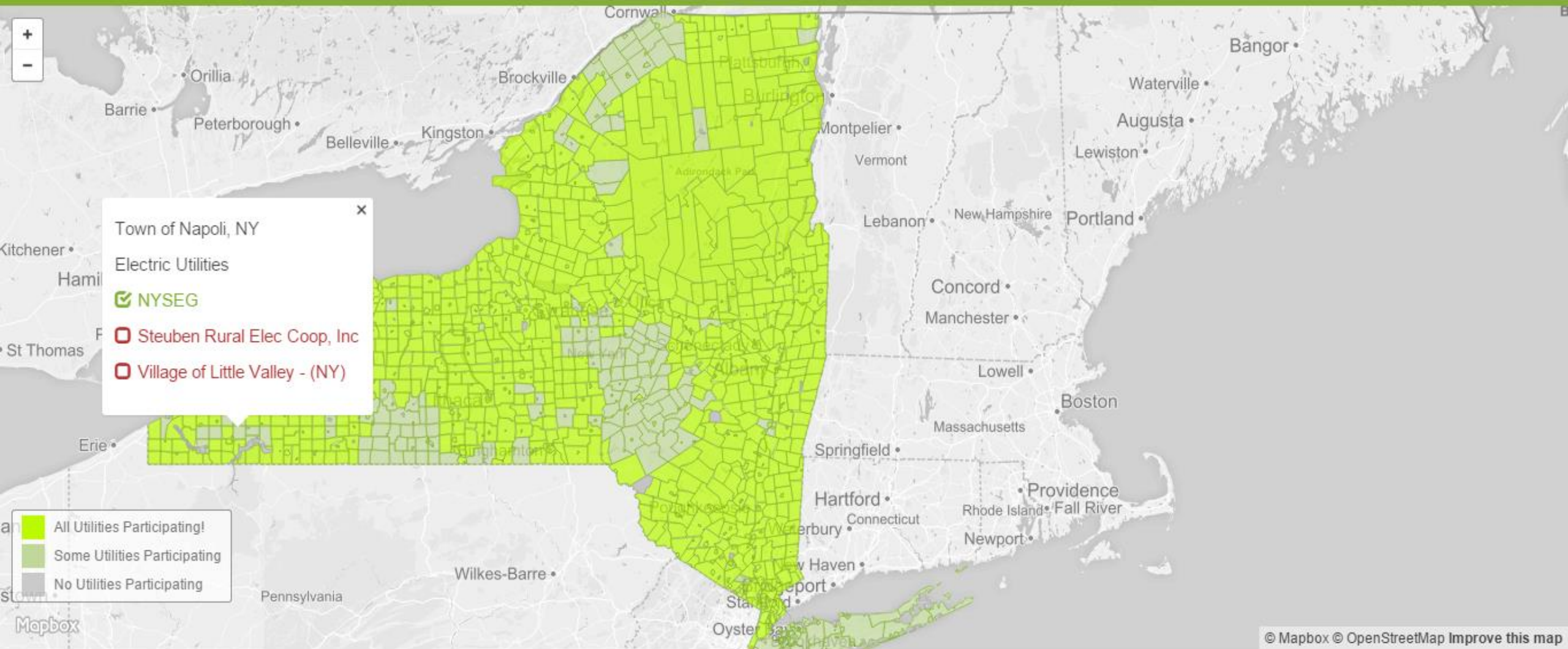
© Mapbox © OpenStreetMap Improve this map



PARTICIPATING UTILITIES

EXPLORE MAP

GET DATA

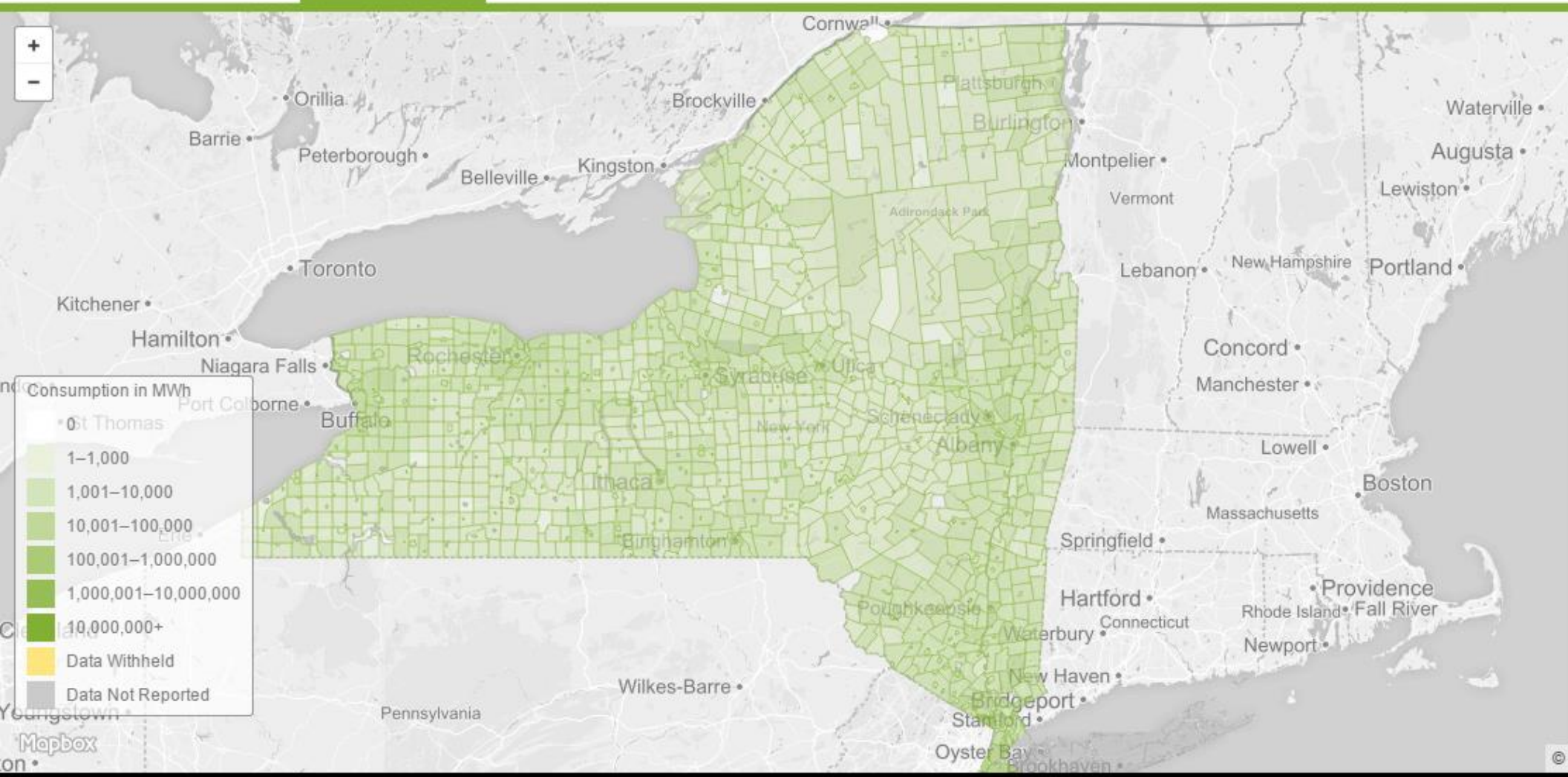


Town of Napoli, NY

Electric Utilities

- NYSEG
- Steuben Rural Elec Coop, Inc
- Village of Little Valley - (NY)

- All Utilities Participating!
- Some Utilities Participating
- No Utilities Participating



Geography Resolution ?

Community ▼

Reporting Period ?

Annual ▼

Reporting Interval ?

2010 ▼

Energy Type ?

Electricity ▼

Data Point ?

Residential Consumption ▼

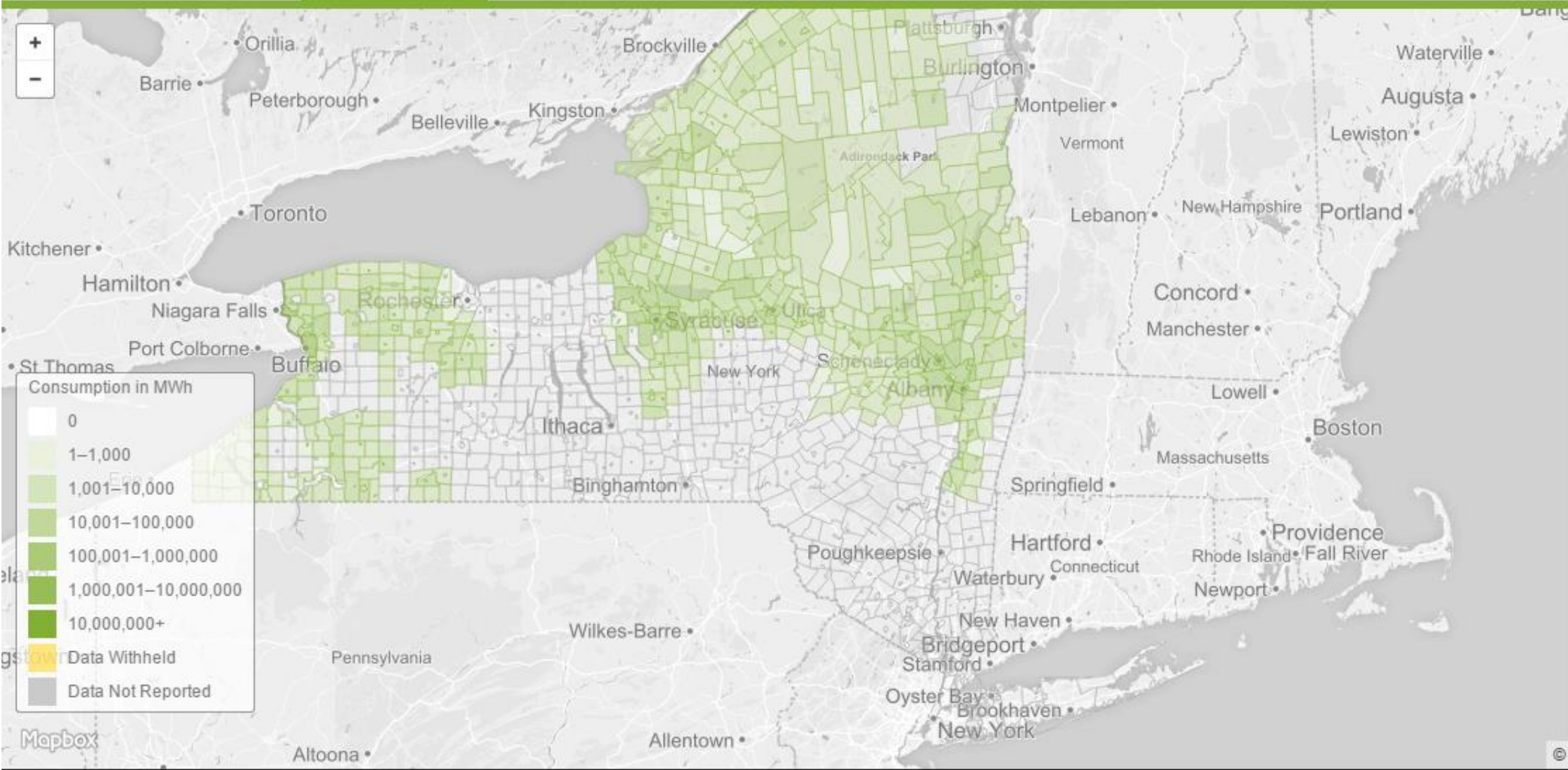
Utility ?

All Reporting Utilities ▼

Update Map



PARTICIPATING UTILITIES EXPLORE MAP GET DATA



Geography Resolution ?
Community

Reporting Period ?
Annual

Reporting Interval ?
2014

Energy Type ?
Electricity

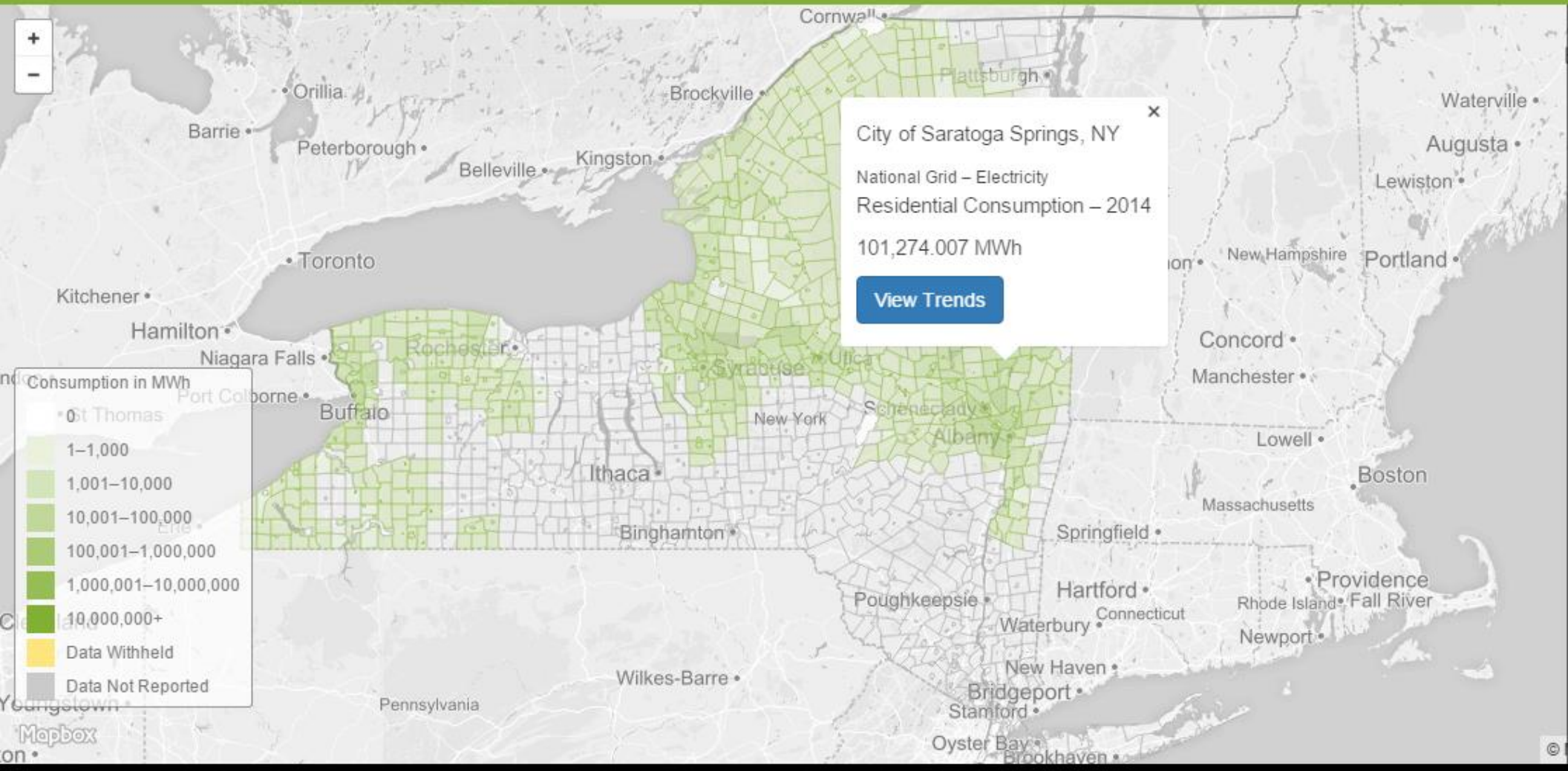
Data Point ?
Total Consumption

Utility ?
National Grid

Update Map



PARTICIPATING UTILITIES EXPLORE MAP GET DATA



Geography Resolution ?
 Community

Reporting Period ?
 Annual

Reporting Interval ?
 2014

Energy Type ?
 Electricity

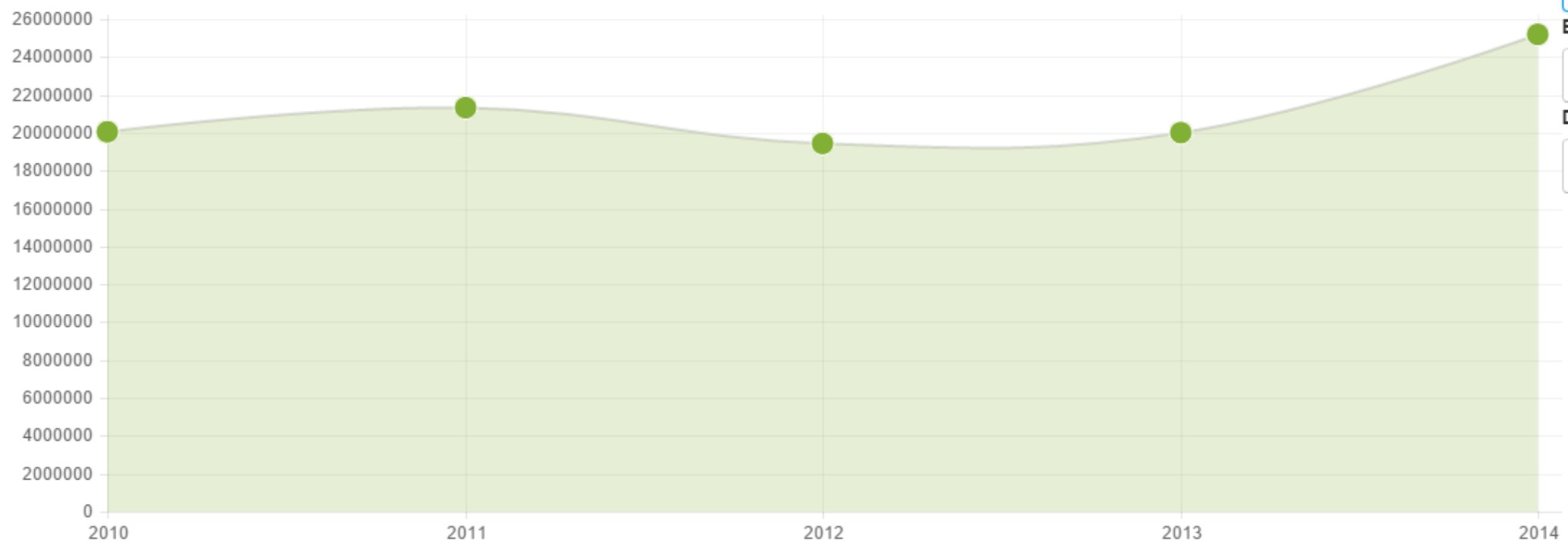
Data Point ?
 Residential Consumption

Utility ?
 National Grid

[Update Map](#)

City of Saratoga Springs, NY

Annual Natural Gas Usage in Therms - Total Consumption



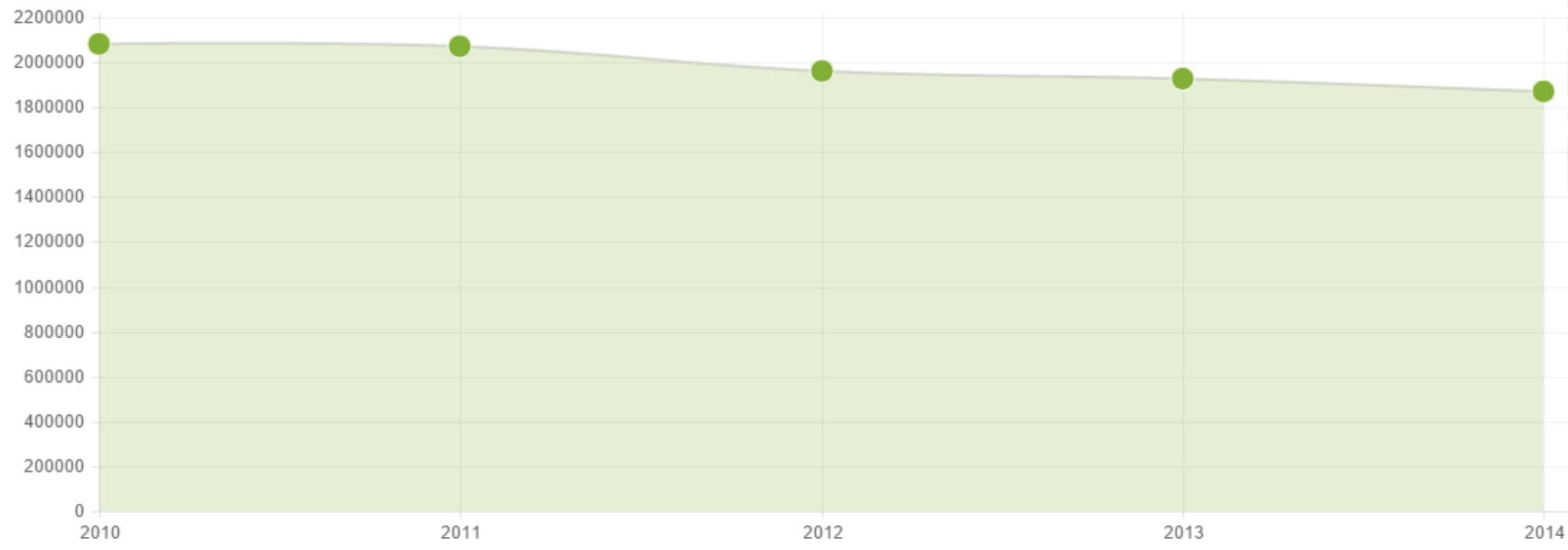
Reporting Period
Annual

Energy Type
Natural Gas

Data Field
Total Consumption

City of Rochester, NY

Annual Electricity Usage in MWh - Total Consumption



Reporting Period

Annual

Energy Type

Electricity

Data Field

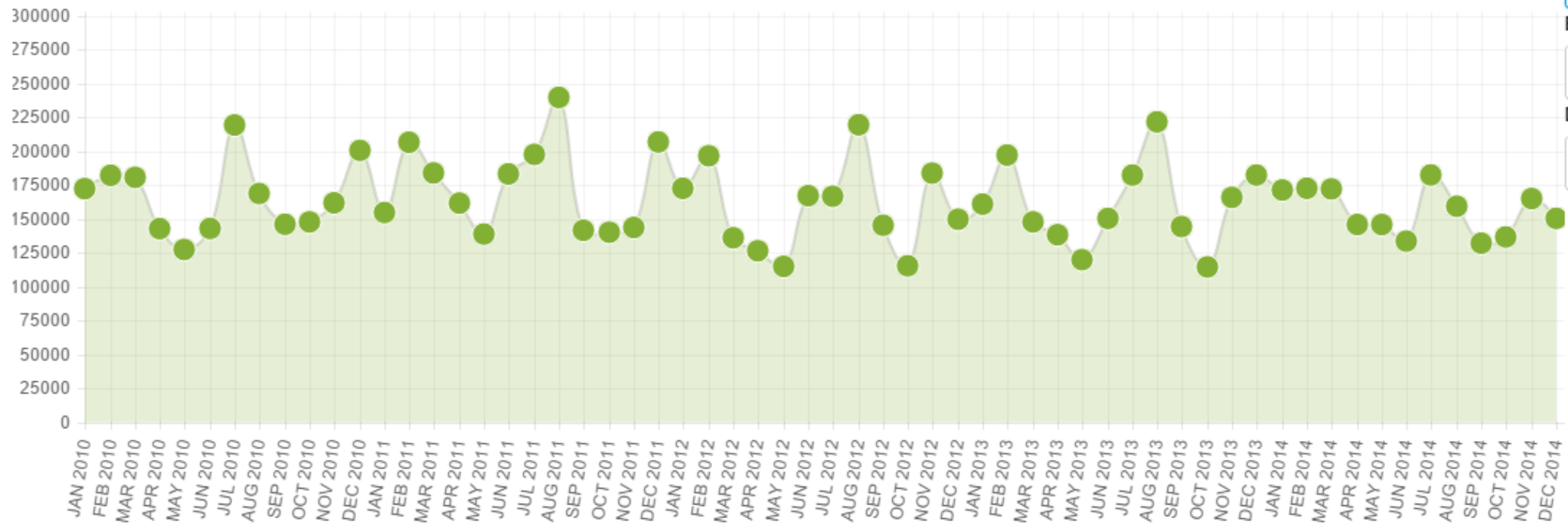
Total Consumption



City of Rochester, NY



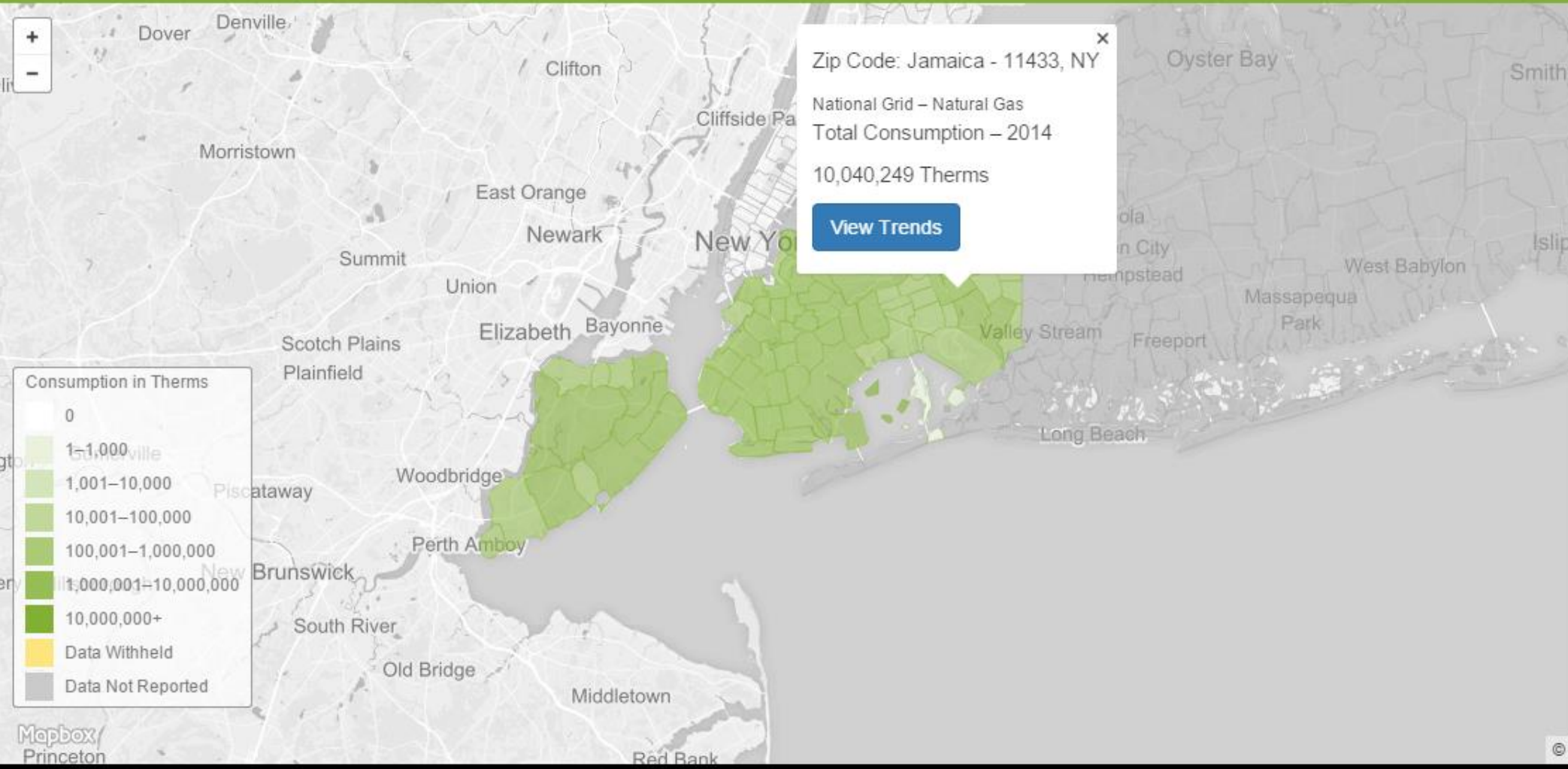
Monthly Electricity Usage in MWh - Total Consumption



Reporting Period

Energy Type

Data Field



Zip Code: Jamaica - 11433, NY
 National Grid - Natural Gas
 Total Consumption - 2014
 10,040,249 Therms
[View Trends](#)

Geography Resolution: Zip Code
 Reporting Period: Annual
 Reporting Interval: 2014
 Energy Type: Natural Gas
 Data Point: Total Consumption
 Utility: National Grid
[Update Map](#)



Geography Resolution: Community **Reporting Period:** Annual

Total Results: 1619

County	Community	Type	Census FIPS	Utility	Year	Data Class	CER Field	Unit	Value
Albany	Voorheesville	Village	3677684	National Grid	2014	Natural Gas	Total Consumption	Therms	1425938
Albany	Voorheesville	Village	3677684	National Grid	2014	Natural Gas	Residential Consu...	Therms	1076745
Albany	Voorheesville	Village	3677684	National Grid	2014	Natural Gas	Industrial Consum...	Therms	104967
Albany	Voorheesville	Village	3677684	National Grid	2014	Natural Gas	Commercial and I...	Therms	349193
Albany	Voorheesville	Village	3677684	National Grid	2014	Natural Gas	Commercial Cons...	Therms	244226
Albany	Voorheesville	Village	3677684	National Grid	2014	Electricity	Total Consumption	MWh	18221.931
Albany	Voorheesville	Village	3677684	National Grid	2014	Electricity	Streetlighting Co...	MWh	0
Albany	Voorheesville	Village	3677684	National Grid	2014	Electricity	Residential Consu...	MWh	9471.498
Albany	Voorheesville	Village	3677684	National Grid	2014	Electricity	Industrial Consum...	MWh	3959.394
Albany	Voorheesville	Village	3677684	National Grid	2014	Electricity	Commercial and I...	MWh	8750.433

Results Per Page: 500

Filters



Albany Utility

State

New York ▾

Geography Resolution

Community ▾

Service Area

Show

All ▾

No.	COM_NAME	FULL_FIPS	STATE_2	STATE_FIPS	Electric Service	Natural Gas Service
1	Adams	3600199	NY	36	<input type="checkbox"/>	<input type="checkbox"/>
2	Adams	3604500210	NY	36	<input type="checkbox"/>	<input type="checkbox"/>
3	Addison	3610100287	NY	36	<input type="checkbox"/>	<input type="checkbox"/>
4	Addison	3600276	NY	36	<input type="checkbox"/>	<input type="checkbox"/>
5	Afton	3600342	NY	36	<input type="checkbox"/>	<input type="checkbox"/>
6	Afton	3601700353	NY	36	<input type="checkbox"/>	<input type="checkbox"/>
7	Airmont	3600408	NY	36	<input type="checkbox"/>	<input type="checkbox"/>



The Energy Registry

@EnergyRegistry

Excellence in Sustainability Tracking

New York, USA

utilityregistry.org

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Choose your first Tweet

We've got your first Tweet ready to go. The hashtag #myfirstTweet will help others find and chat with you.

 **The Energy Registry** @EnergyRegistry
 Just setting up my Twitter.
 #myfirstTweet

Tweet




 **The Energy Registry** @EnergyRegistry
 Hello Twitter! #myfirstTweet

Tweet

Or write your own

Text input field for writing a tweet

Who to follow · Refresh · View all


-  **JStewart** @social_justus ×
[+ Follow](#)
-  **kate fish** @KateKfish ×
[+ Follow](#)
-  **Kim W.** @CajunQueen9 ×
[+ Follow](#)

Find friends

Trends · Change

#NoBraDay
 No Bra Day: Can you go braless today? - Vanguard News
 93K Tweets about this trend

Add a Cover



The Energy Registry
Energy/Utility

Create Call to Action Share

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Promote

THIS WEEK

2
Page Likes

Recent
2015

Reach a new milestone

100 Likes

Promote Page

Status Photo / Video Event, Milestone +


Write something...

ABOUT

- Add street address
City, State, Zip
- Add phone number
- Add Price Range
- http://energyregistry.io/ **Promote Website**

The Energy Registry updated their profile picture.

October 7 at 8:29am



ENERGY REGISTRY MOVING FORWARD

- Register as a 501c3
- Establish BOD
- Establish Technical Advisory Committees
 - GIS Committee
 - Technology Committee / Platform
 - Energy Data Committee / Planning
 - Utility Working Group