

Mass Save® and National Grid Rhode Island C&I Upstream HVAC Program Insights

- Presented at the 2019 ASHP Market Transformation Workshop
- Presented by Kyle Coumas, Energy Solutions

Mass Save® and RI C&I Upstream HVAC Program



Ductless Mini and Multi Split Systems										
Equipment Type	Unit Type	Tier	Size Category ¹	Sub Category	Full Load Cooling Efficiency		Seasonal/ Part Load Cooling Efficiency		Heating Efficiency ²	Minimum Sales Price Discount (\$/Ton)*
Air-Cooled	AC or HP	1	< 65 kBtuh (<5.4 Tons)	Ductless Mini and Multi Splits	12.0 EER	and	20 SEER	and	9.0 HSPF	\$75.00
		2			12.0 EER	and	23 SEER	and	11.5 HSPF	\$150.00

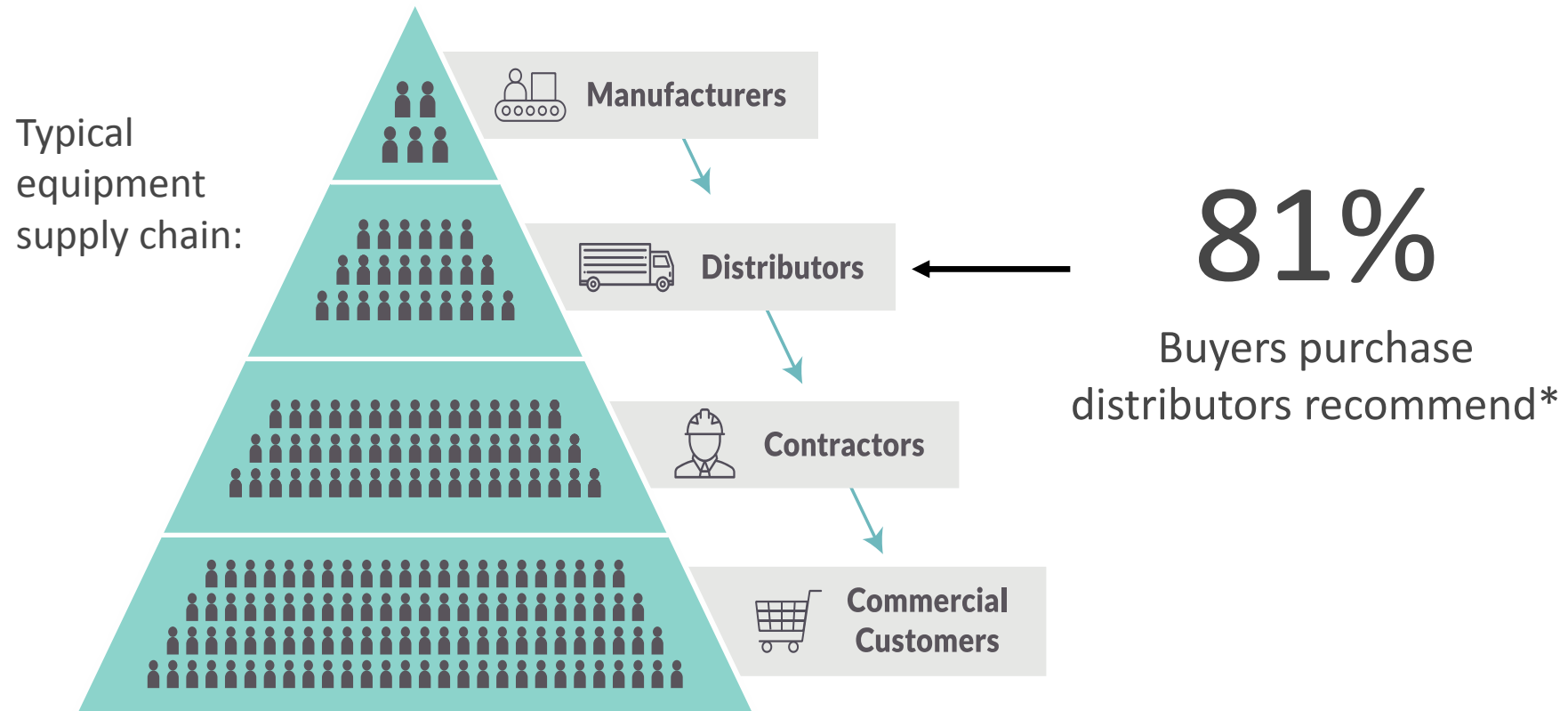
VRF Systems										
Equipment Type	Unit Type	Tier	Size Category	Sub Category	Full Load Cooling Efficiency		Seasonal/Part Load Cooling Efficiency		Heating Efficiency	Minimum Sales Price Discount (\$/Ton)*
Air-Cooled	HP	1	≥ 65 kBtuh (≥5.4 Tons)	VRF	11.0 EER	and	18 IEER	and	3.4 COP	\$125.00
Water-Cooled	HP	1	≥ 65 kBtuh (≥5.4 Tons)	VRF	12.0 EER	and	20 IEER	and	4.3 COP	\$125.00

- Sales of 5+ units or \$4,000+ in customer incentives **require** pre-approval.

¹ Equipment capacity is AHRI rated capacity or capacity at AHRI rating conditions for units without an AHRI rating"

² Heating efficiency applies only to heat pumps

Why Target Distributors?



**Source: California PUC NTG Study, September 2016*

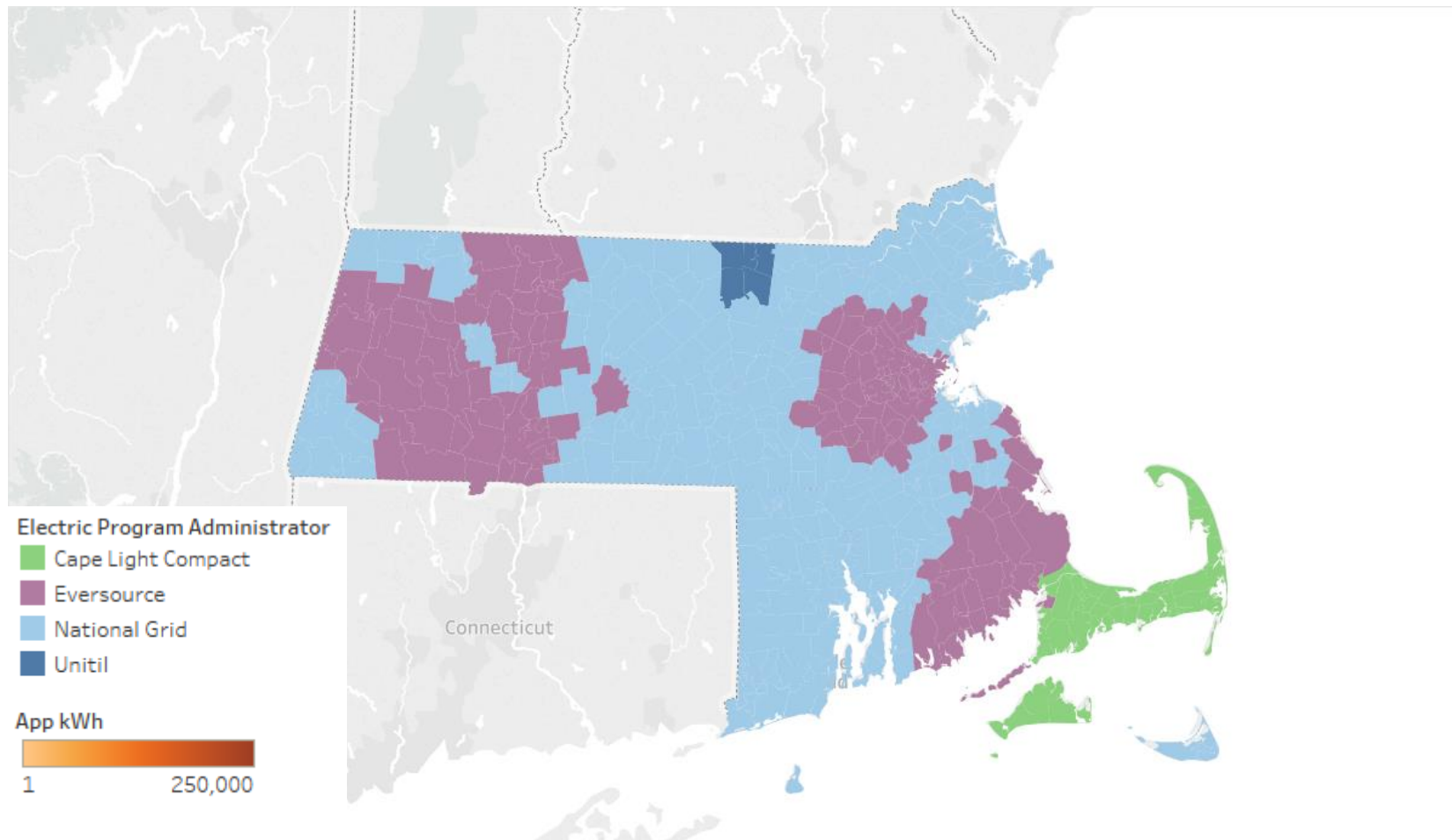
Mass Save® Incentives



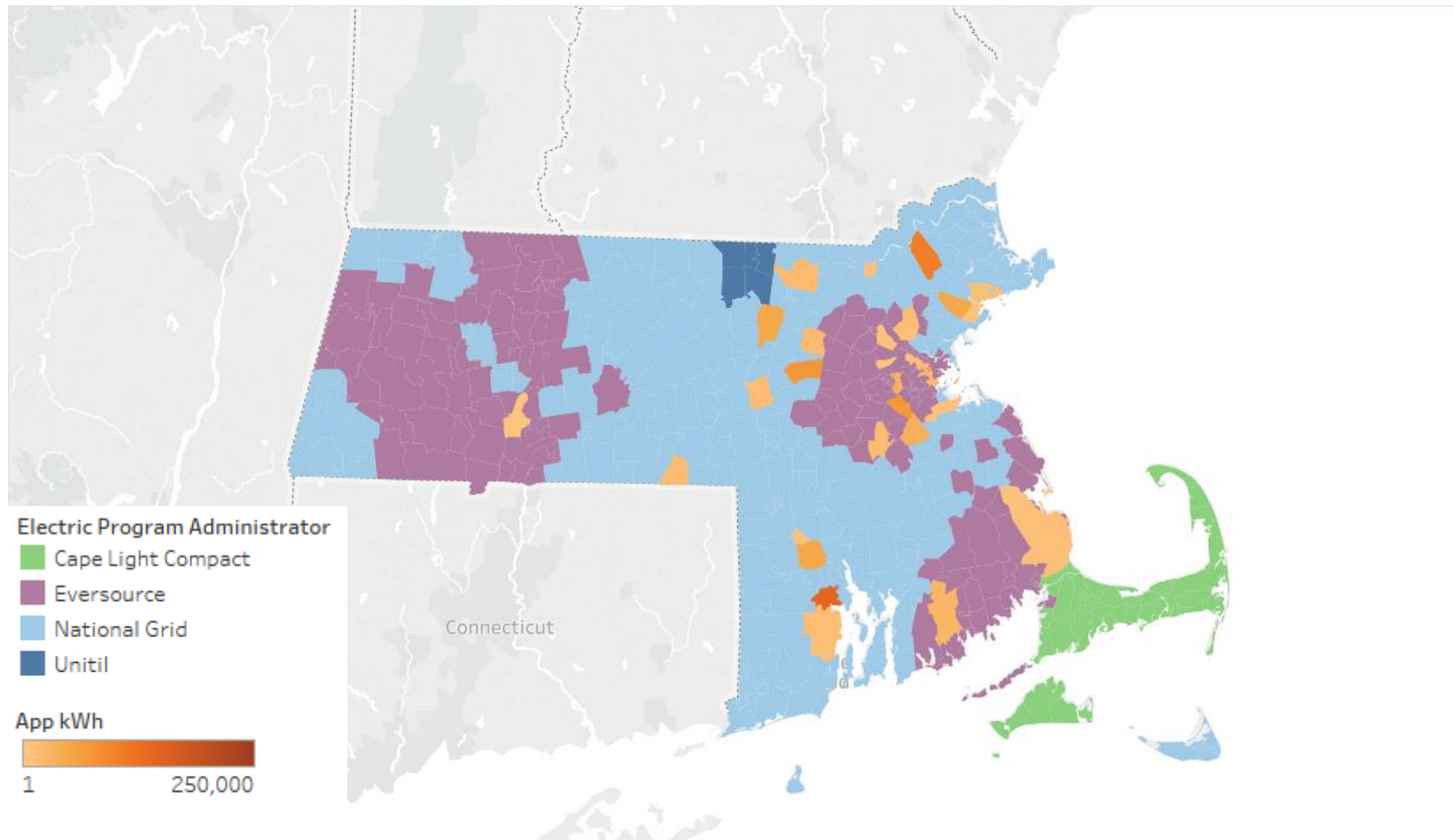
- There are multiple Mass Save programs aiming to help different kinds of customers:
 - **New Construction/Major Renovation**
 - Energy charrettes explore **whole-building options**
 - Incentives to both design team and building owner
- Sometimes these programs overlap.
- **Eligible sales can only receive an incentive through one program.**
 - Pre-approval process for C&I Upstream provides assurance and helps you provide/receive equipment pricing that includes the incentive.



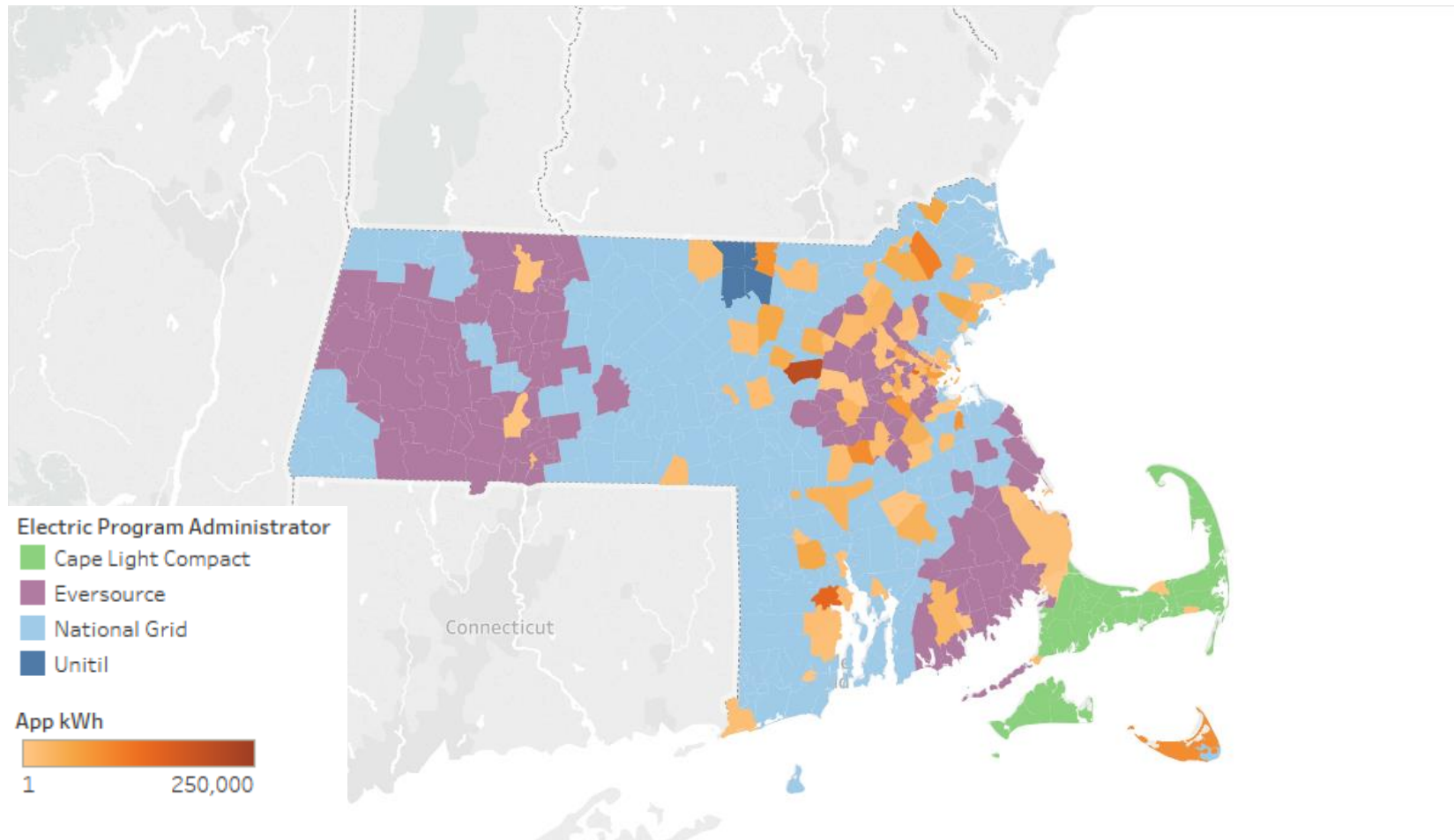
Market Participation



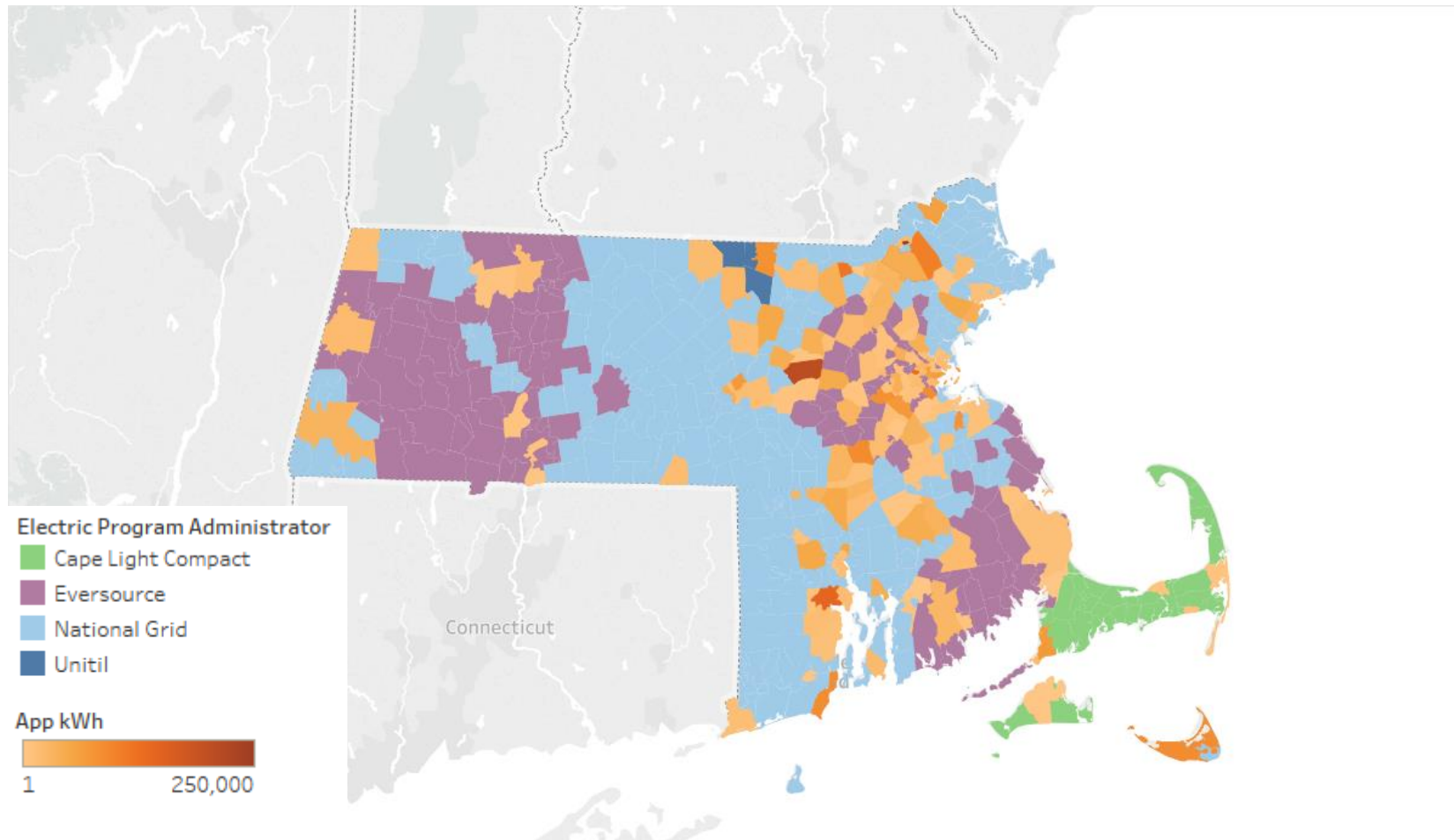
Market Participation – Dec 2017



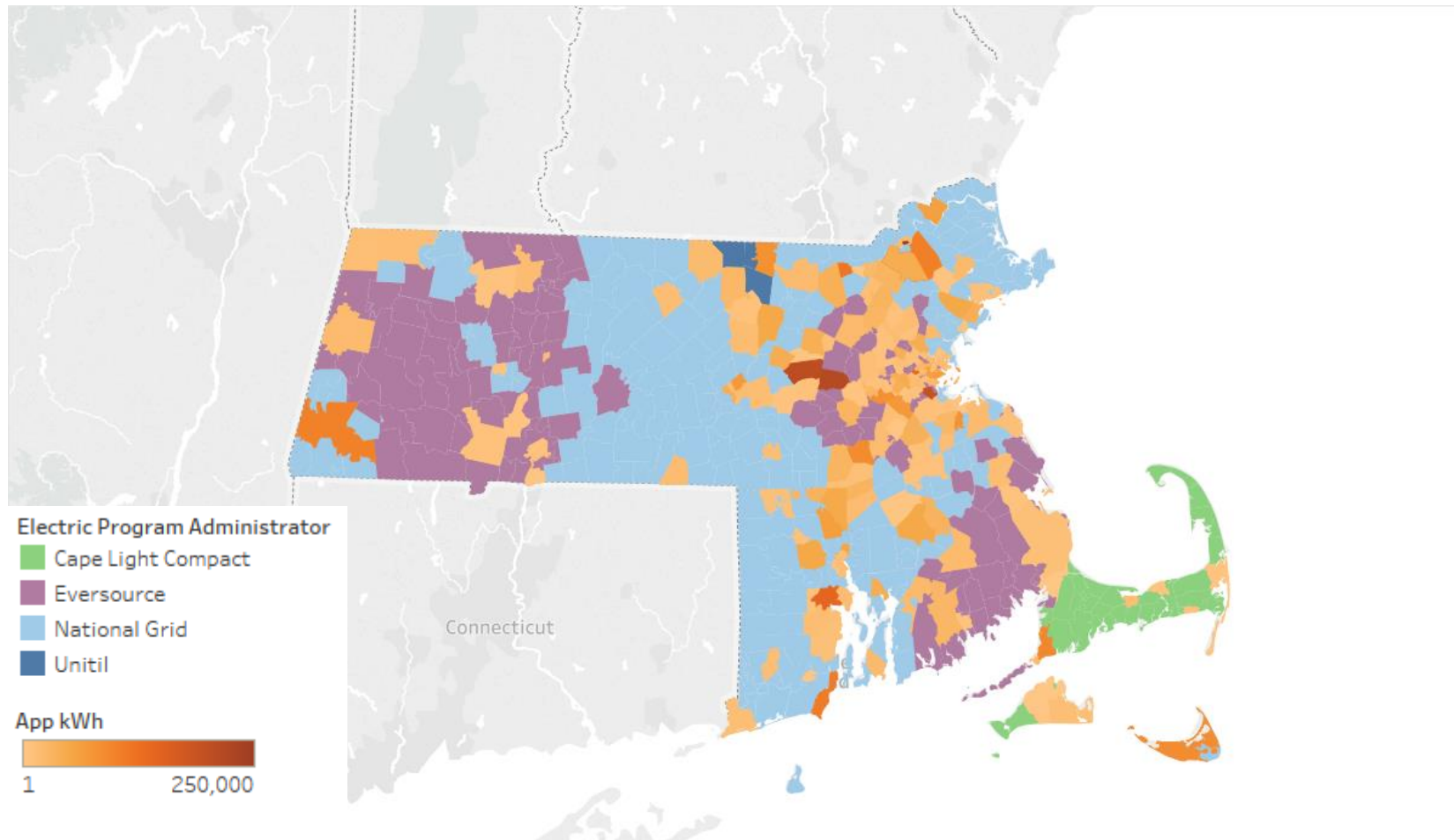
Market Participation – June 2018



Market Participation – Dec 2018



Market Participation – June 2019



VRF Participation Summary



	VRF	VRF & Ductless
Units	965	2,481
Tons	8,750	11,225
Incentives Paid	\$ 1,181,500	\$ 1,372,854
kWh Savings	8,754,441	10,180,610
kW Savings	1,510	2,162

$\frac{kW}{ton} = \frac{12}{EER_{Baseline}} - \frac{12}{EER_{Measure}}$ $\frac{kWh_{cooling}}{ton} = \left(\frac{12}{IEER_{Baseline}} - \frac{12}{IEER_{Measure}} \right) * Hours_{cool} * Cap_{adj}$ $\frac{kWh_{heating}}{ton} = \left(\frac{1}{3.412} \right) * \left(\frac{12}{COP_{Baseline}} - \frac{12}{COP_{Measure}} \right) * EFLH_{heat}$	<p>Air-cooled HPs > 5.4 Tons, VRF</p> <p>Note: 1/3.412 is the conversion of BTUs to Watts used with COP calculations</p> <p>Note: AHRI reports both a cooling and heating capacity for heat pumps, to calculate an application's savings the appropriate capacity is used with the corresponding kWh/ton</p>
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Market Feedback & Obstacles Locally



- Educating building owners and developers is a real barrier
- Contractors pricing the product high because of lack of experience
- This market has a fear of heating efficiencies with the cold climate
 - The low cost of natural gas exacerbates this issue

Thank you

To the Massachusetts Program Administrators, Berkshire Gas, Columbia Gas, Eversource Energy, National Grid, Liberty Utilities, and Unitil, and to National Grid of Rhode Island for sharing the results of their Initiatives





Thank You

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