

Solar Tompkins

Successes and Next Steps in Accelerating the Switch to Renewable Energy in New York

Melissa Kemp, Program Director, Solar Tompkins



Current Context

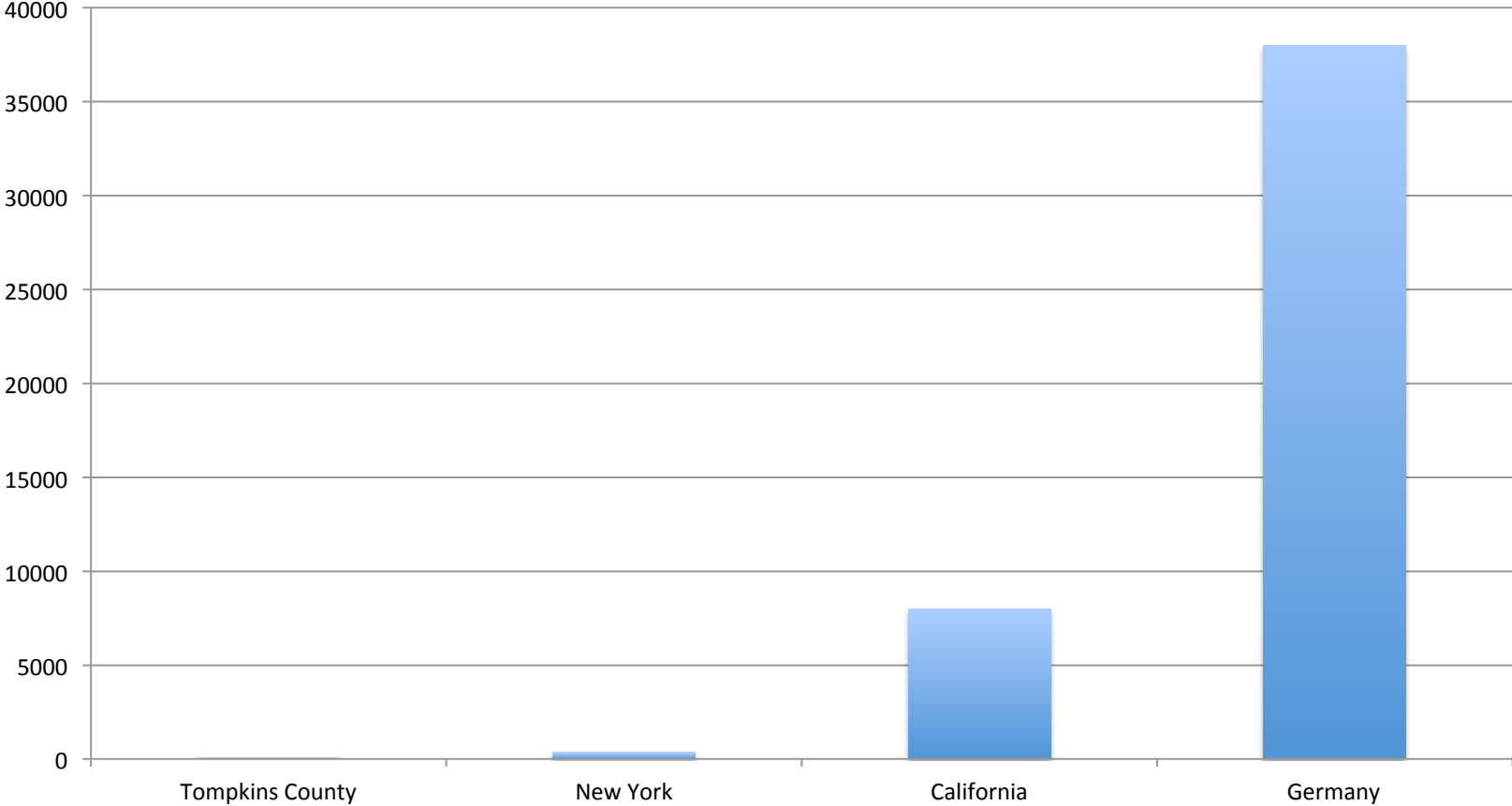
- New York has a rapidly growing renewable energy market.
- New York has about 400 MW of installed solar PV to date across the state ~ 0.3% of electricity usage
- NY Sun is the state-lead initiative to develop at least 3,000 MW of solar PV in New York in the next 5+ years.
- Positive step, but we are still behind where we need to be.



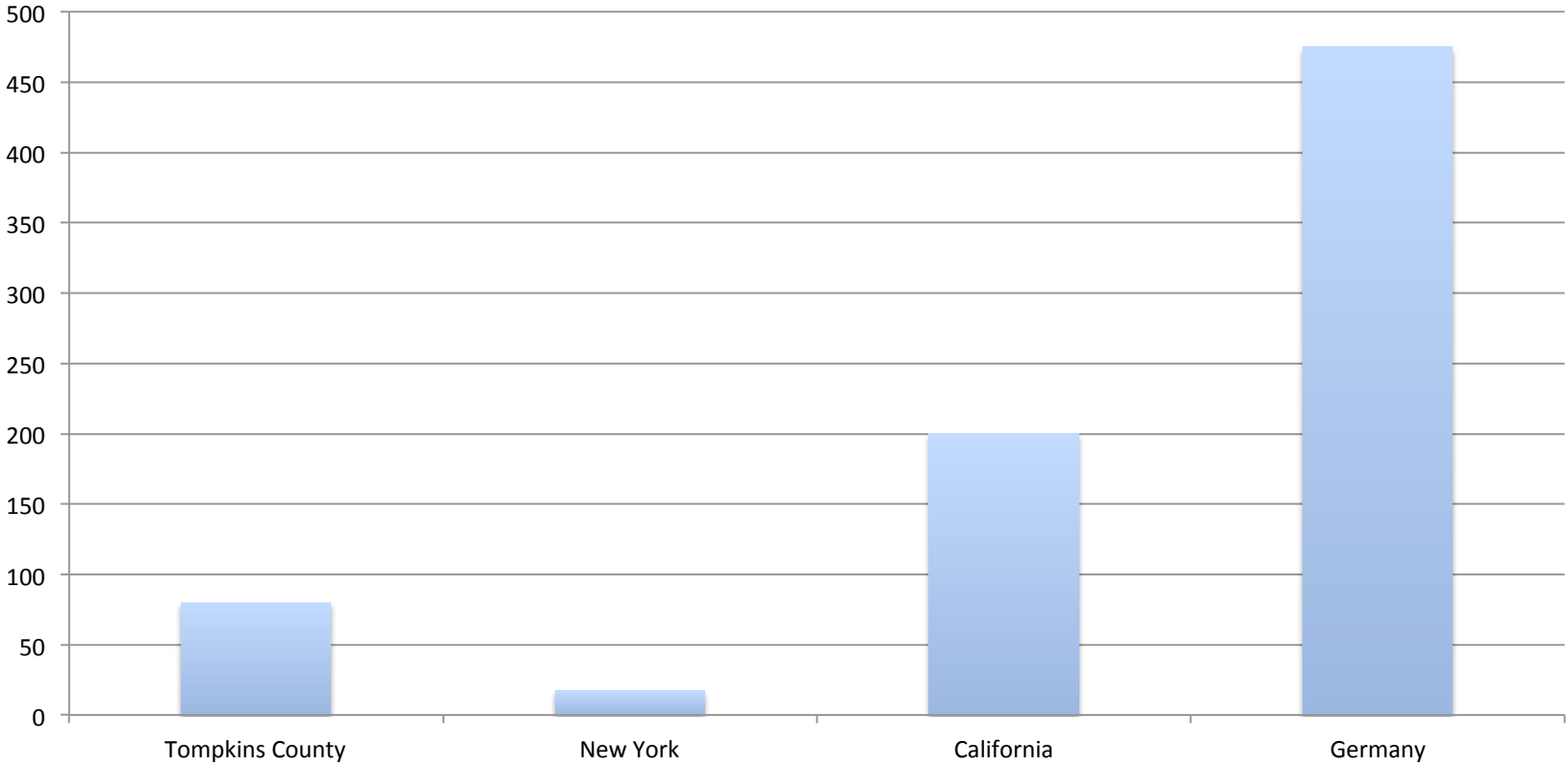
The NY-Sun Initiative
Solar Powering New York



Total Solar PV Currently (MW)



Solar PV Per Person (W/Person)





- We need a faster rate than this to be on any serious track of achieving the plan of 100% renewable energy by 2050, which is needed to address the serious problems we're facing.
- In order for New York to reach 100% renewable energy by 2050, solar PV needs to make up around 40% of New York's energy supply and **that will require over 150,000 MW of solar PV.**



The Solarize Model

Solarize Programs work to eliminate the few remaining barriers to solar adoption by providing:

- Attractive lower-than-market pricing that decreases through a tier structure as more people go solar through the program
- A simple process with vetted technology and installation partners
- County-wide educational outreach events on the affordability and accessibility of solar PV and how it works
- A community-wide program with deadlines to build enthusiasm and generate the impetus for adoption now!



Solar Tompkins 2014 Results

- Large successful county-wide program in 2014
- Tompkins County had just over 2MW of solar installed last June before the program
- 60 events, 1321 families enrolled, and 400 families went solar totaling over 3 MW
- This exceeded our goal of doubling the amount of residential solar in Tompkins County in 2014
- The projects were well distributed across all of the towns in the county



- The multiple installer and local carve-out design resulted in many economic benefits and over 50 new permanent good jobs
- The 2014 program also brought over \$7,000,000 of incentive funds to Tompkins County and its municipalities for the development of solar.
- The discounted pricing also saved homeowners another \$3,200,000.





COMMUNITY MEETING HERE!



SOLARTOMPKINS.ORG

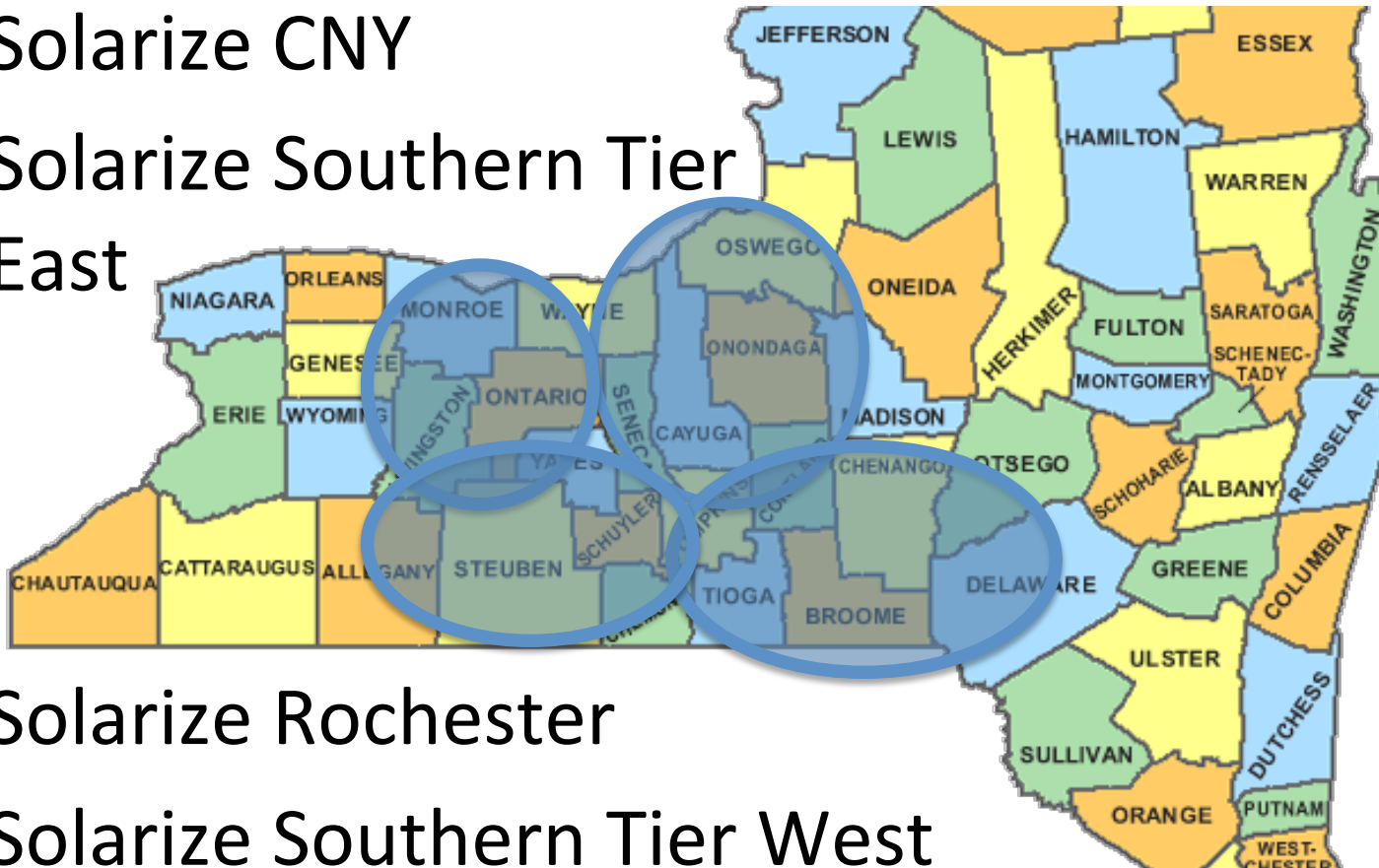






2015 Solarize Programs in Central NY

- Solarize CNY
- Solarize Southern Tier East
- Solarize Rochester
- Solarize Southern Tier West



What's Next for Solar Tompkins

- **Dozens of requests to Solar Tompkins for help with reducing the fossil fuels used for heating, and switching to a more efficient and renewable home heating system**
- **Strong interest** at community meetings and from other stakeholders in a Solar Tompkins renewable heating/envelope improvement program
- A similar ramp up in deployment is needed for renewable heating and smart building technology



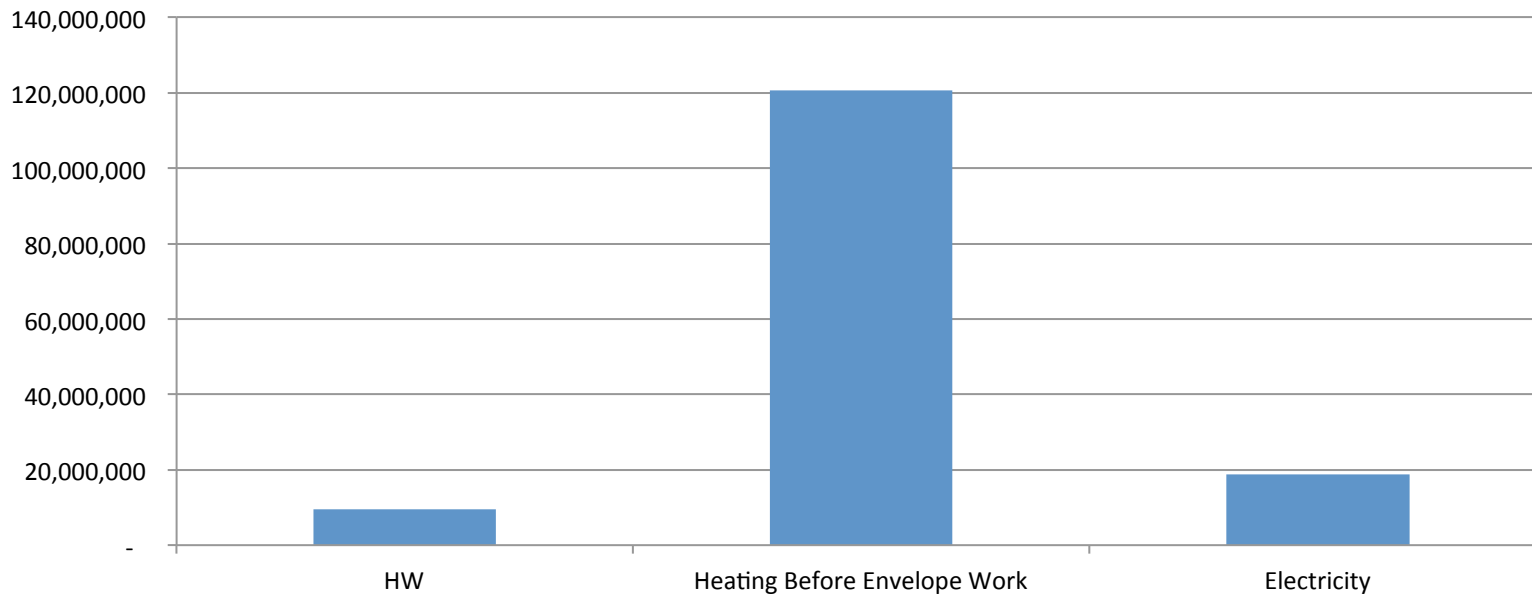
HeatSmart Tompkins

- Solar Tompkins will be launching a **Renewable Heating and Building Efficiency Program** in this same Solarize model in the Summer of **2015**
- Program will focus on ground source and air source heatpumps, and building insulation and air-sealing



- **Home heating is the largest part of an average family's home energy usage in Tompkins County**

Energy Usage by Sector in Example Single Family Home (Btus/Year)

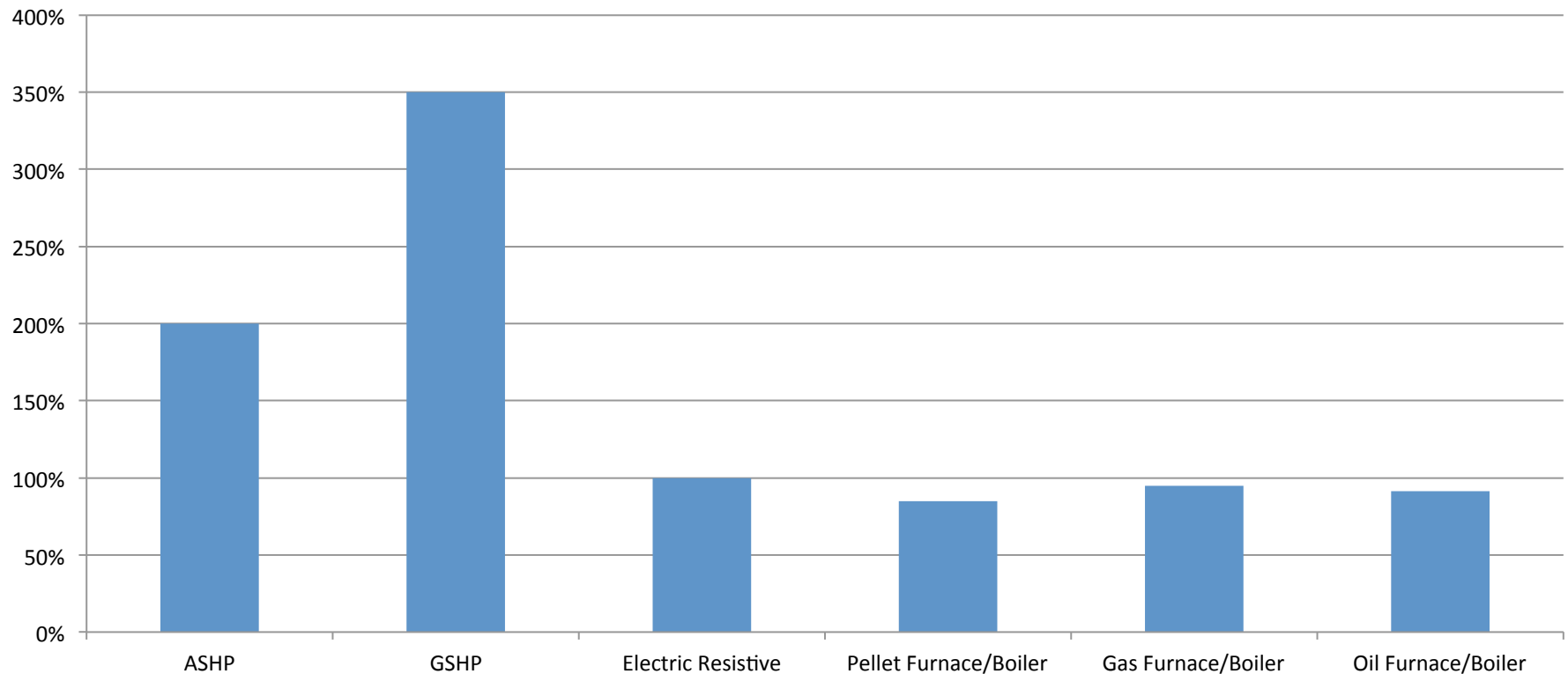


Main Technologies

- Building Heating and Cooling
 - Air-Source Heat Pumps
 - Ground-Source Heat Pumps
 - High-efficiency Electric DHW Heating
 - Referral to Wood Pellet Options Outside of Program
- Insulation and Air-Sealing
 - Air-sealing techniques for basements, crawlspaces, attics, doors, and windows
 - Cellulose insulation, spray foam insulation, foam board insulation, and possibly fiberglass if extremely well-air-sealed



Estimated Efficiencies of Various Types of New Heating Systems



What Will This Program Look Like?

- Pilot but significant scale – 100 homes
- 2 or 3 installer partners
- Each installer partner could be one company or two+ companies working very closely together
- Community educational meetings and enrollment
- Enrollees would have a site visit, and evaluation of both building efficiency and heating systems for all would be required
- Enrollees would then receive a combined coordinated presentation of renewable heating and building efficiency/envelope options - standardized across installer partners



Economics

- The economics make tremendous sense for families currently using propane, oil, or electric for heating, and looking to retrofit.
- One powerful metric is that the monthly cost for the insulation and heat pump is often less than they were paying per month previously.
- They can also make sense for some families currently using natural gas.



Questions and Contact Info

- Questions?
- More information is available on our website – www.solartompkins.org
- Please also feel free to contact us directly with any questions or interest –
 - Melissa Kemp, Solar Tompkins Program Director, melissa@solartompkins.org

