

The Changing Solar Landscape in Northern Indiana

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Partners for Clean Air

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SolSmart: Nationally Distinguished. Locally Powered.

South Bend, Goshen, Nappanee will be designated as a “solar-friendly” cities.



SolSmart: Designed to make it easier, faster, and cheaper to go solar.
Inspiring local community to target “soft costs.”

What is the SolSmart Initiative?

Designation

- Bronze, Silver, Gold
- Indianapolis - Silver
- Goshen, Nappanee - Bronze (est. May)



Technical assistance

- Free technical assistance
- SolSmart Technical Advisor is program-funded:
 - Full-time, 6 months, ending late July



What are “Soft Costs”?

Anything that adds time and expense that isn't hardware (solar panels, equipment components).

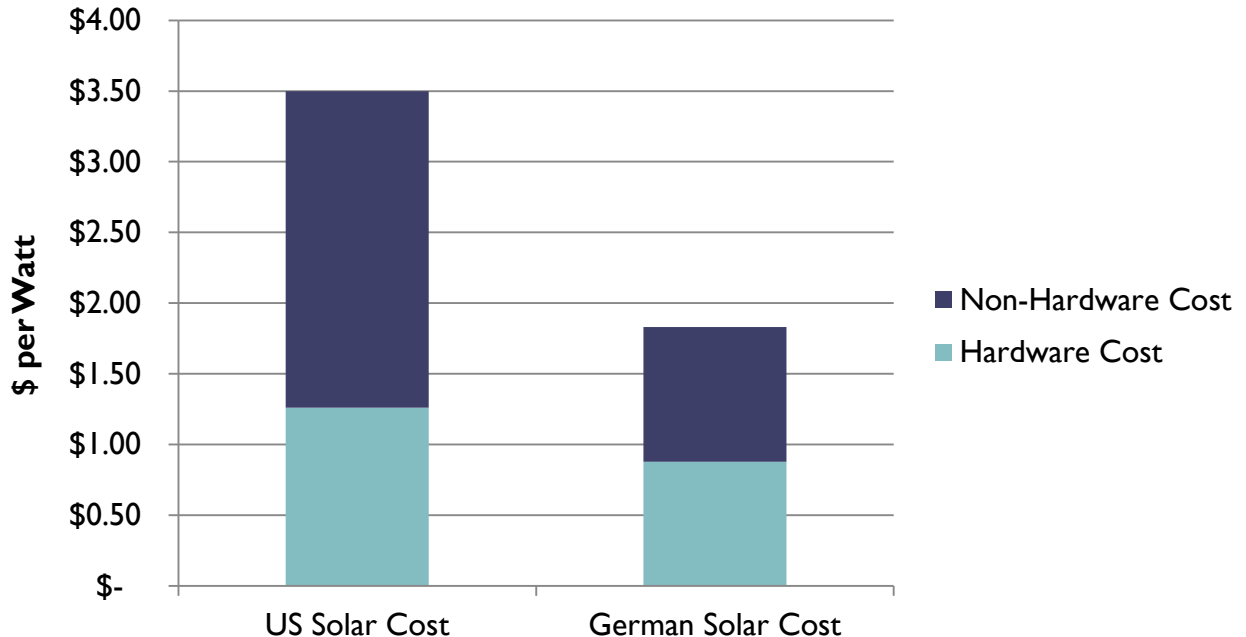
- **Permitting and Inspection:** fees, re-design, re-inspect.
- **Zoning barriers:** variances
- **Financing:** high risk perception
- **Customer Acquisition:** <10%
- **Installation Labor:** Trained workforce?
- **Market Development:** steady demand, contractor reputation



Local governments are uniquely positioned to influence all of these areas - directly or through collaboration with utilities, community colleges, local financial institutions, non-profits, etc.

Cost: US versus Germany

Comparison of US and German Solar Costs



Benefits of Reducing Soft Costs



Reduced Installation Costs = **Increased Return on Investment** for System Owners



Streamlined processes can save **time and costs** for **local government staff**



Opening your community for solar business can have **positive impacts on jobs and economic development**



Reducing red-tape for solar can result in **improved business prospects for solar companies**

South Bend “Solar-Friendly” Designation

- Streamline local processes
- Solar zoning ordinance
- Create solar landing page to consolidate information
- Train Fire Department for safe response
- Train inspectors and permitting staff on solar codes

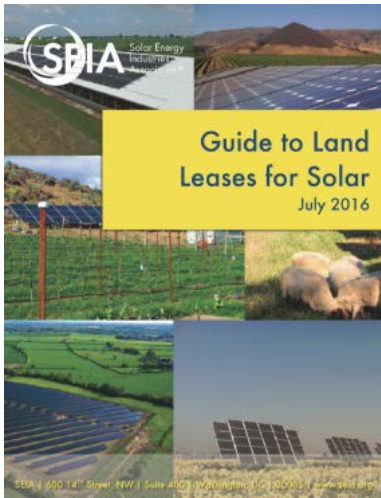


Figure 2-13: Residential PV Fire in March 2010 MD Incident⁴⁸

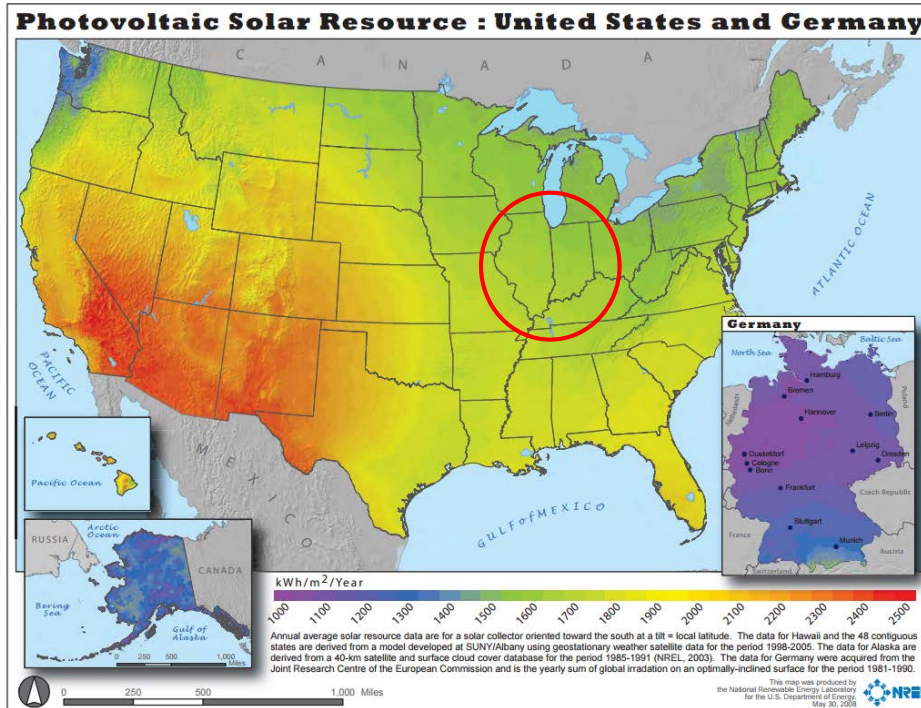


City of
Nappanee
Indiana



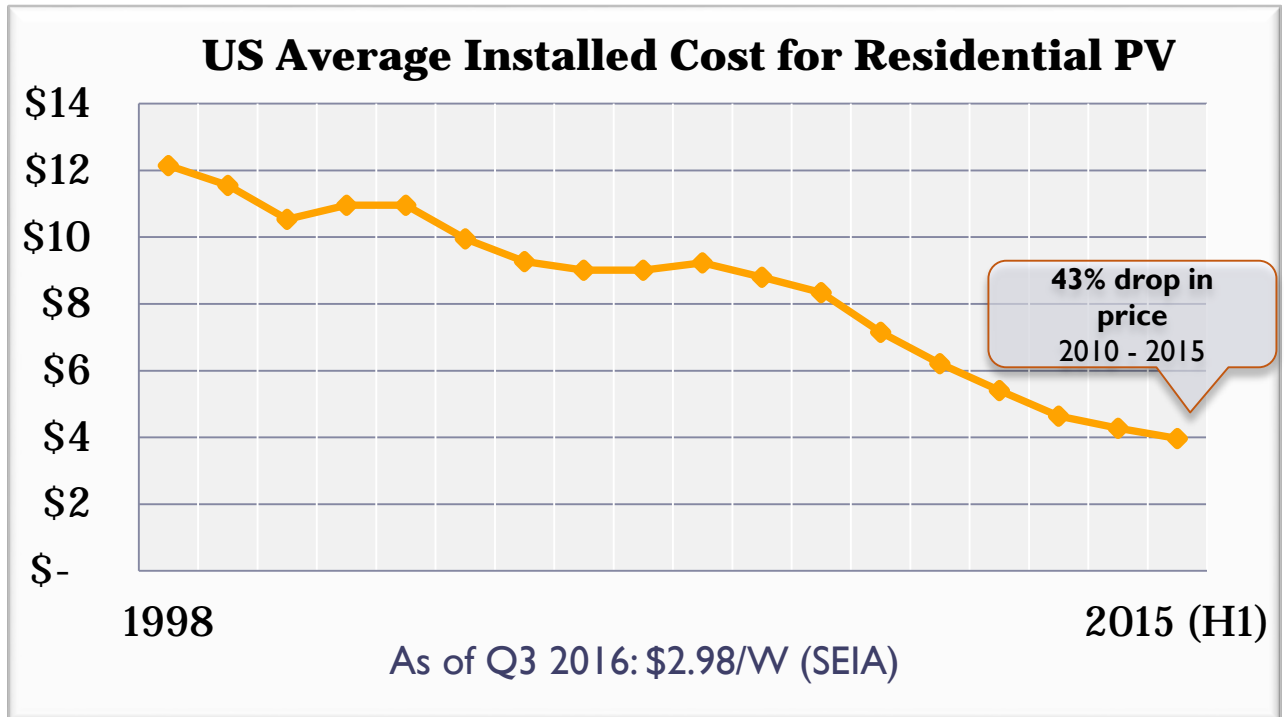
Why Solar? Why Here?

1) Local Solar Resource



Why Solar? Why Here? (Why Now?)

- 1) Local Solar Resource
- 2) Falling Costs, Improving Technology



Why Solar? Why Here? (Why Now?)

- 1) Local Solar Resource
- 2) Falling Costs, Improving Technology
- 3) Incentive Timelines

1. State Policy Changes*: Net Metering (1-to-1 retail rate credit)

Date Installed	Net Metering until:	Time Period
Before Dec 31, 2017	July 1, 2047	~30 years
After Dec 31, 2017	July 1, 2032	~15 years
July 1, 2022	July 1, 2032	10 years

2. Federal Tax Credit Changes**:

30% tax credit starts declining in 2019

*Subject to Governor's action

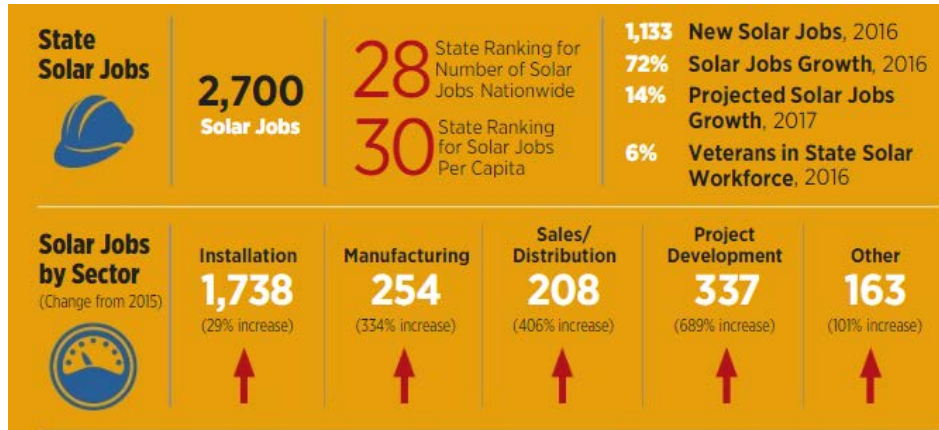
** 2015

Solar Job Growth in Indiana

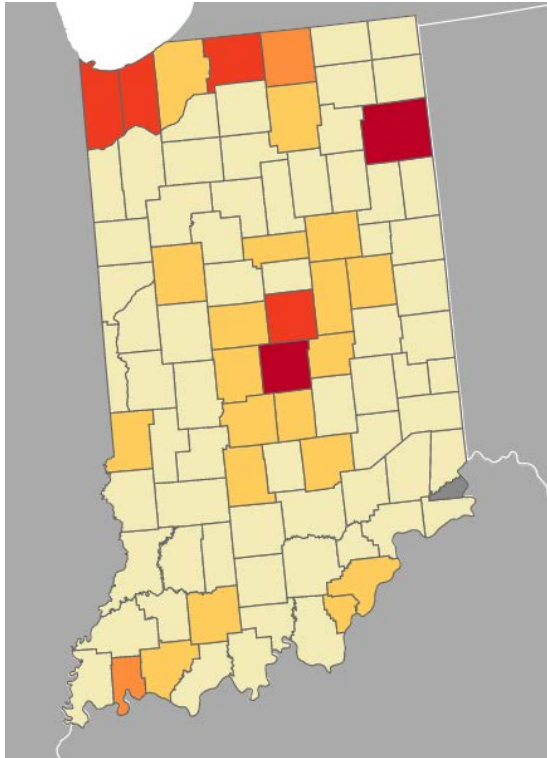
- 1) Local Solar Resource
- 2) Falling Costs, Improving Technology
- 3) Incentive Timelines
- 4) Developing Local Industry

New Solar Jobs Census Report, March 2017 ([The Solar Foundation](#))

- Solar industry creating jobs faster than the overall economy
- Installation jobs hard to outsource.
- Solar installers earn a decent income.



Solar Job Growth in Indiana



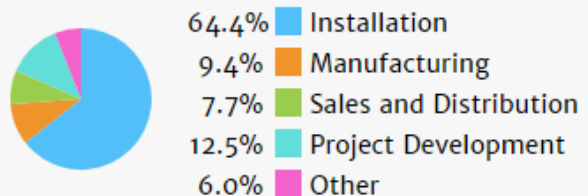
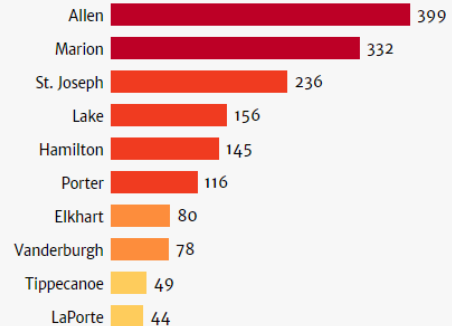
2015 / 2016

2,700
Indiana

5,831
Ohio

SHARE

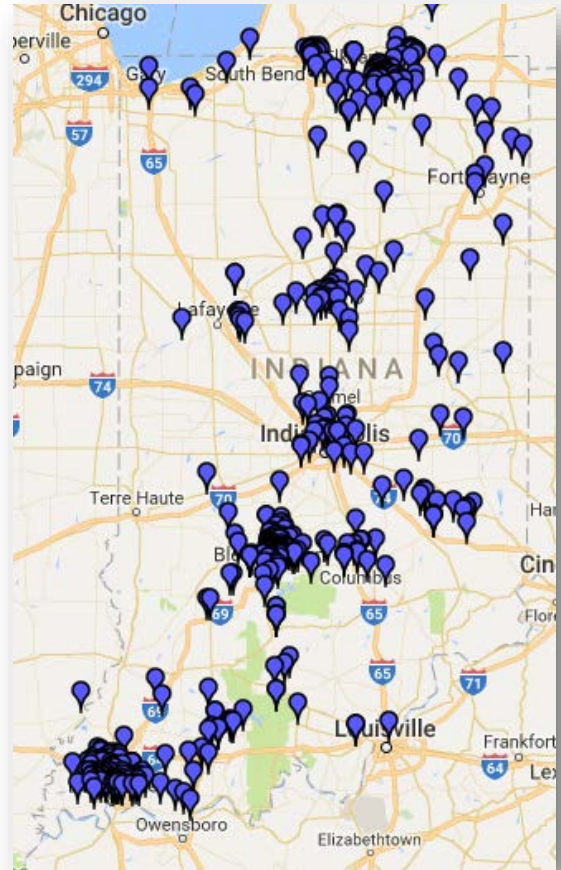
Top Ten Counties



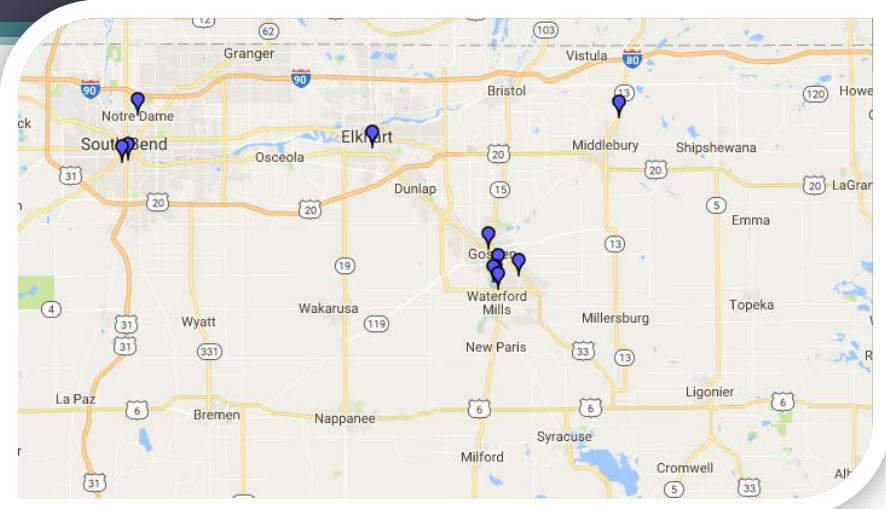
2011



2016



2011



2016



Example: Residential Systems



Photos courtesy of Solar Energy Systems, LLC in Nappanee. SolSmart does not endorse any product or company.

Example: Agricultural Systems



Photos courtesy of Solar Energy Systems, LLC in Nappanee. SolSmart does not endorse any product or company.

Example: Religious Institutions



*Photos courtesy of Solar Energy Systems and
Hoosier Interfaith Power and Light*

Example: Affordable Housing

South Bend Mutual Homes, 2016



Photo courtesy of South Bend Mutual Homes Facebook; Google Maps

Example: Commercial Systems



Wieland Solar

Goshen, Indiana

328 kW



Lippert Sourwood Solar

Goshen, Indiana

359 kW



Lippert Kercher Solar

Goshen, Indiana

322 kW

Example: K-12 Public Schools Going Solar (2016-2017)

- Central Indiana: 3 schools in 2016, 2 in progress
- Northern Indiana: 1 school, in progress

Sheridan School Corporation:

First net-zero energy school in Indiana

1.6 MW

Equivalent to ~175 homes

Installed by Johnson Melloh through
Guaranteed Energy Savings Contract



Example: Utilizing Brownfields, Kokomo, 2016

- 7 MW (Equivalent to ~780 homes)
- Location: Former steel plant, vacant for 30 years
- Site contaminated, high toxicity
- Development options limited
- Inovateus, co-owner



Example: Community Solar, Tipmont REMC, 2014



Photo courtesy of tipmont.org/solar/about-community-solar

Example: Utility, I&M, 2016



Marion
Mishawaka
New Carlisle



Photos courtesy of South Bend Tribune, Google Maps

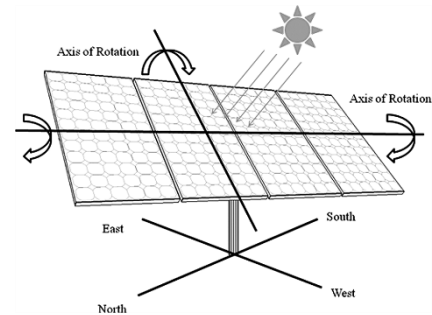
Example: Airport, Indianapolis, 2013



Photos courtesy of Indiana Public Media

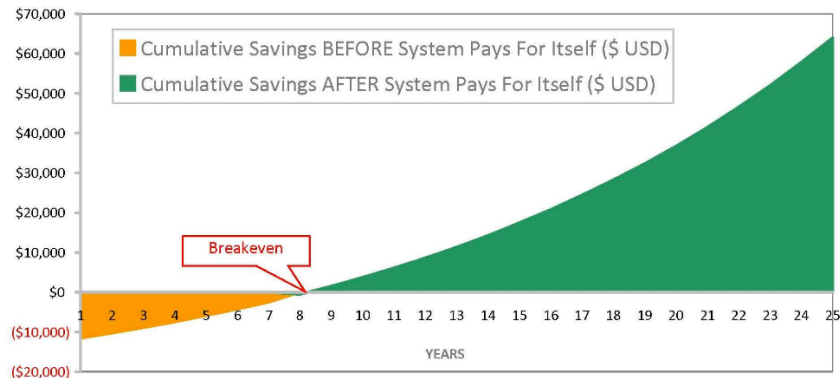
What factors affect financial return?

- Utility rate (\$/kWh) and structure (demand charge, etc)
- Projected increases in utility costs over 20-30 years
- Technology
- Operating costs
- Incentives
 - Feed-in tariff or net metering
 - Federal tax credit, grants
- Financing
 - Purchase or finance
 - PPA
 - Lease (revenue)



Re-thinking the Simply Payback

- Typical payback period 6-10 years
- 80% system performance guaranteed for 20-25 years
- 80-90% after 30 years
- Hedge against rising rates for decades
- Electricity production after break-even



Questions?

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APPENDIX

State Policy Changes:* Net Metering

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Before Dec 31, 2017	July 1, 2047	~30 years
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Potential Impact on Local Governments:

- Inquiries from residents and businesses
- Increase in requests for permits and inspections within next 7 months
- Increase in contractors not familiar with local processes
- Local solar contractors hiring to meet demand
- Public entities may accelerate timeline to explore potential projects

*Subject to Governor's signature

Financing Models

Financing Option	Structure
Purchase	Upfront capital outlay or loan payments
Leasing	Small <u>revenue</u> stream
Guaranteed Energy Savings Contract (GESC)	Finance with savings in utility bill (Only public entities qualify: schools, libraries, wastewater utilities)
Power Purchase Agreement (PPA)	“Pay as you go” contract for electricity, price less than utility rate

Next Steps for Public Entities

- **Identify Potential Sites:** Brownfields, schools, libraries, municipal buildings (Fire Dept, Police Station, City Hall, Jail)
- **Research:** Identify financial models used by peers
- **Educate Stakeholders:** Purchasing Department, School Board, etc.
- **Issue Request for Qualification:** Identify short list of qualified bidders
- **Issue Request for Proposal**
- **Evaluate Proposals**
- **Final Decision**
- **Installation**

Next Steps	Timeline
Research	April
Issue RFQ	May (2 week response)
Issue RFP	June - July (4 week response)
Evaluate Proposals	August - September
Final Decision	Late September
Installation	October - December

Federal Policy Changes*: Tax Credit

Residential Renewable Energy Tax Credit	
Date Installed	Tax Credit
2019	30%
2020	26%
2021	22%
Starting Jan. 1, 2022	0%

Business Energy Investment Tax Credit (Commercial)	
Date Installed	Tax Credit
2019	30%
2020	26%
2021	22%
Starting Jan. 1, 2022	10%

*December 2015

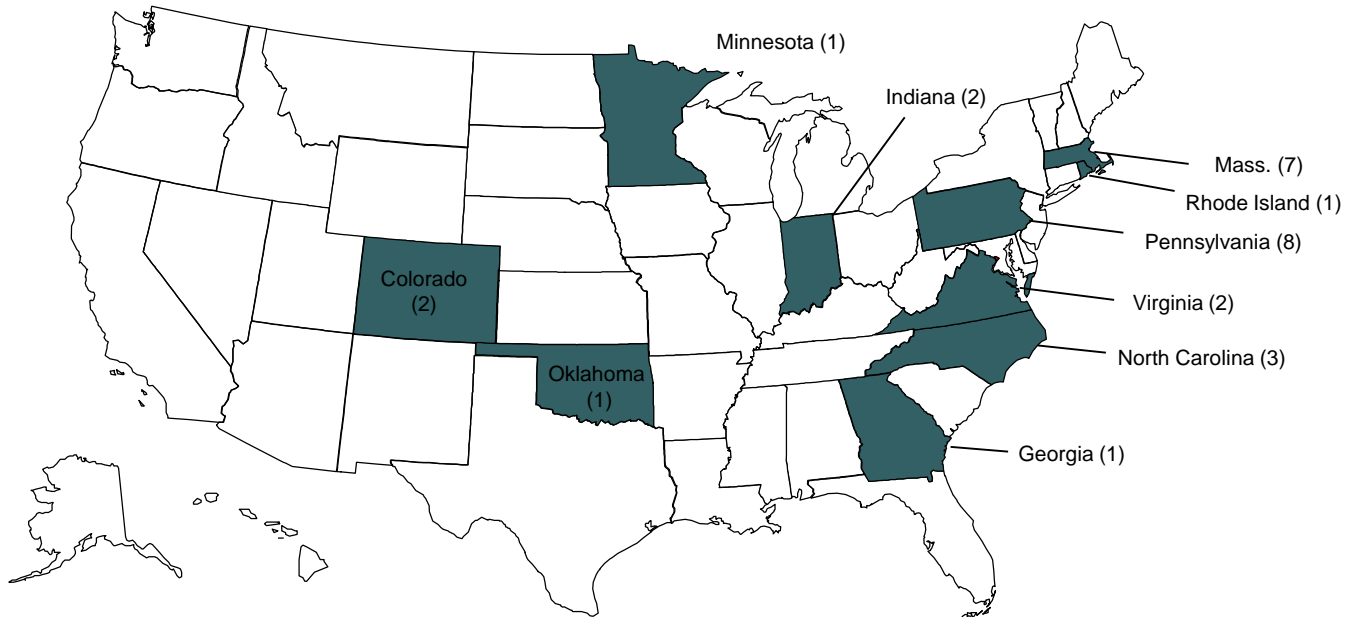
First Designees

- **SolSmart Gold**
- Austin, Texas
- Boulder, Colorado
- Columbia, Missouri
- Fremont, California
- Fort Collins, Colorado
- Gladstone, Missouri
- Hartford, Connecticut
- Kansas City, Missouri
- Milwaukee, Wisconsin
- Minneapolis, Minnesota
- San Carlos, California
- Santa Monica, California
- Santa Rosa, California
- Satellite Beach, Florida

- **SolSmart Silver**
- Boulder County, Colorado

- **SolSmart Bronze**
- Burlington, Vermont
- Claremont, California
- Denver, Colorado
- Philadelphia, Pennsylvania
- Redwood City, California
- Saint Paul, Minnesota
- Somerville, Massachusetts

Communities Served by Advisors



Expected Number of Additional Designees: 28

SolSmart Designation Structure



- ❑ Address Bronze prerequisites
 - ❑ Solar statement
 - ❑ Permitting checklist
 - ❑ Zoning barrier review
- ❑ Earn 20 points in the Permitting category
- ❑ Earn 20 points in the Planning, Zoning, & Development Regulations category
- ❑ Earn 20 total points across "Special Focus" categories



- ❑ Earn SolSmart Bronze
- ❑ Address Silver prerequisites
 - ❑ Solar by-right in all major zones
 - ❑ Cross-train inspection and permitting staff
- ❑ Earn 100 total points from actions taken across any combination of categories



- ❑ Address Gold prerequisites
 - ❑ PV permitting turnaround for small systems ≤ 3 days
- ❑ Earn 200 total points from actions taken across any combination of categories

- **Special Awards:**
- Communities **that earn 60%+ of the points in a given category** are eligible for special recognition.

Program Funding



SUNSHOT AND SOLSMART

SolSmart was funded by SunShot in October 2015 with the goal of providing technical assistance to enough US communities to designate at least 300 of them as “open for solar business” by the end of October 2018.

ABOUT SUNSHOT MISSION

To make solar energy cost-competitive with traditional energy sources before the end of the decade.

GOALS

The SunShot Initiative aims to reduce the total installed cost of solar energy systems to \$0.06 per kilowatt-hour (kWh) by 2020. Today, SunShot is about 70% of its way toward achieving the program’s goal, halfway into the program’s ten-year timeline.

Advisory Committee

