

Solar Industry: Progress and Needs



THE SOLAR FOUNDATION
Research and Education to Advance Solar Energy

About The Solar Foundation

Founded in 1977 and based in Washington, DC, The Solar Foundation (TSF) is an independent nonprofit working to demonstrate the global benefits of solar energy through research and education.

National Solar Jobs Census & SunShot Solar Outreach Partnership Resources:

<http://www.thesolarfoundation.org>



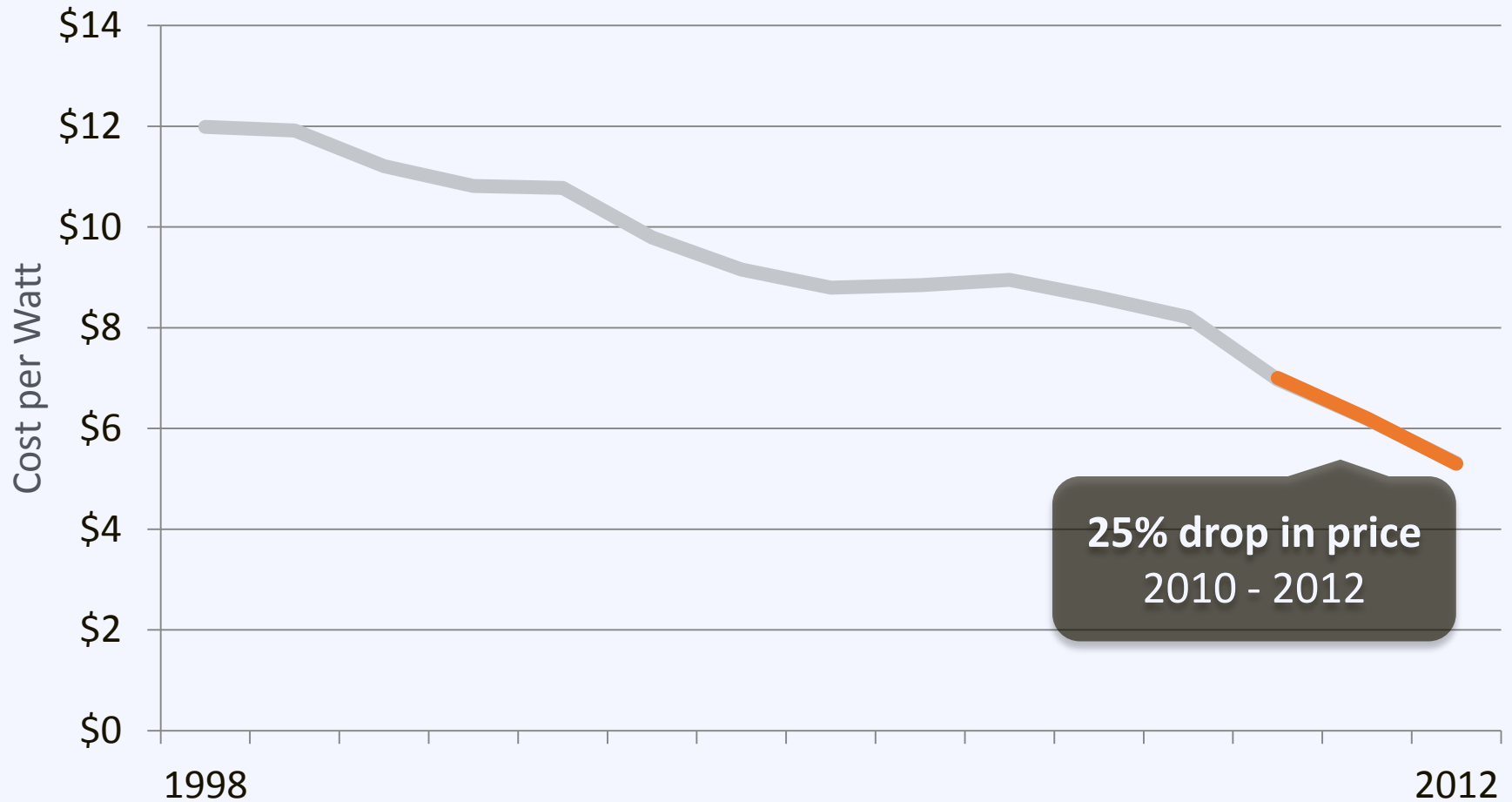
About the Solar Outreach Partnership

- DOE Sunshot program to increase solar capacity in U.S. communities
- Streamline and standardize **permitting and interconnection processes**
- Improve **planning and zoning codes/regulations** for solar technologies
- Increase access to **solar financing options**
- Provide complimentary **technical assistance**



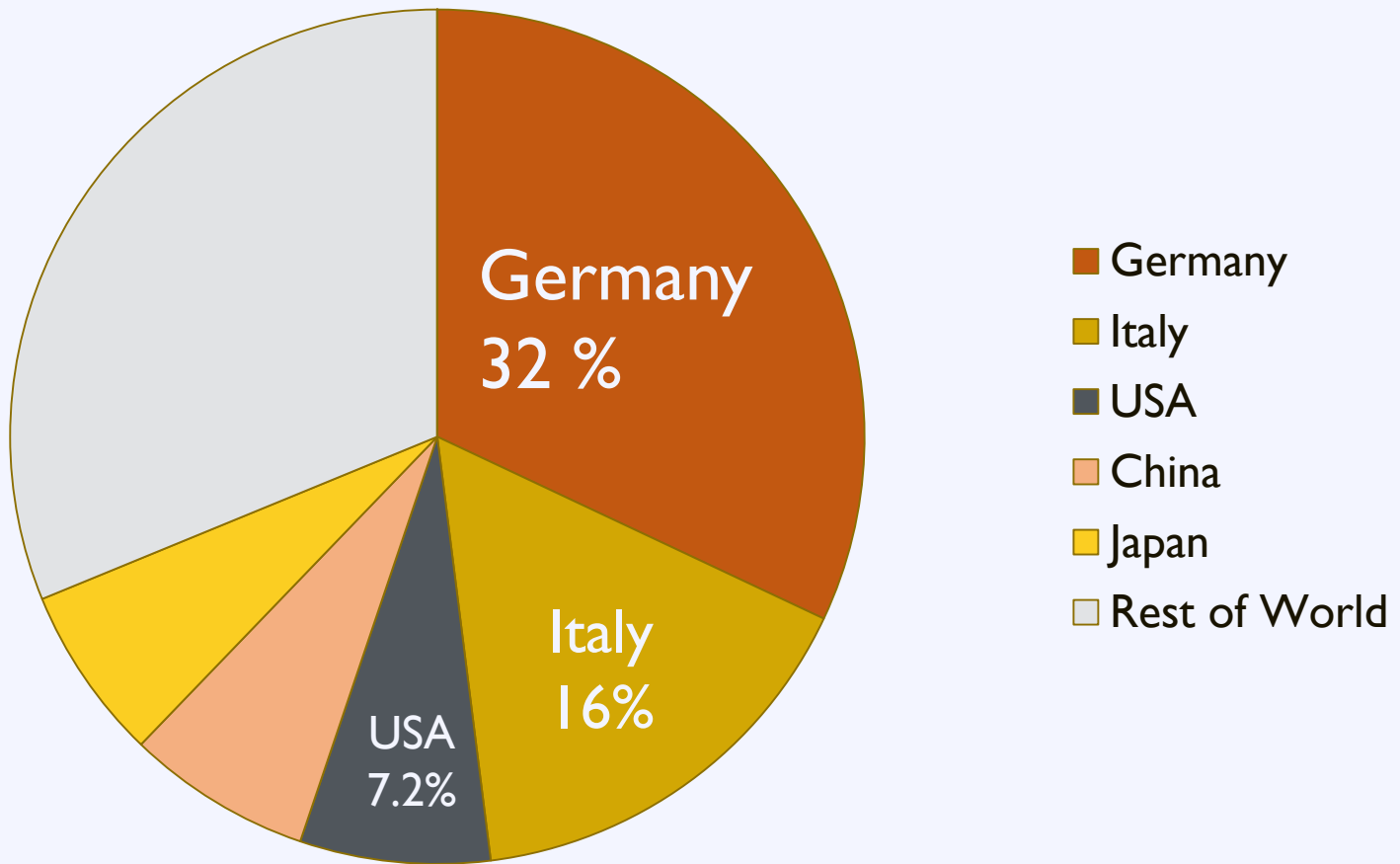
Cost of Solar PV

US Average Installed Cost for Behind-the-Meter PV



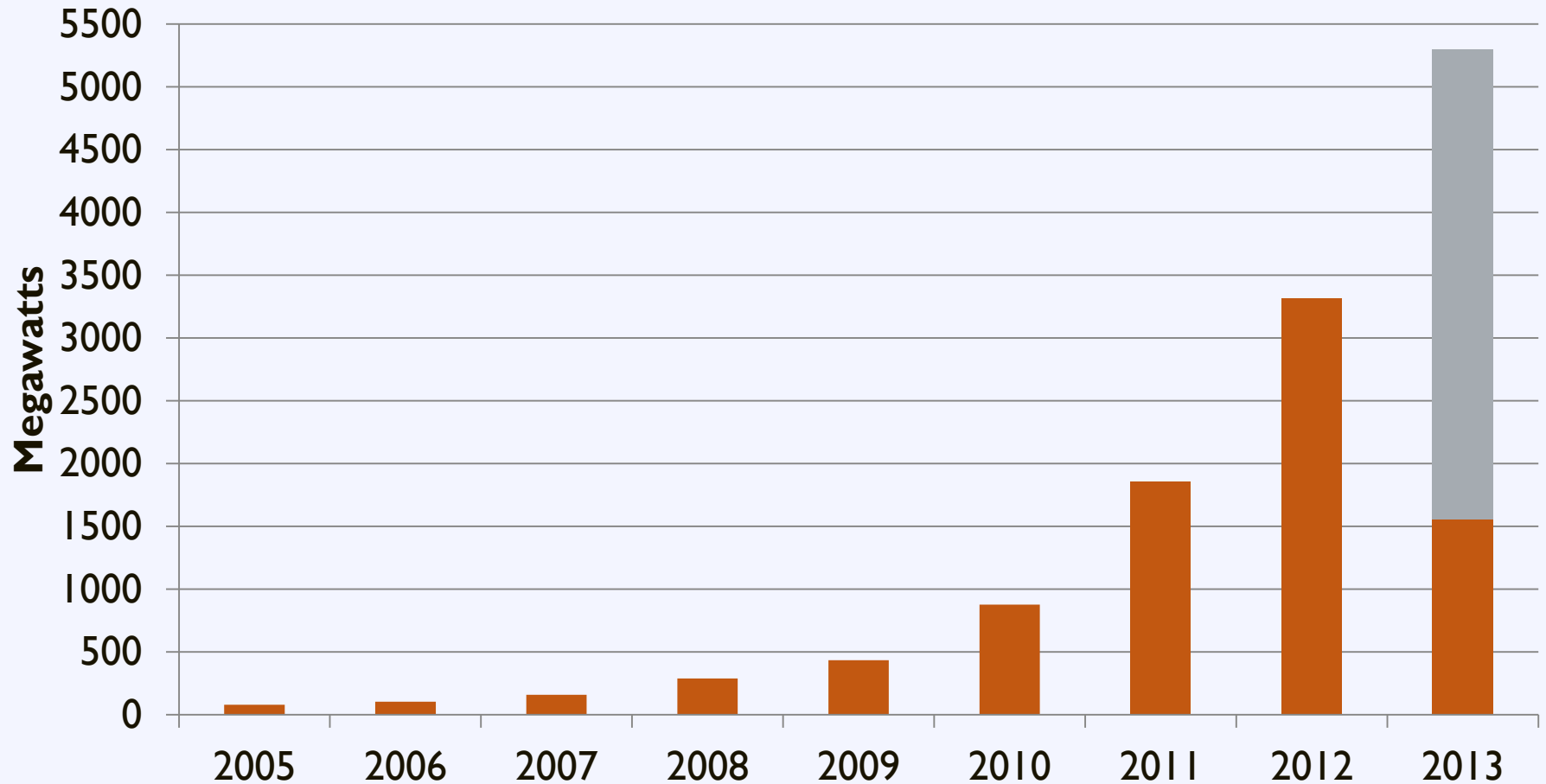
Installed Capacity

Top 5 Countries: Solar Operating Capacity (2012)



U.S. Solar PV Installation Growth

Annual U.S. Installed PV Capacity



Installed Capacity

The United States currently has

9.4 GW

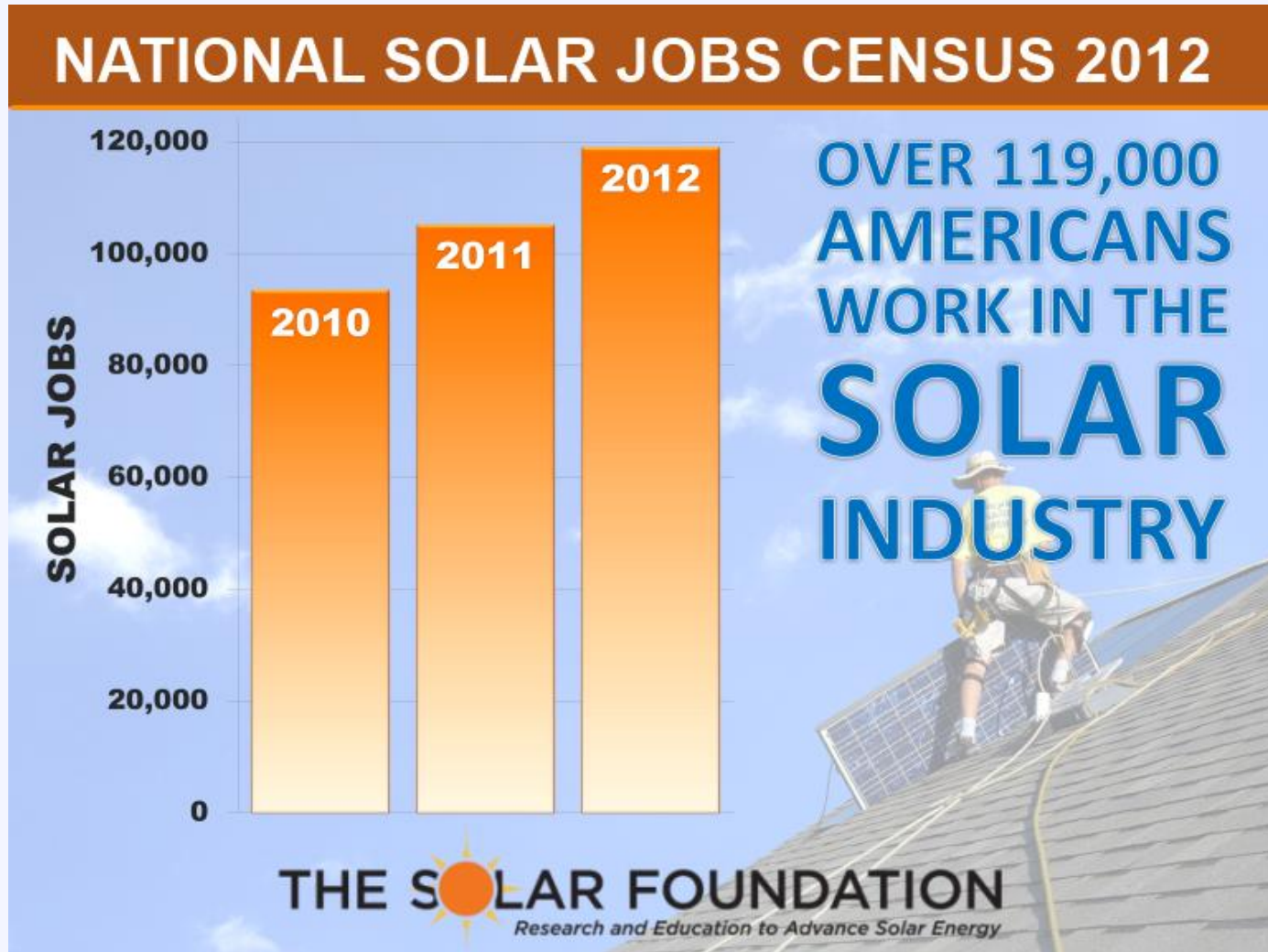
of installed solar capacity, enough to power

1.5 million households.

In 2013, a new solar project will be installed every

4 minutes.

Solar Industry is Creating Jobs



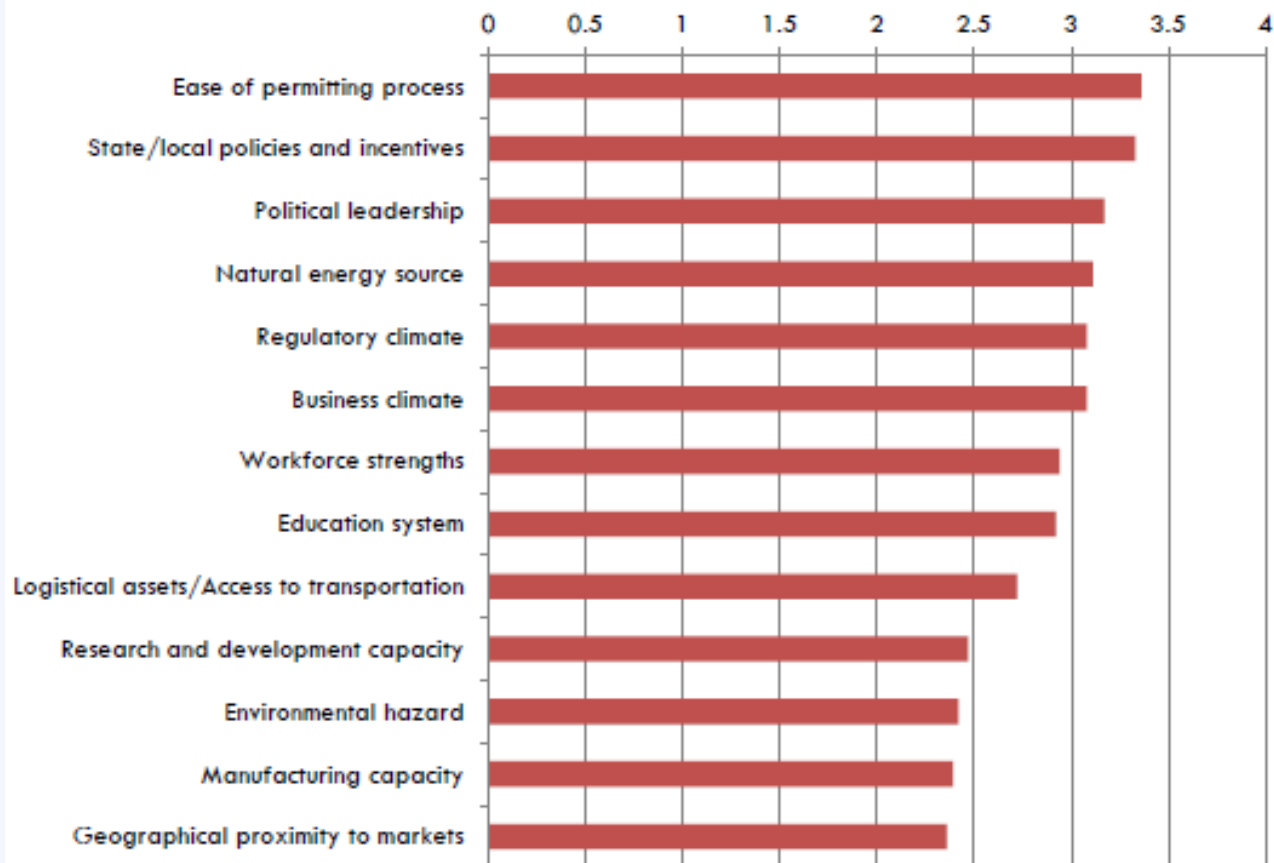
Downstream Growth Offsets Upstream Losses

<i>Subsector</i>	<i>2010 Jobs</i>	<i>2011 Jobs (Revised)</i>	<i>2012 Jobs</i>	<i>2011 - 2012 Change in Employment</i>	<i>2011 - 2012 Growth Rate</i>	<i>2013 Projected Employment</i>	<i>2012 - 2013 Expected Growth Rate</i>
Installation	43,934	48,656	57,177	8,521	17.5%	68,931	21%
Manufacturing	24,916	37,941	29,742	(8,199)	(21.6%)	32,313	9%
Sales and Distribution	11,744	13,000	16,005	3,005	23.1%	19,549	22%
Project Development	--	--	7,988	7,988	--	9,098	14%
Other	12,908	5,548	8,105	2,557	46.1%	9,551	18%
Total	93,502	105,145	119,016	13,872	13.2%	139,442	17%

Most Important Local/State Assets

How important are each of the following local/state assets to your company's growth?

1-Not important 2-Modestly Important 3-Very Important 4-Extremely Important



Challenge: Inconsistency

18,000+ local jurisdictions
with unique zoning and permitting requirements

Consumer Challenges



The Opportunity

Compare this to **Germany** which has

One Unified Process

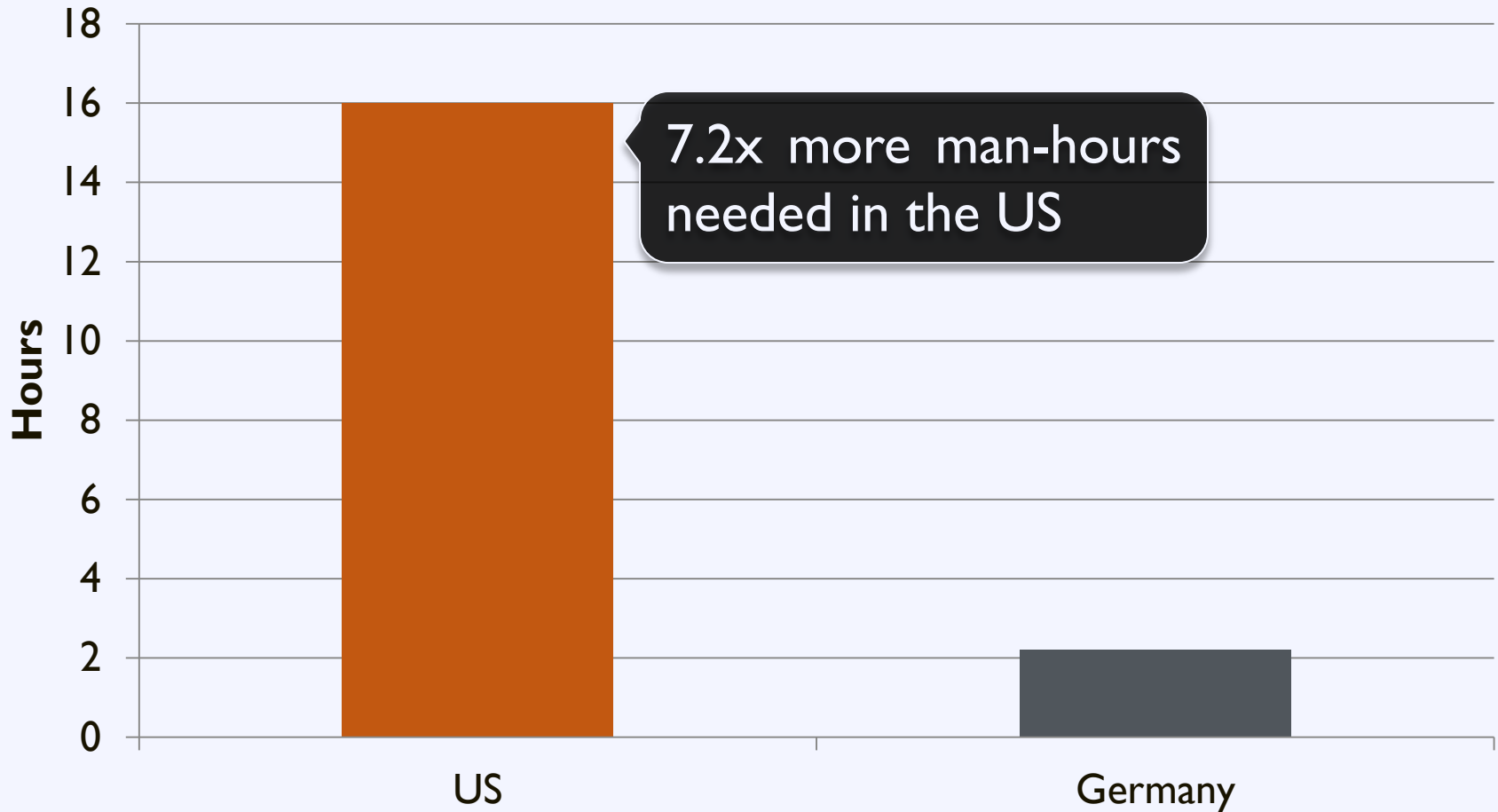
where applicants complete

A single two page form

to receive all necessary permits

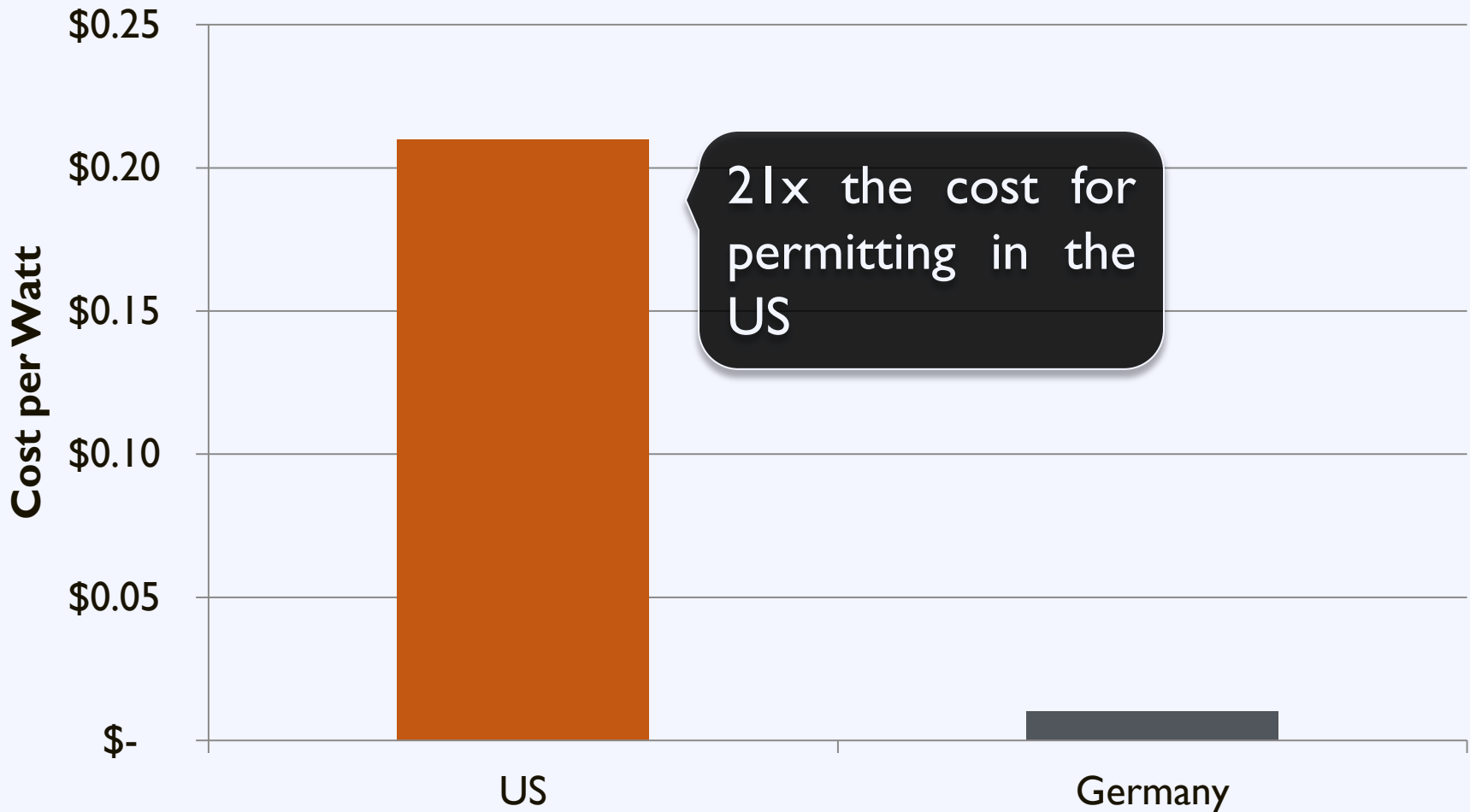
Time to Installation

Average Time to Permit a Solar Installation



Permitting Costs

Average Cost of Permitting in the US and Germany



Expedited Permitting: Opportunity

Communities in CA with favorable permitting practices saw

4 - 12% lower costs

and

25% shorter development time

as compared to standard communities

Expedited Permitting

Solar Permitting Best Practices:

- ✓ Fair flat fees
- ✓ Electronic or over-the-counter issuance
- ✓ Standardized permit requirements
- ✓ Electronic materials

Expedited Permitting

Solar Permitting Best Practices:

- ✓ Training for permitting staff in solar
- ✓ Removal of excessive reviews
- ✓ Reduction of inspection appointment windows
- ✓ Utilization of standard certifications

Expedited Permitting

Resource Solar ABCs

Expedited Permitting:

- Simplifies requirements for PV applications
- Facilitates efficient review of content
- Minimize need for detailed studies and unnecessary delays

Solar America Board for Codes and Standards
Collaborate • Contribute • Transform

ABOUT US | CODES & STANDARDS | CURRENT ISSUES

Codes & Standards

The Solar America Board for Codes and Standards (Solar ABCs) collaborates and enhances the practice of developing, implementing, and disseminating solar codes and standards. The Solar ABCs provides formal coordination in the planning and revision of separate, though interrelated, solar codes and standards. We also provide access for stakeholders to participate with members of standards making bodies through working groups and research activities to set national priorities on technical issues. The Solar ABCs is a centralized repository for collection and dissemination of documents, regulations, and technical materials related to solar codes and standards.

The Solar ABCs creates a centralized home to facilitate photovoltaic (PV) market transformation by:

- Creating a forum that fosters generating consensus 'best practices' materials.
- Disseminating such materials to utilities, state and other regulating agencies.
- Answering code-related questions (technical or statutory in nature).
- Providing feedback on important related issues to DOE and government agencies.

Learn more about solar codes and standards development:

The below organizations all publish codes and standards for PV products and each organization has its own process to develop and publish standards.

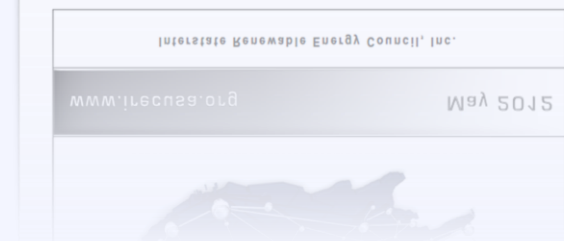
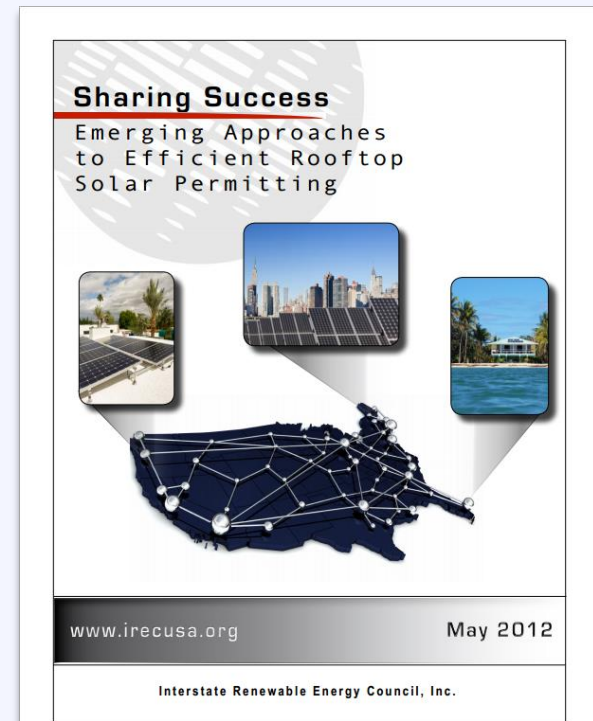
- [ASTM](#)
- [IAPMO Standards](#)
- [International Code Council](#)
- [International Electrotechnical Commission](#)
- [IEEE](#)
- [National Fire Protection Association](#)
- [SEMI](#)
- [Underwriters Laboratories](#)

Expedited Permitting

Resource Interstate Renewable Energy Council

Outlines emerging approaches to efficient rooftop solar permitting

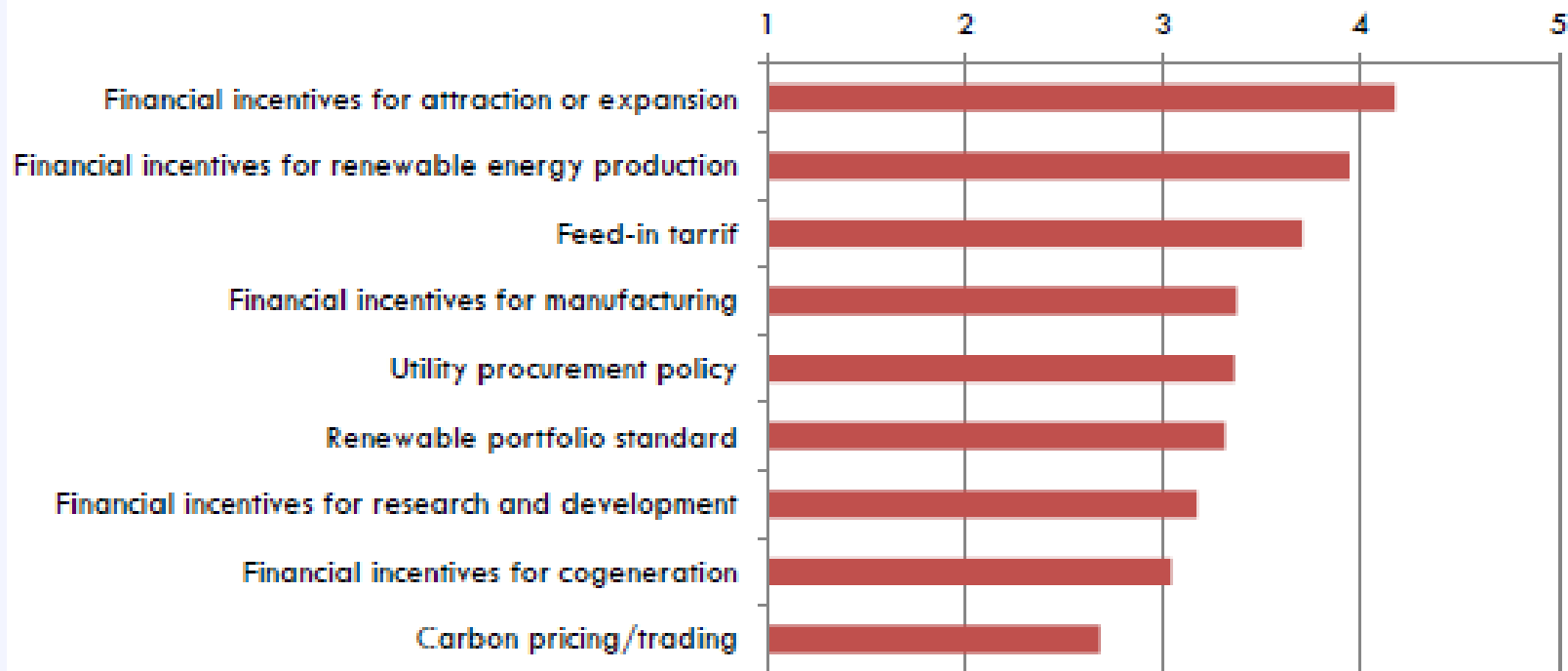
www.irecusa.org



Most Effective Policy Tools

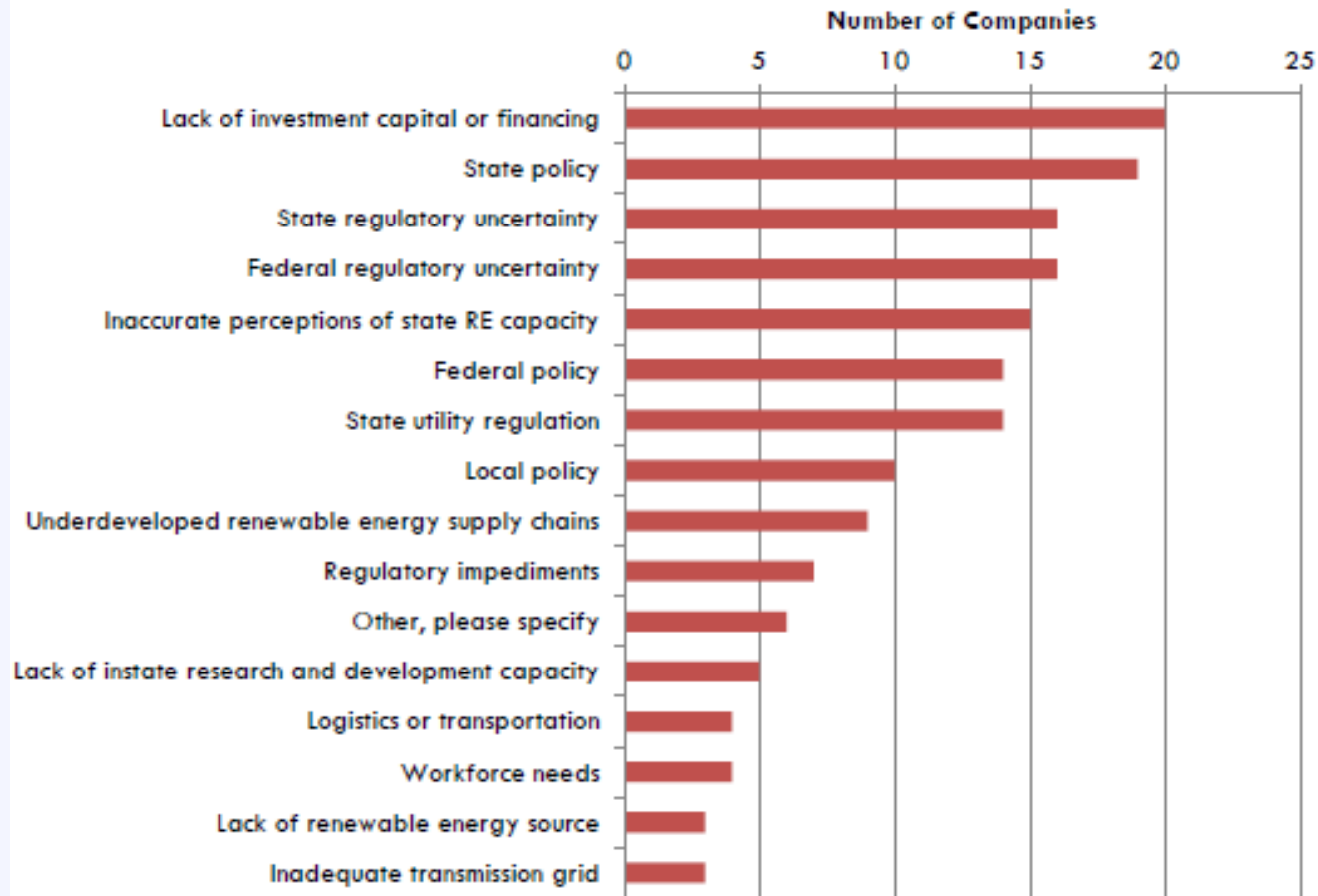
Please indicate the importance of each of the following state or regional policy tools to your business

1-No Effect 2-Little Effect 3-Significant Effect 4-Large Effect 5-Very Large Effect



Greatest Challenges to Growth

What are your main challenges to growth?
Please select the five most pressing challenges.



Thank You

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