Solar Energy Industries Association®

The U.S. Solar Energy Industry: Powering America

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Solar Energy Industries Association

President & CEO

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About SEIA

- **Founded in 1974**
- **U.S. National Trade Association for Solar Energy**
  - 1,000 member companies from around the world
  - Members from across 50 states
  - Largest companies in the world as well as small installers
- **Our Mission: Build a strong solar industry to power America**
- **Our Goal: 10 gigawatts (GW) of annual installed solar capacity in the U.S. by 2015**

Residential Solar Photovoltaic (PV)

- **Typically rooftop installations on single or multi family residential properties**
- **Capacity: 1-15 kW (average 6 kW)**
  - Sized to account for majority of yearly household electricity use (but not more than)
- **Normally grid-connected**
  - Uses net energy metering (NEM)
- **Average cost: $3.60/watt**
  - Average system cost: $20,000
- **Finance Options**
  - Third Party Ownership (Lease)
  - Debt Financing through installer
  - Self-financed
- **19% Market Share in 2014**

Non-Residential Solar Photovoltaic

- **Roof or ground-mounted installations on commercial, industrial, government or non-profit properties**
- **Capacity: 1-5000+ kW (average 100 kW)**
  - Sizes vary widely depending on project objectives
- **Normally grid-connected**
  - Uses net energy metering (NEM)
  - Commercial entity is electricity off-taker
- **Average cost: $2.27/watt**
  - Average system cost: ranges widely
- **Finance Options**
  - Third Party Ownership (PPA)
  - Debt Financing through installer
  - Self-financed
- **17% Market Share in 2014**

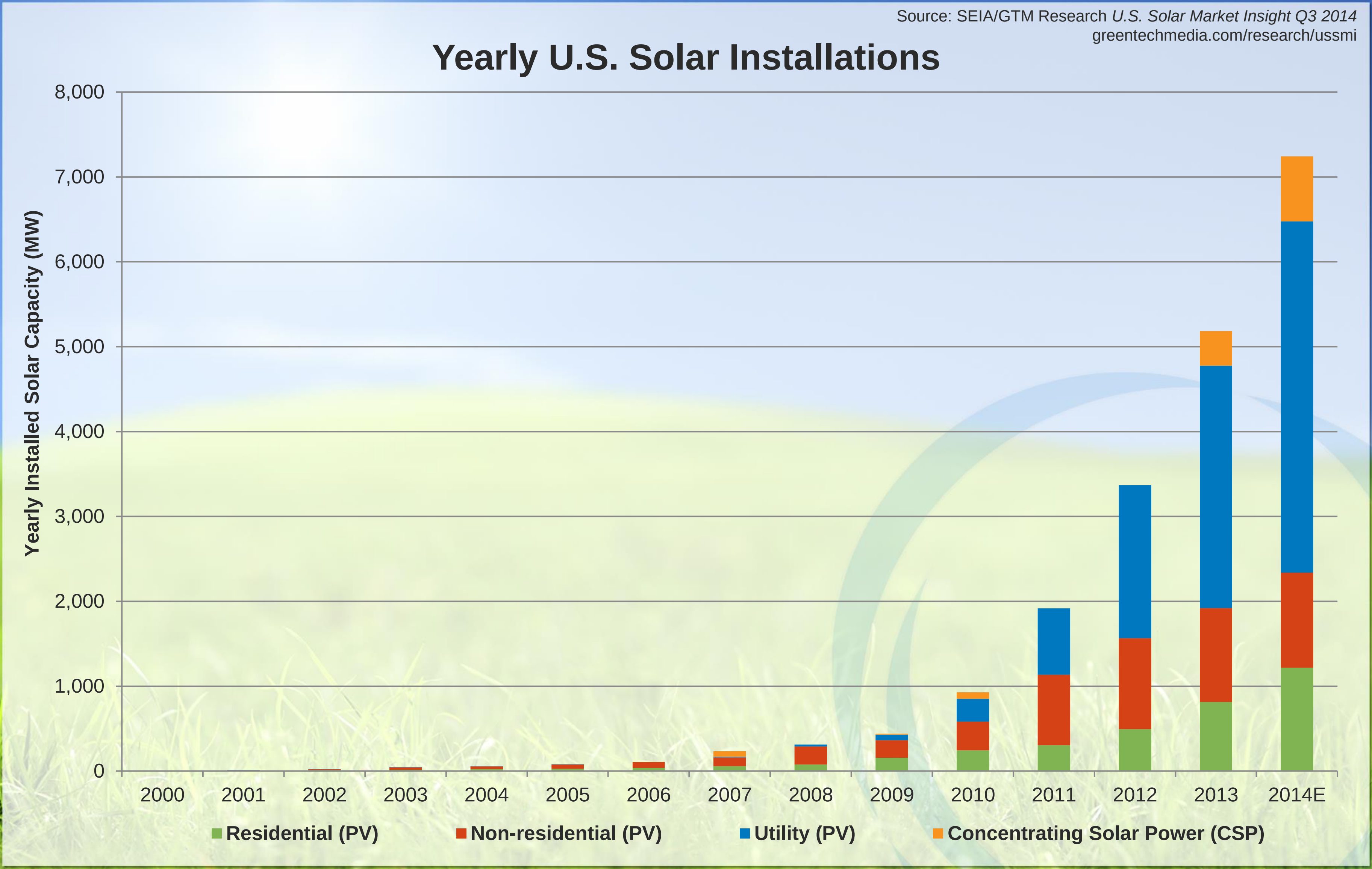
Utility-Scale Solar Photovoltaic

- **Typically ground-mounted installations in a variety of open spaces (desert, brownfield, grassland, other reclaimed land)**
- **Capacity: 1+ MW (average 12 MW)**
  - Can be as large as 500 MW
- **Sells electricity on wholesale market**
  - Utility or Independent Power Producer-owned
  - Utility is electricity off-taker
- **Average cost: $1.71/watt**
  - Average system cost: ranges widely
- **Finance Options**
  - Multi-party arrangements
  - Debt, Equity, Tax Equity, Loan Guarantee
- **64% Market Share in 2014**

Concentrating Solar Power

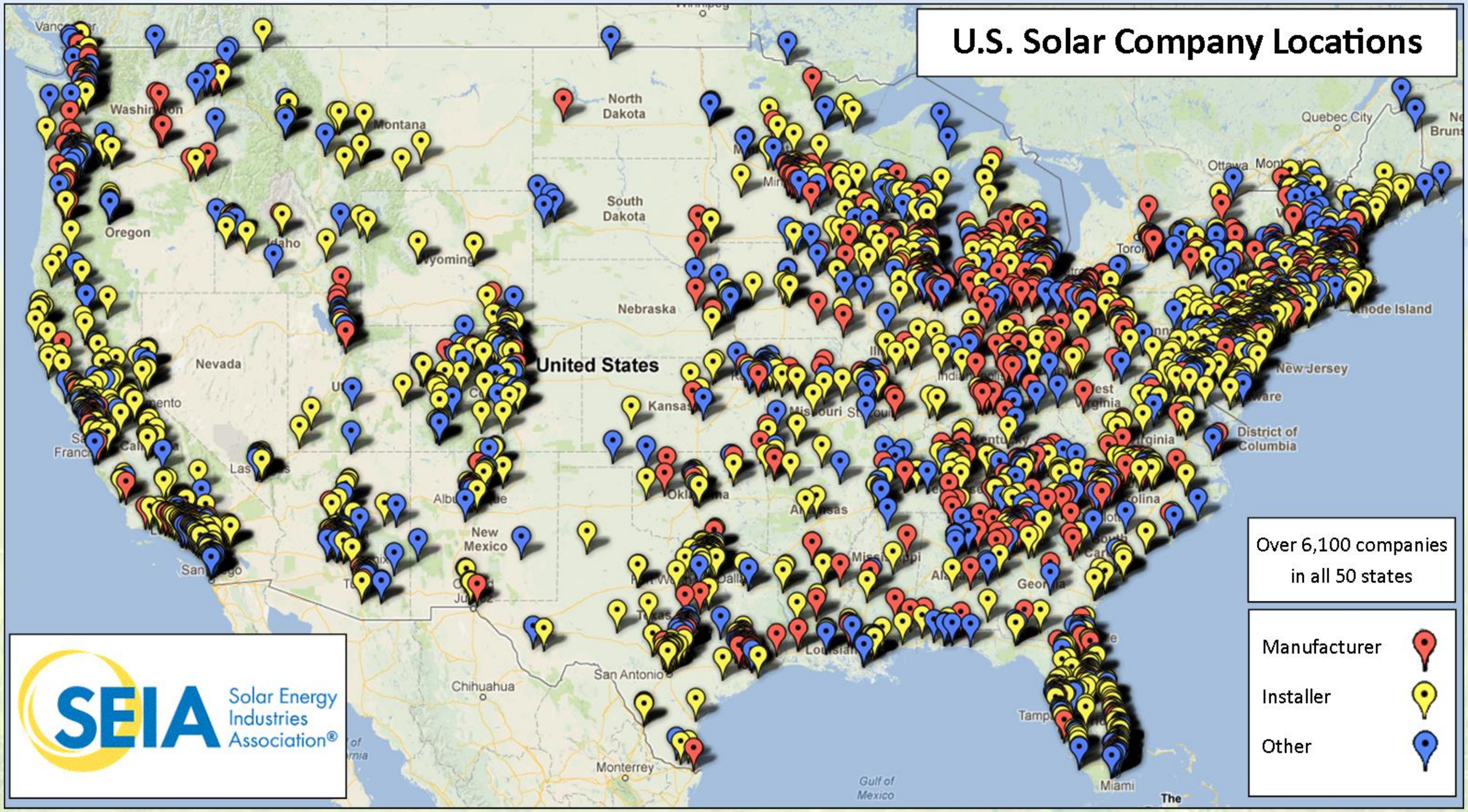
- **Generates electricity using heat from the sun**
- **Systems located in areas with exceptional solar resources**
- **Capacity: 75 MW+**
  - Experimental systems can be smaller
- **Sells electricity on wholesale market**
  - Utility or Independent Power Producer-owned
  - Utility is electricity off-taker
- **767 MW installed in 2014**
  - 1,685 MW installed cumulatively
- **Finance Options**
  - Multi-party arrangements
  - Debt, Equity, Tax Equity, Loan Guarantee

Solar in America: Strong and Getting Stronger

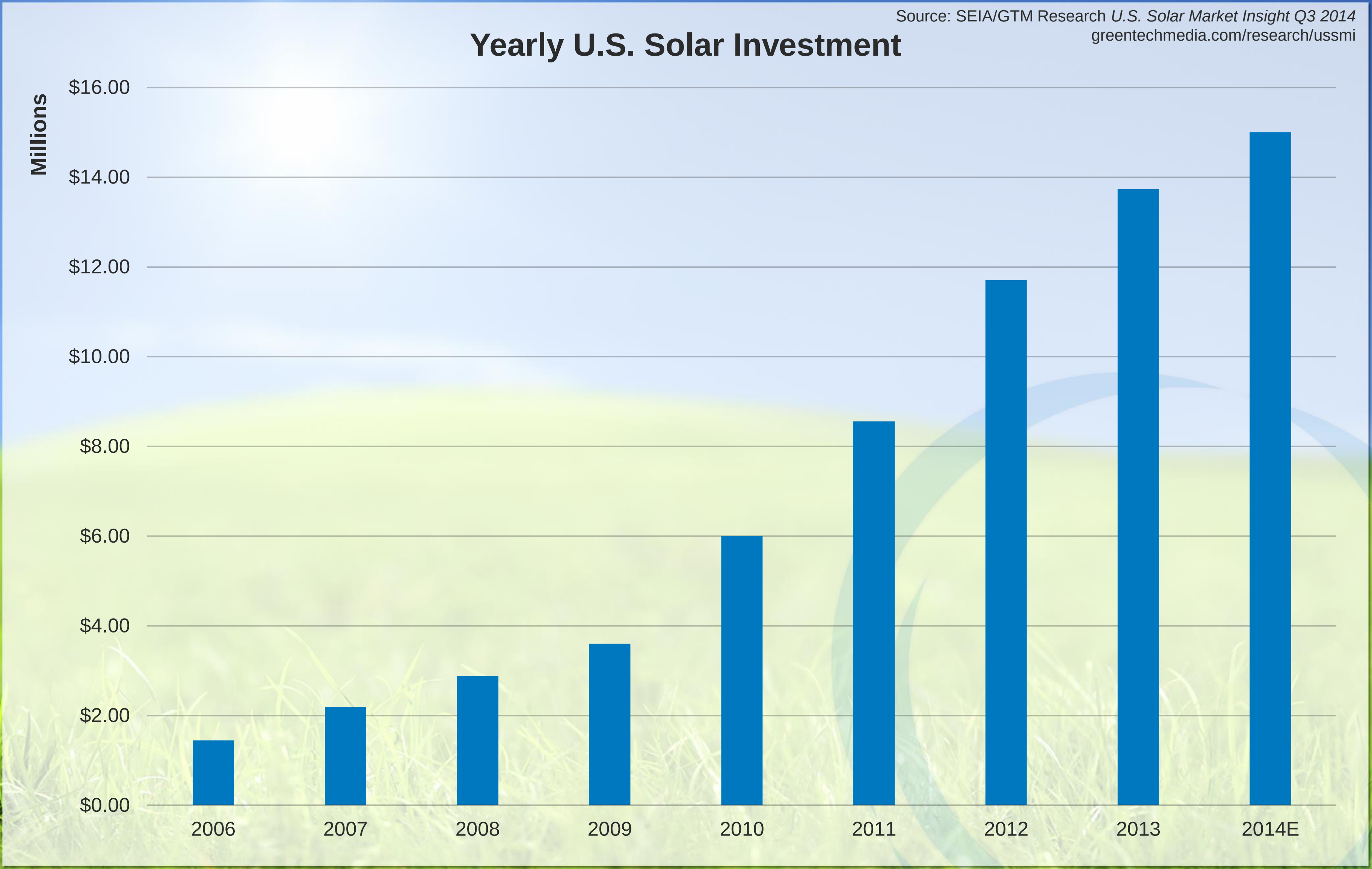


Solar as an Economic Engine

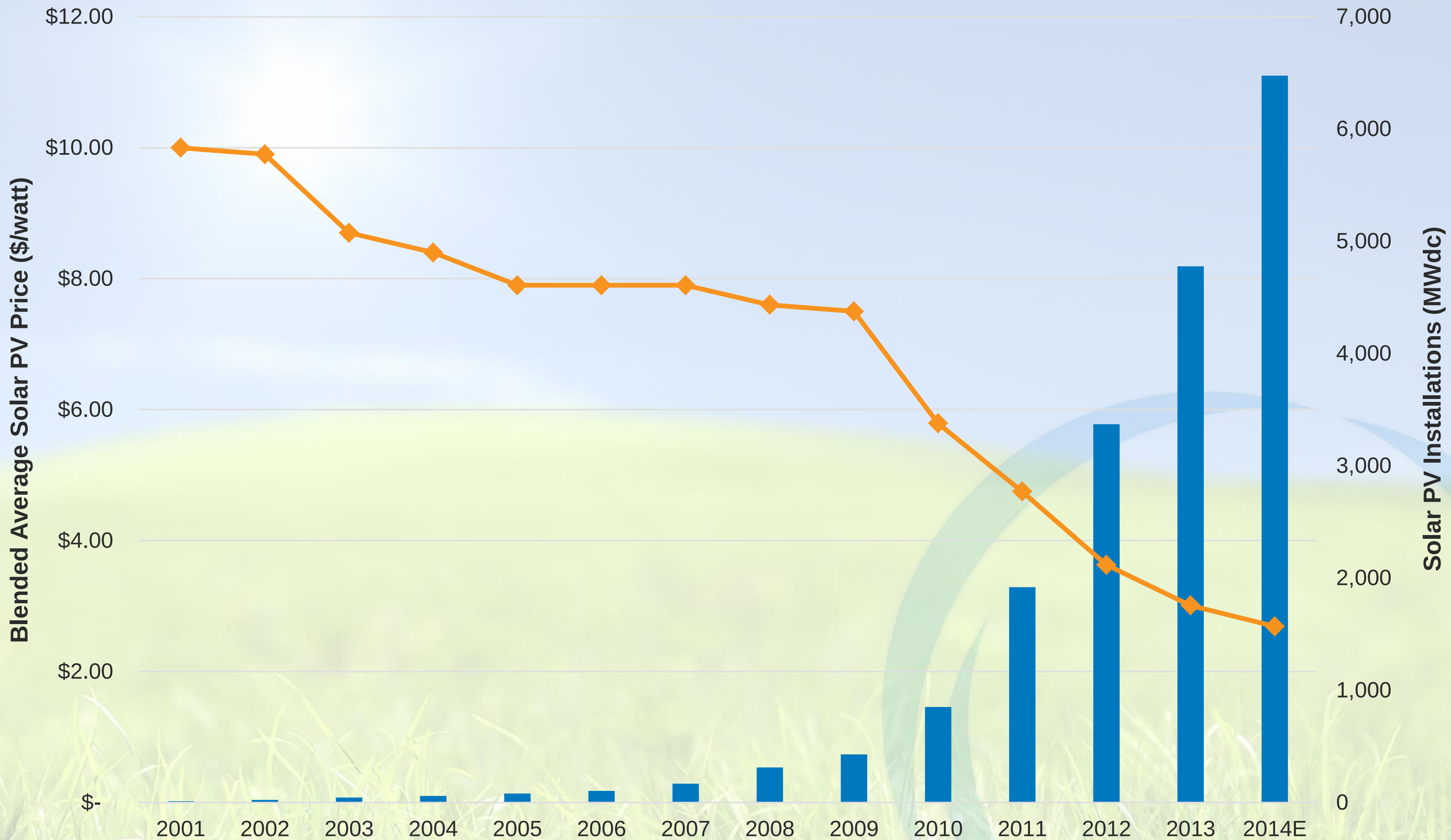
- **Nearly 174,000** American workers in solar – more than double the number in 2009 – at **6,100** companies across the country



Investment in Solar has increased 10x since 2006

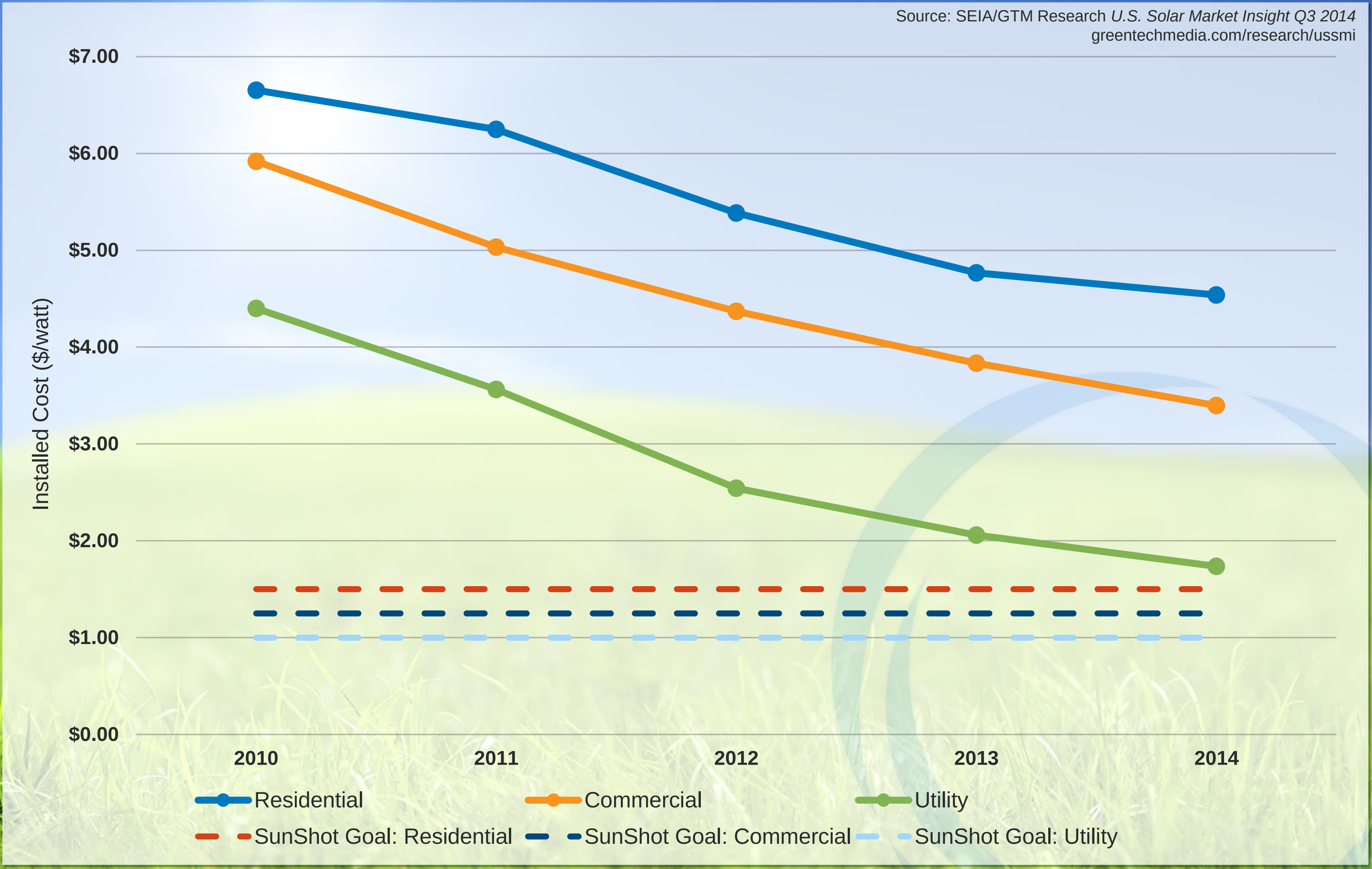


Growth in Solar led by Falling Prices



Source: SEIA/GTM Research *U.S. Solar Market Insight Q3 2014*
greentechmedia.com/research/ussmi
Lawrence Berkeley National Laboratory, *Tracking the Sun*

Prices in all market segments near Sunshot Goals



Residential PV: Near Retail Rate Parity in Some States…

Source: SEIA/GTM Research *U.S. Solar Market Insight Q3 2014*
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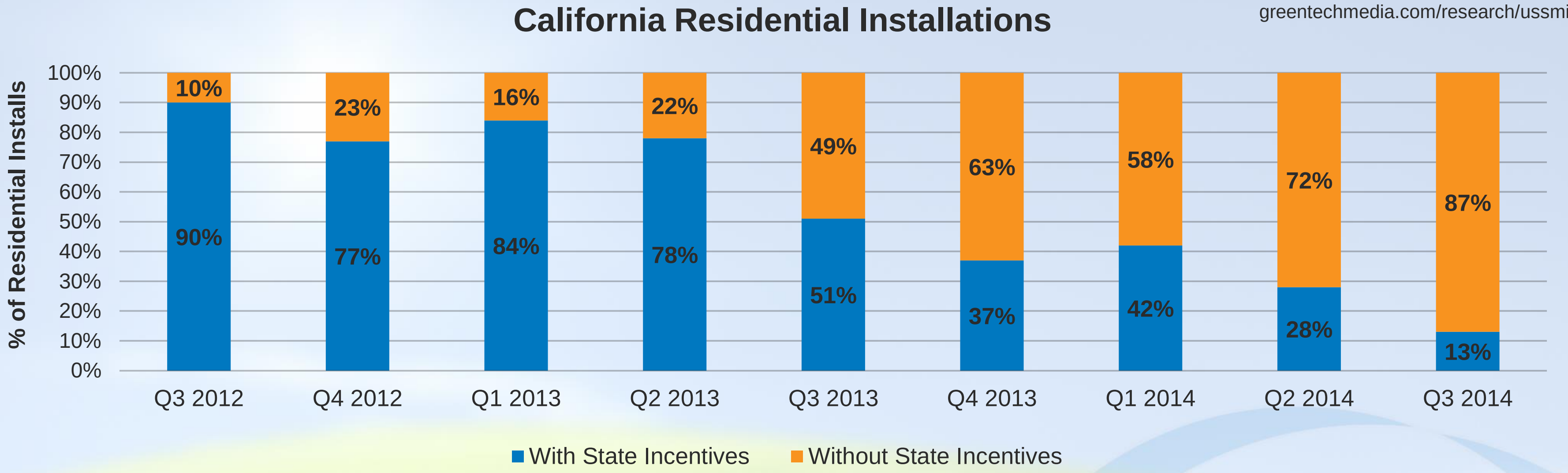

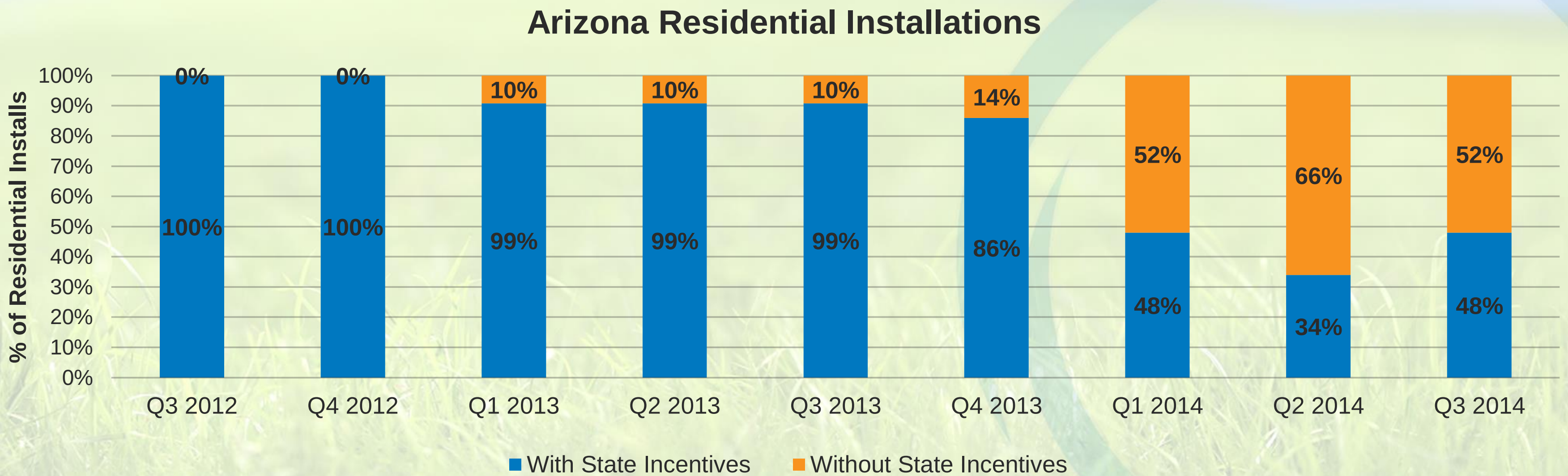

…Still Work to do in Others

Source: SEIA/GTM Research *U.S. Solar Market Insight Q3 2014*
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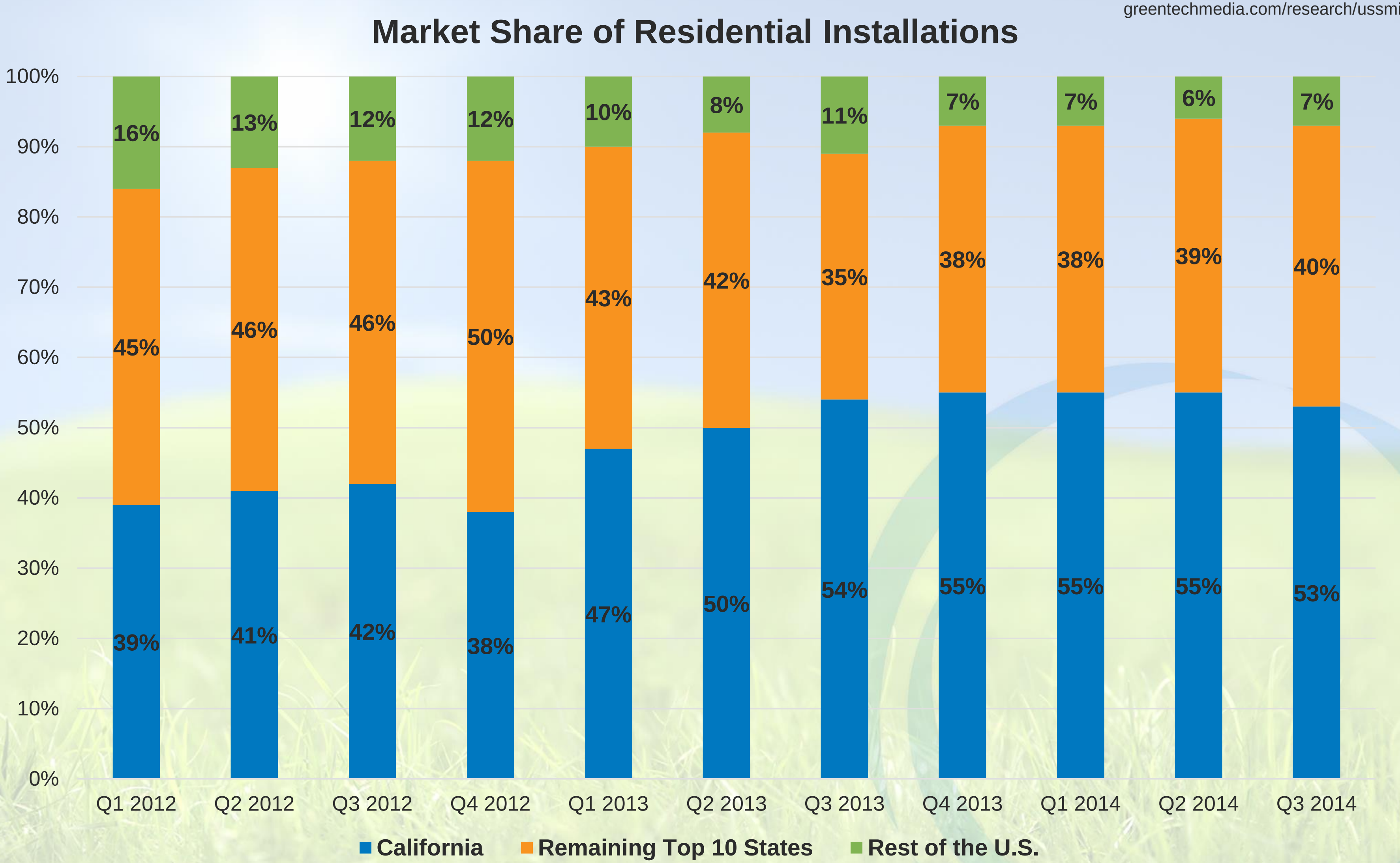
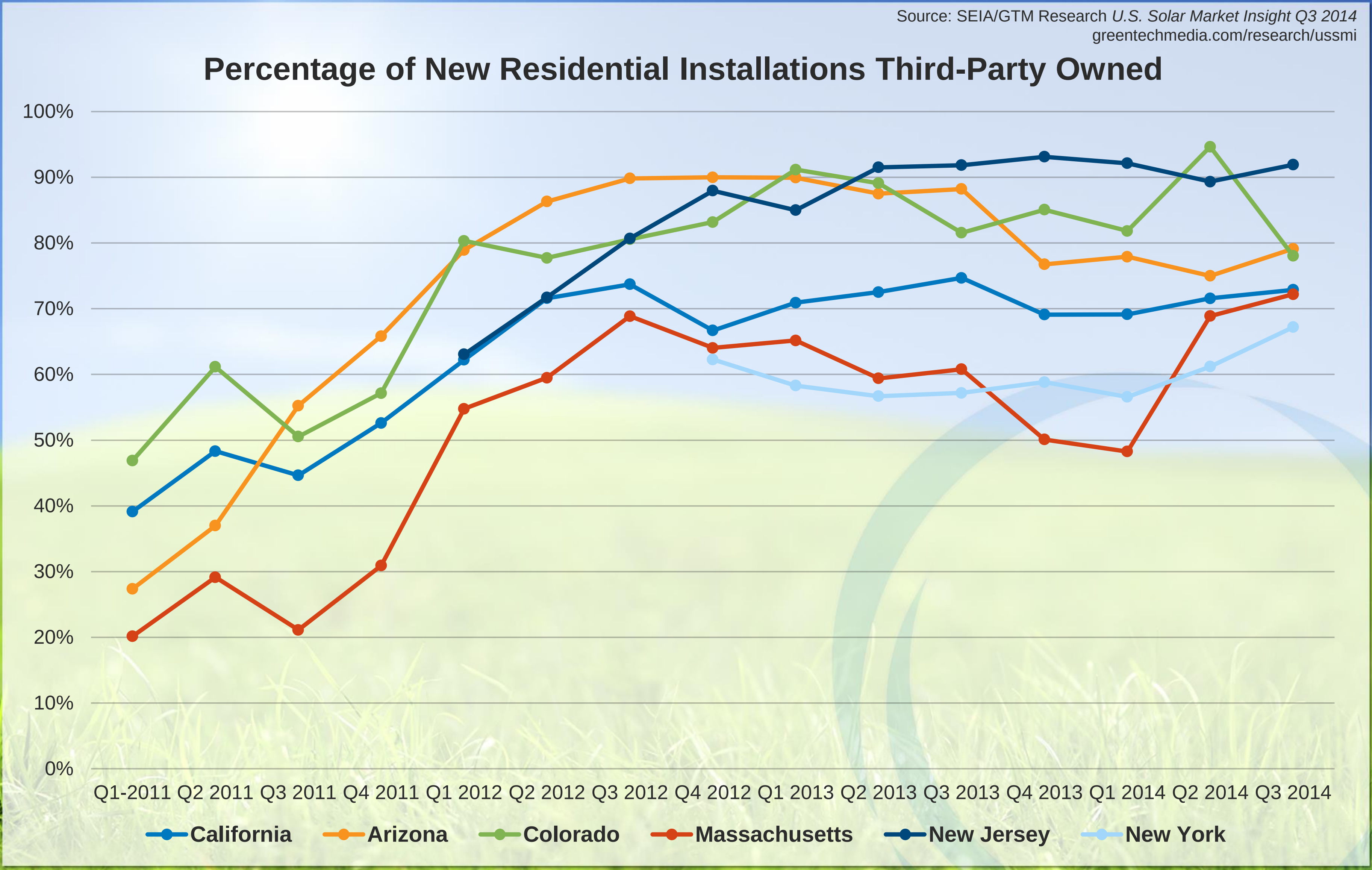
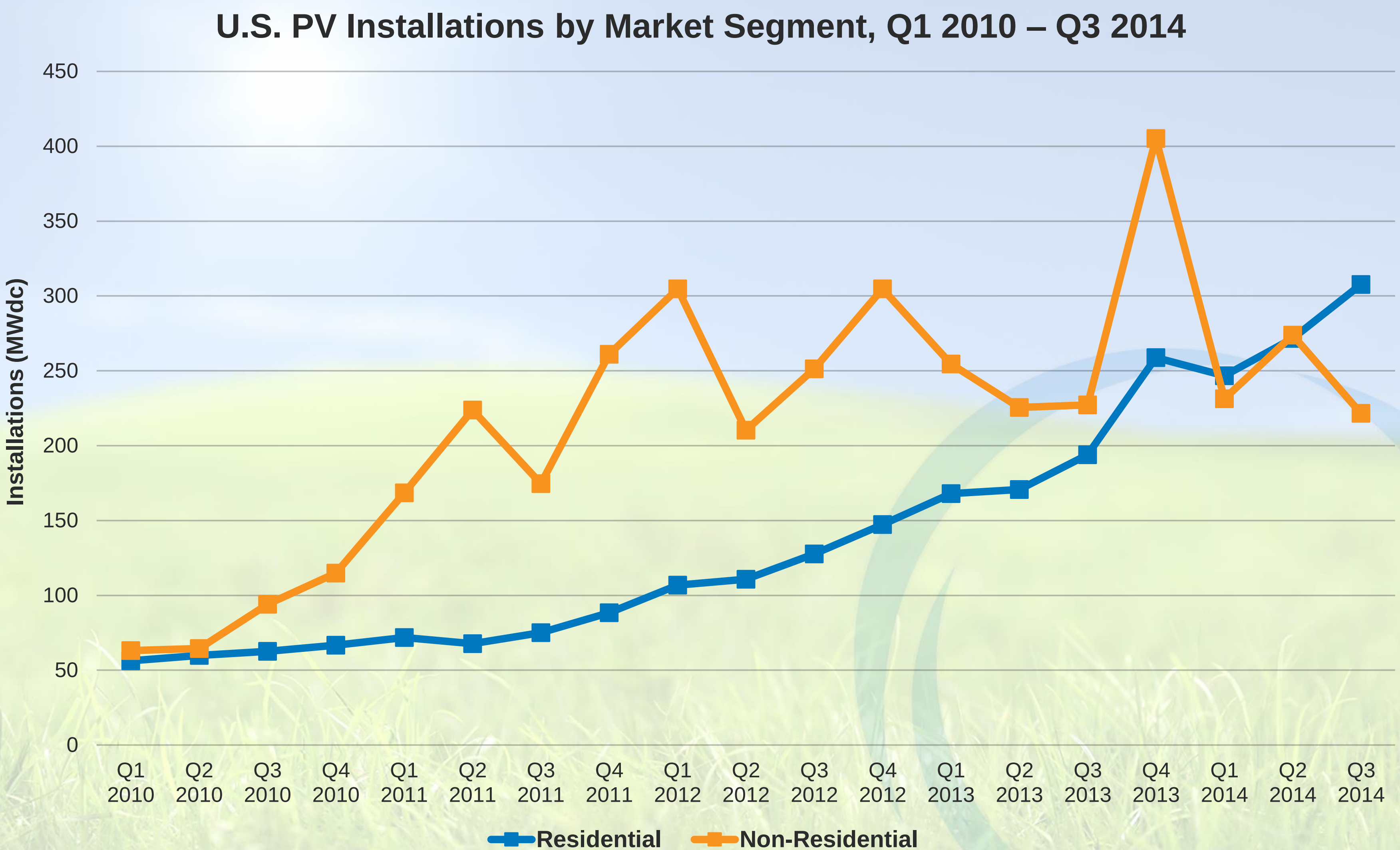


Third-Party Ownership plateaus, but with large market share

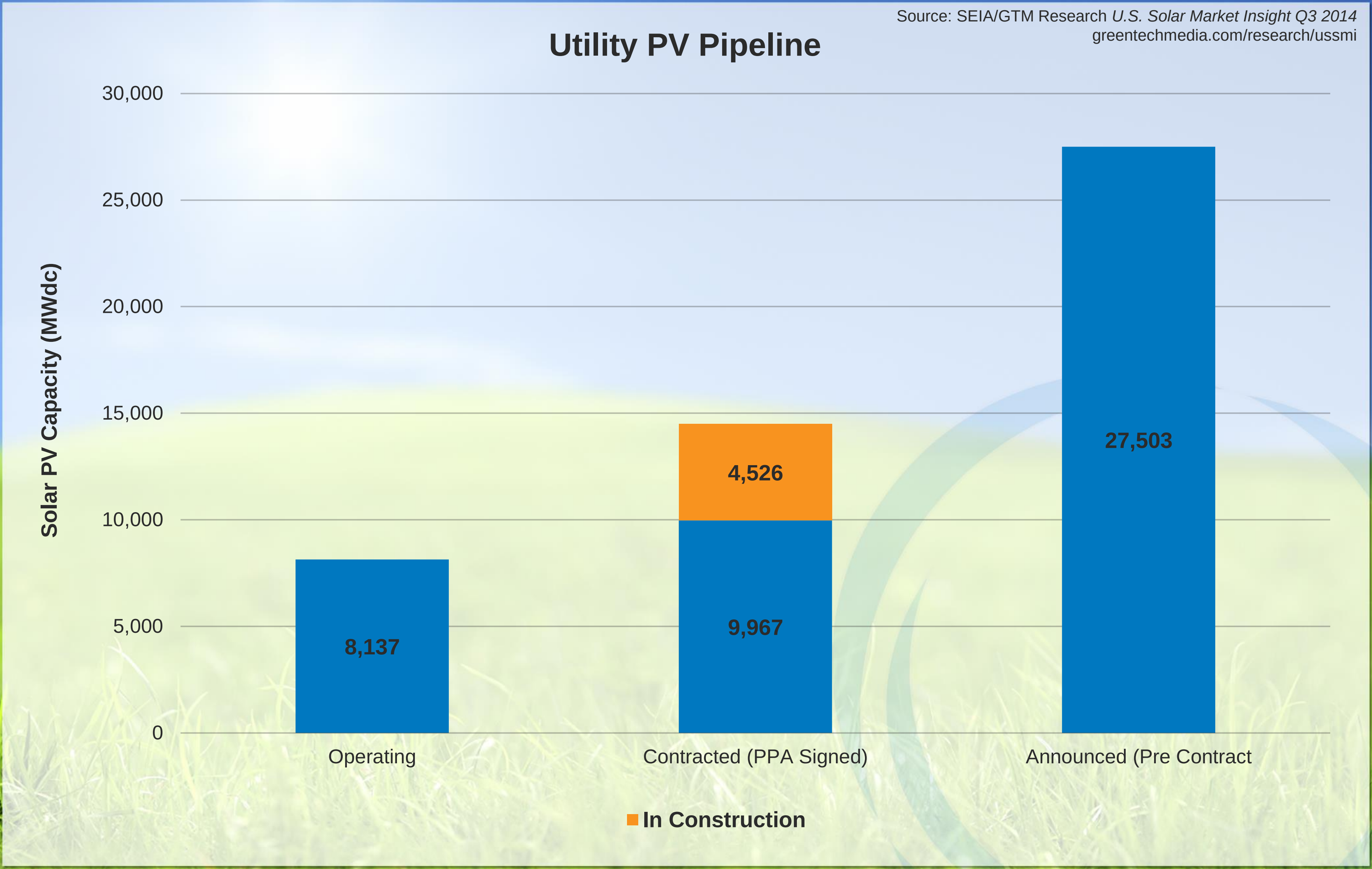


Non-Residential Market: Crossing the Financing Gap

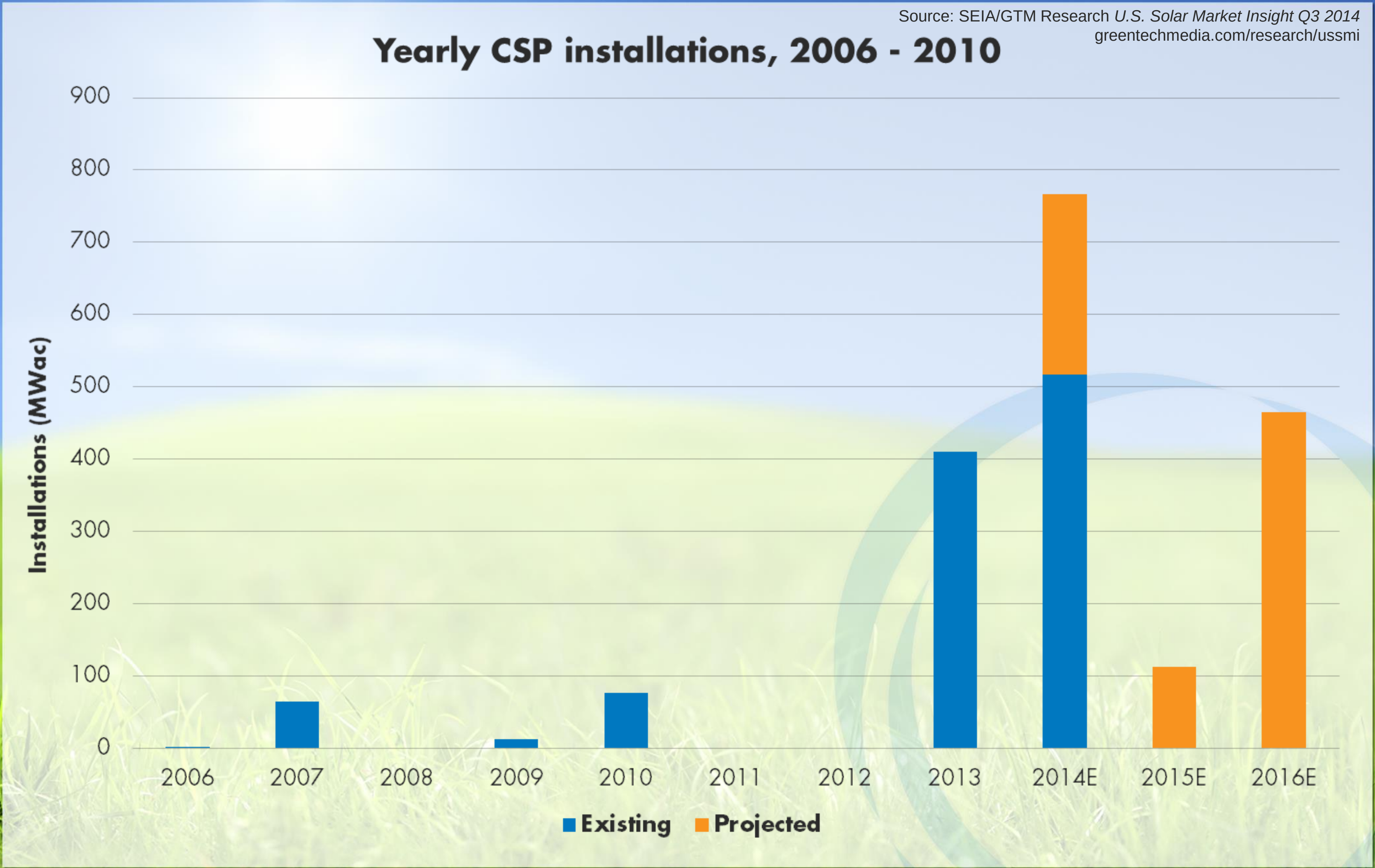
Source: SEIA/GTM Research *U.S. Solar Market Insight Q3 2014*
greentechmedia.com/research/ussmi



Utility PV Market: Pipeline Replenishing



Concentrating Solar Power: Recent Surge



Another Strong Year Expected in 2015

- **Over 8.5 GW of solar installations in 2015**
  - 8.4 GW Photovoltaics
  - 112 MW Concentrating Solar Power
  - 18% growth over last year (30% growth in PV market)
  - A new installation every 2.5 minutes
- **By years end, over 28 GW of solar in U.S.**
  - Nearing 1 million cumulative solar installations
  - Enough solar in U.S. to power 5.5 million+ homes
  - Displace CO^2 equivalent to 8 coal power plants, emissions from 6.3 million vehicles

Source: SEIA/GTM Research *U.S. Solar Market Insight Q3 2014*
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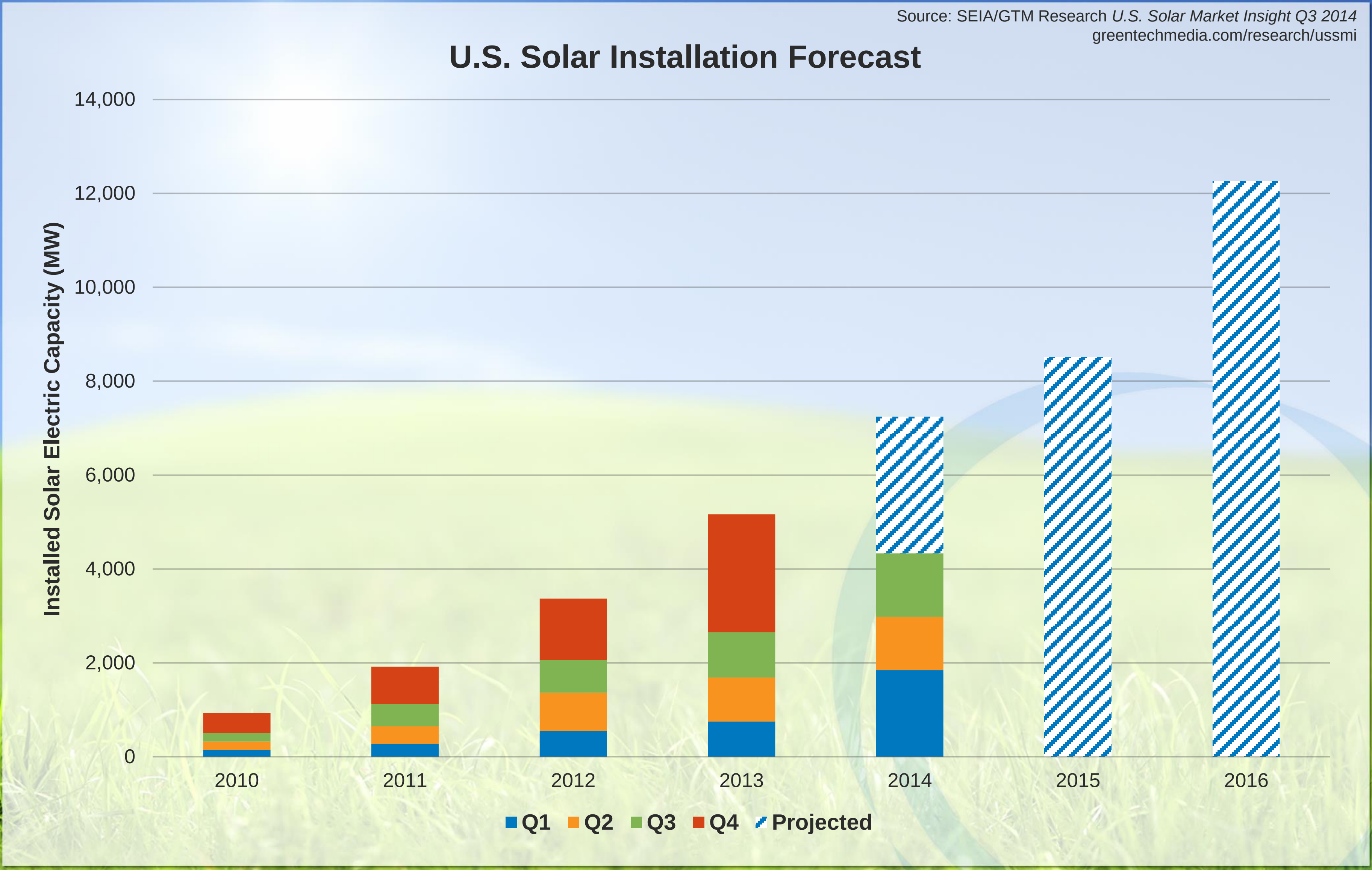
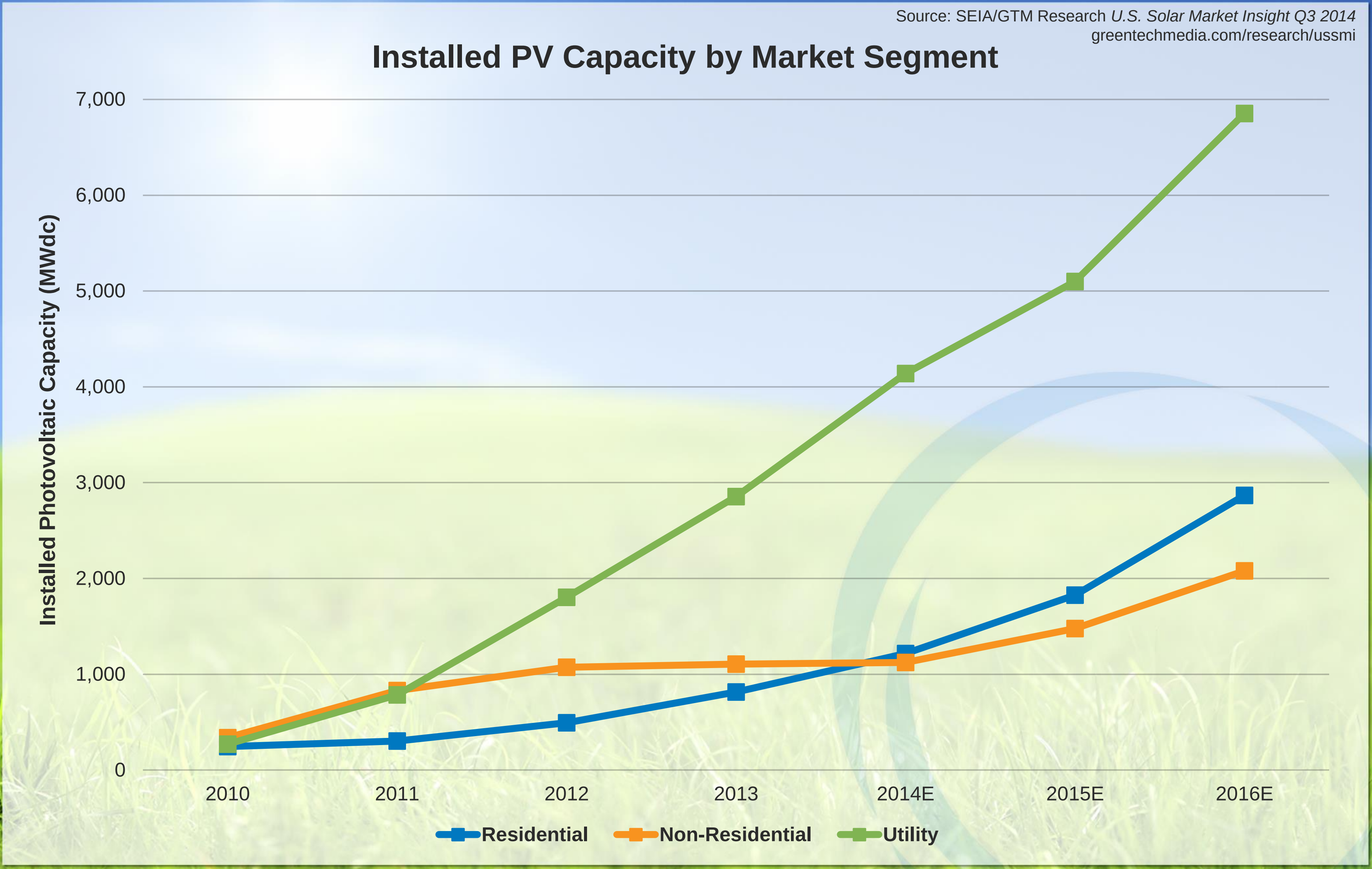
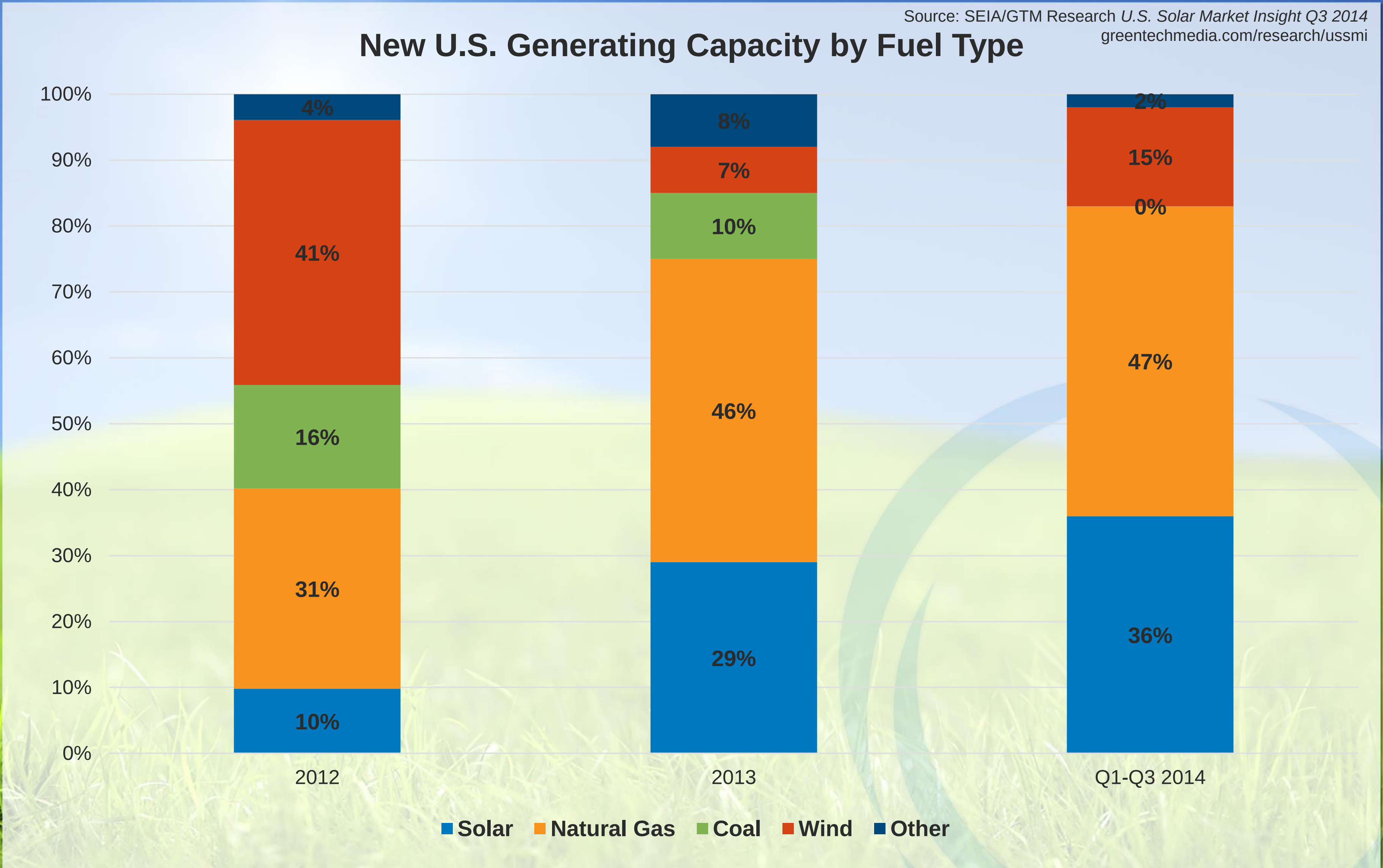
34% Average Annual Growth Projected through 2016



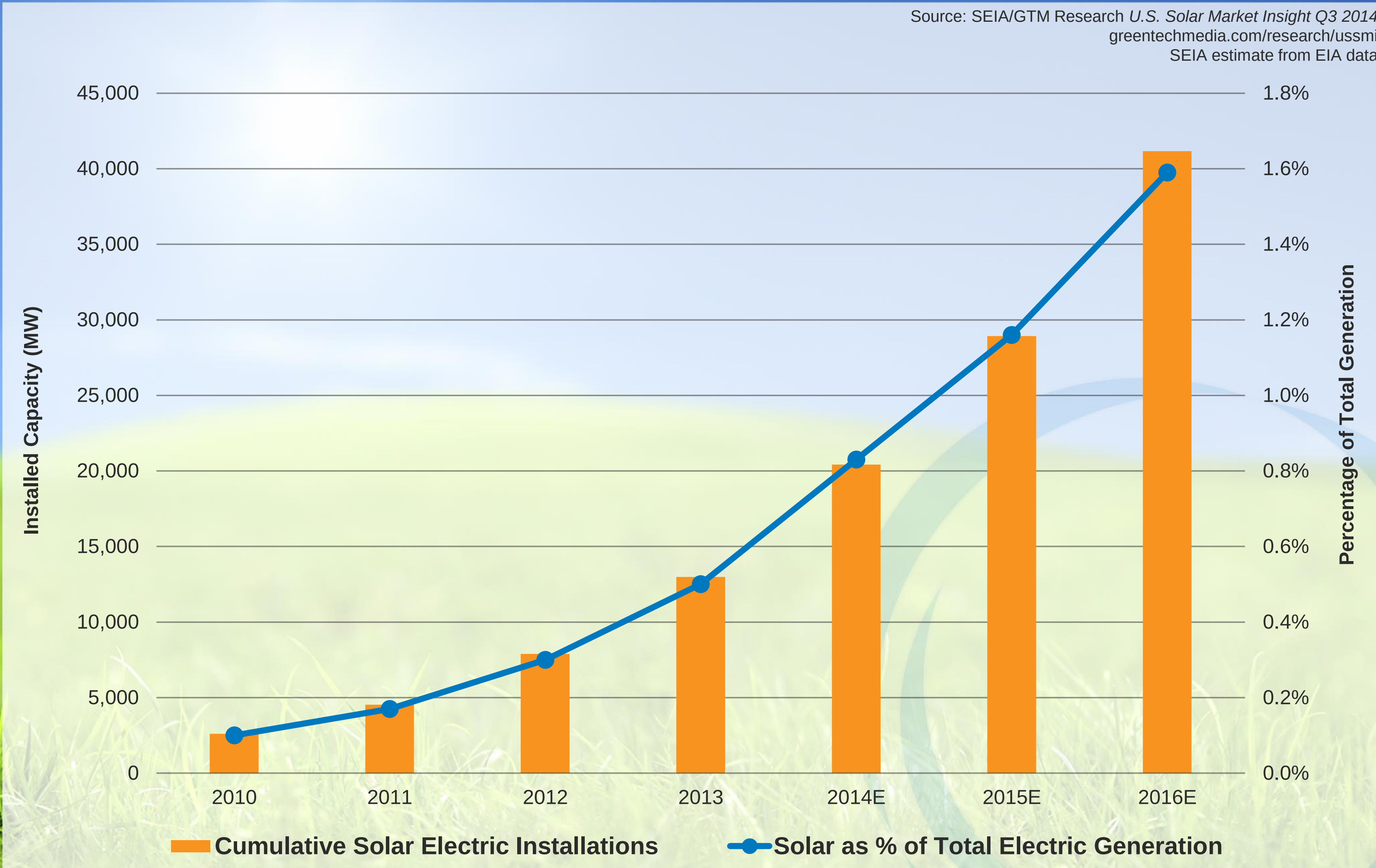
Continued Growth Across All Market Segments



36% of Electric Capacity Installed in 2014 through Q3 from Solar



Solar Increasingly Important Part of Generation Mix



SEIA Policy Priorities: Federal & Trade

- **Investment Tax Credit**
  - Preserve and Extend at 30% Beyond 2016
  - Modify to include Commence Construction
- **Preserve MACRS**
- **Project Finance**
  - Increase tax equity pool through PWI authority and CRA
  - Expand MLPs to include renewable energy
- **Lead effort to resolve U.S.-China trade conflict**
- **Solar codes and safety standards**
- **EPA 111d**

SEIA Policy Priorities: State

- **Renewable Portfolio Standards**
  - Defend and Expand; advocate for SHC
- **NEM, rate design and incentives in key states:**
  - CA, AZ, CO, NY, NV, MA, NJ & mid-Atlantic, TX, GA & southeast
- **Expand policies to support DG**
- **Grid Integration**
  - Outreach & education to key policymakers
  - Research and address key issues