



# 2012 STATE CLEAN ENERGY INDEX

MAY 2012

## *EXECUTIVE SUMMARY*



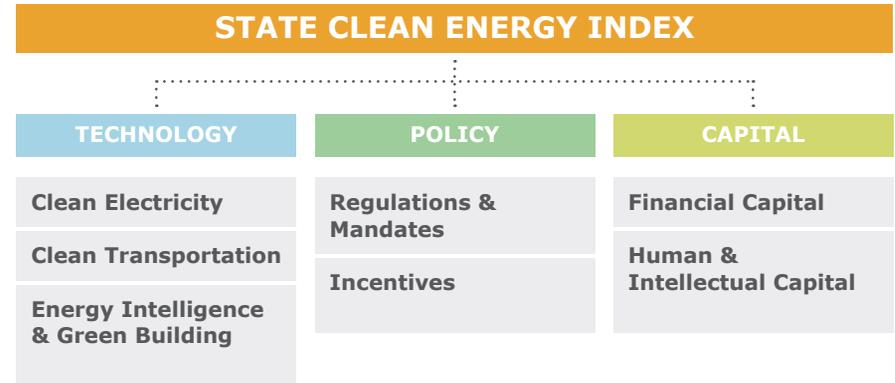
THE CLEAN-TECH MARKET AUTHORITY

# 2012 STATE CLEAN ENERGY INDEX – EXECUTIVE SUMMARY

This executive summary provides a glimpse at topline findings from the third annual State Clean Energy Index, the centerpiece of a larger advisory subscription service offered to Clean Edge clients. Along with access to the full State Index report – containing detailed Index results, comprehensive data tables, and individual state report cards – subscribers receive additional benefits including custom presentations, company database access, and advisory hours. Refer to the back pages of this executive summary for more information on the State Clean Energy Index subscription service and to set up a private demonstration.

## What is the State Clean Energy Index?

Clean Edge created the State Clean Energy Index as a tool for regional comparative research, a source for aggregated industry data, and a jumping-off point for deep, data-driven analysis of the U.S. clean-energy market. Based on the integration of more than 70 industry-related indicators, the Index establishes clean-energy performance scores and ranks for all 50 states. The Index provides an unparalleled level of industry intelligence to corporations, economic development agencies, investors, policy makers, technology innovators, foundations,

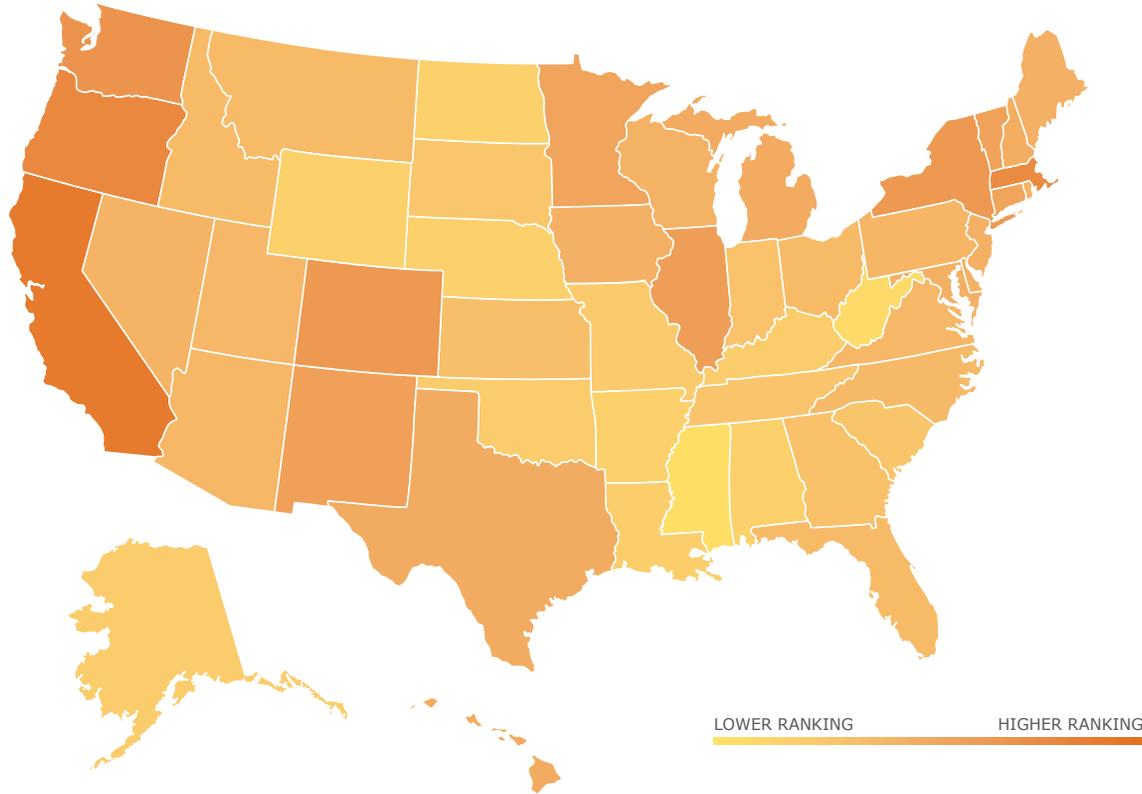


and other key stakeholders actively involved in the clean-tech marketplace. The flow chart shown here provides a basic visualization of the index structure.

## How is the State Clean Energy Index structured?

The State Clean Energy Index is made up of four distinct layers. The top layer, the State Index itself, is a set of 50 state scores which evaluates each state based on involvement and leadership in clean energy. Results of the top layer are derived from performance in three equally weighted categories – technology, policy, and capital – that each play an important role in a state’s positioning in the clean-energy industry. Each of these categories is composed of two or three subcategories, which themselves are constructed from a set of individual indicators. Ultimately, the State Index scores are the result of calculations made at the indicator, subcategory, and category levels, and are based on a 100-point scale.

# STATE CLEAN ENERGY INDEX



RANK	STATE	LEADERSHIP INDEX SCORE
1	California	91.1
2	Oregon	79.9
3	Massachusetts	76.1
4	Washington	69.0
5	Colorado	65.1
6	New York	64.9
7	Illinois	59.8
8	New Mexico	58.1
9	Vermont	56.5
10	Minnesota	54.6
11	Connecticut	54.0
12	Michigan	48.9
13	Texas	48.3
14	Hawaii	48.0
15	New Hampshire	47.4
16	Maine	44.7
17	Maryland	44.6
18	New Jersey	44.6
19	Iowa	44.6
20	Rhode Island	43.5
21	Wisconsin	43.2
22	Delaware	43.2
23	Nevada	42.0
24	Pennsylvania	40.1
25	Arizona	39.0
26	Utah	38.1
27	Virginia	37.6
28	North Carolina	36.7
29	Florida	35.9
30	Montana	35.8
31	Ohio	35.7
32	Idaho	35.7
33	Kansas	32.3
34	Georgia	31.2
35	Indiana	30.4
36	Tennessee	27.7
37	South Carolina	26.6
38	South Dakota	25.8
39	Missouri	22.5
40	Kentucky	20.9
41	Oklahoma	20.2
42	Alaska	19.8
43	Louisiana	18.9
44	Wyoming	17.4
45	Nebraska	17.3
46	Alabama	16.9
47	North Dakota	16.1
48	Arkansas	16.0
49	West Virginia	8.0
50	Mississippi	4.1

# TOP PERFORMERS & REGIONAL HIGHLIGHTS

## The Top 10 States

For the third consecutive year **California** remains the top-ranked state in the State Index (scoring 91.1). The state has established itself as the world's preeminent testing ground for clean technology of all kinds. During 2011, California led the nation in almost every measure of market expansion including new wind and solar capacity, deployment of hybrid and all-electric vehicles, and registration of new green buildings. California's most commanding example of leadership is its attraction of venture capital – California-based clean-energy startups brought in nearly \$9 billion in investments over the last three years, enough to surpass the sum of activity in all 49 other states.

**Oregon** retains its second-place slot with a score of 79.9, largely due to unwavering consumer-driven demand for clean-tech products and services. Participation rates for voluntary utility green pricing programs in Oregon consistently outpace the rest of the U.S., and the state has also become a leader in hybrid-electric vehicles (HEVs) purchased per capita. This culture of sustainability extends to the built environment, with tenant and building owner desires (and strict building energy codes) steering Oregon to a nation-leading concentration of LEED-certified buildings.

**Massachusetts** sits at third place overall (scoring 76.1), long a leader in clean-energy policy, a champion of energy efficiency, and an important hub for technology research. The state beefed up its capital performance in 2011,

## 2012 STATE CLEAN ENERGY INDEX - TOP 10 STATES

State	Rank	Score	Rank Change from 2011	Score Change from 2011
California	1	91.1	-	-4.2
Oregon	2	79.9	-	+0.5
Massachusetts	3	76.1	-	+4.3
Washington	4	69.0	+2	+9.0
Colorado	5	65.1	-	+4.9
New York	6	64.9	-2	+1.8
Illinois	7	59.8	+5	+8.7
New Mexico	8	58.1	-1	+1.1
Vermont	9	56.5	+1	+3.4
Minnesota	10	54.6	-2	-2.4

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raking in more than \$500 million in clean-energy venture capital investments. The Boston area's concentration of academic prestige – from MIT, Harvard, Tufts, and UMass universities – and its culture of technology innovation – spearheaded by a cadre of energy storage and solar startups – is rivaled only by California's Silicon Valley, making it likely that many of tomorrow's clean technologies will be spawned in the Bay State.

**Washington** broke back into the top five for 2012, earning a score of 69.0 (a nine-point jump from 2011). Complementing the state's continued strong clean-energy policy performance, newly added wind capacity and strong conditions for hydro enabled Washington to achieve more than 84 percent of

its in-state electricity generation from low-carbon sources during 2011 (wind, solar, geothermal, hydro, and biomass) – a significant increase from the 72 percent achieved in 2010. Washington State’s aggressive EV charging network build out could also make it an early hotbed for transportation electrification.

**Colorado** once again comes in at #5 overall, increasing its score to 65.1 (from last year’s 60.2). The state continues to accelerate its clean-tech infrastructure build out, particularly in the area of green building, wind, and solar PV. Colorado is also emerging as the third U.S. hotspot for clean-energy venture capital behind California and Massachusetts, thanks largely to the concentration of intellectual capital that surrounds the DOE’s National Renewable Energy Laboratory (NREL) located outside of Denver.

In sixth place with a score of 64.9 is **New York**, an important test market for clean-energy products and services. The state generates more GDP dollars per kilowatt-hour consumed than any other state – a result of committed energy efficiency policy and investment, the extreme density of New York City, and some of the highest retail electricity rates in the nation. And Upstate, a rich network of corporate and university R&D centers has made New York a hotbed for clean-energy patents.

**Illinois** earns seventh place, scoring 59.8. The state’s mix of rural Midwest and urban attributes gives it a dynamic clean-energy presence. On one hand, Illinois ranks among the top ethanol producers in the nation. Not surprising given its rich tradition of agriculture. On the other hand, Chicago’s urban environment has become a leading market for green building and energy efficiency – a trend that will likely grow stronger with the Windy City’s aggressive building retrofit ambitions.

**New Mexico**’s 58.1 score is good enough for eighth place. The state is home to some of the best solar resource availability in the nation and it is not letting it go to waste. New Mexico has become a key market for PV deployment as well as hub for new technology development. Additionally, RPS legislation mandating that 4 percent of electricity come from solar by 2020 adds to New Mexico’s solar leadership.

The third Northeastern state making the top 10 is **Vermont**, placing ninth with a score of 56.6. Although one of the smallest states in the nation, Vermont’s environmentally-minded population enables it to shine in many per capita measures – particularly in the area of hybrid-electric vehicle use and energy efficiency spending. Efficiency Vermont, the nation’s first ratepayer-funded energy efficiency utility, is a testament to the state’s innovative approach to advancing its clean-energy economy.

**Minnesota** closes out the top 10, earning a score of 54.6. The state performs well across a number of metrics, but its most prominent leadership is in the areas of wind energy and biofuels. A leading state in installed wind capacity, Minnesota was one of only five states in 2011 to achieve more than 10 percent of in-state generation from wind energy sources. In biofuels, the state is among the top-tier ethanol producers and also exemplifies leadership in deployment of high-blend biofuel (E85 and B20) fueling stations.

## Regional Performance

The **West** remains the U.S. clean-energy frontrunner, with four of the top five states calling this region home (including Mountain West-located Colorado). As

mentioned in past editions of the State Index, this leadership stems from the capitalization of advantageous natural resources and sustained industry policy support from local governments.

In the **Northeast**, three states perform well enough to earn top-10 placement (Massachusetts, New York, and Vermont) with another five states breaking into the top 20 (Connecticut, New Hampshire, Maine, New Jersey, and Rhode Island). Sharing similarly dense populations and somewhat limited clean-energy resource availability compared to expansive land in the West, leading Northeast states typically achieve high State Index scores through their comprehensive clean-energy policies, energy-efficient economies, and high concentrations of financial and/or human capital activity.

The **Midwest**, landing two states in the top 10 (Illinois and Minnesota) and another two in the top 20 (Michigan and Iowa), is also home to several examples of clean-energy leadership, if not to the degree of the West and Northeast regions. Strong wind resources enable the Midwest to showcase particular leadership in clean-electricity generation, with South Dakota, Iowa, North Dakota, and Minnesota ranking one through four in clean-electricity (excluding hydro and biomass) as a share of total in-state generation.

The **South** continues to lag behind the rest of the nation, with Texas's 13th-place ranking representing the region's best performance and no Deep South state placing better than Florida's 29th. As home to seven of the 10 least efficient states in the U.S. (in terms of kWh consumed per capita), the opportunity to improve energy efficiency in Southern states may be the lowest hanging fruit in advancing America's clean-energy economy.

## 2012 STATE INDEX HIGHLIGHTS:

- Six states got more than 10 percent of their in-state electricity generation from a combination of **wind, solar, and geothermal** sources during 2011 (with South Dakota achieving 22 percent from wind alone).
- The number of registered **HEVs** in the U.S. grew to nearly 2 million, with roughly one-fourth of that total located in California.
- **Renewable portfolio standards** exist in 29 states and Washington, D.C., accounting for nearly two-thirds of current U.S. generating capacity.
- California's clean-energy **venture capital** total in 2011 exceeded the total of all remaining 49 states combined (by a margin of more than \$1 billion).
- More than 400 **licensable university clean technologies** were identified, spread across institutions in 32 different states.
- **Clean-energy patents** granted to U.S. entities during 2011 exceeded the one-thousand mark for the first time, with more than half of these distributed across only three states (California, New York, and Michigan).

# REPORT DESCRIPTION

## State Clean Energy Index Annual Report

At the center of the Clean Edge State Index subscription service is access to the annual State Index report. At 250+ pages (including data appendixes), the report offers findings of the latest Index, discussion of state-by-state performances in each category, and easily digestible presentation of indicator data.

**Market Analysis & Commentary** An extensive look at competitiveness in the U.S. clean-energy economy, including analysis of state performance and key national developments in the areas of technology, policy, and capital.

**Indicator Performance Tables** Serving as an informative reference source for the vast amount of industry data used to compile the State Index, these tables display state-level statistics for each indicator.

**State Report Cards** A 50-state review of performance in the individual underlying indicators that make up the State Clean Energy Index. Each report card summarizes a state's scores and shows all supporting indicator data and rankings.

## Custom U.S. Market Research & Advisory

For clients interested in further investigating particular aspects of the clean-tech landscape, Clean Edge's State Clean Energy Index subscription service provides a cost-effective way to combine access to aggregated industry data with customized research/advisory efforts.



# SUBSCRIPTION SERVICE PRICING AND BENEFITS

Clean Edge’s State Clean Energy Index provides an unparalleled analysis of the clean-energy marketplace, including data, trends, and insights. No other service offers such deep tracking and understanding of the most relevant technology, policy, and capital developments in the U.S. clean-tech industry.

## A Must-Have Tool for Clean-Tech Decision Makers

Economic development agencies, governments, investors, corporations, and other industry stakeholders consider the State Index a go-to resource. Clients leverage the State Index service to understand major market developments and inform strategies through the Index’s comparative benchmarking, rich datasets, and in-depth analysis.

“Clean Edge’s research has been very useful in our efforts to grow and develop the clean tech sector in Oregon. We have used their deep industry research and insights numerous times to document and highlight Oregon’s leadership position in the clean tech economy.”

**KAREN GODDIN**

*Managing Director, Business, Innovation, and Trade, Business Oregon*

### Subscription Pricing:

	Standard - \$10,000	Enterprise - \$15,000
<b>Report and Data Access</b>	10 staff	50 staff
<b>Advisory Support</b>	5 hours	10 hours
<b>Custom Webinar Presentation</b>	✓	✓
<b>Permission to Cite Data Publicly</b>	✓	✓
<b>Clean-Tech Company List and Map</b>	✓	✓

### Become a Subscriber and Turn Insights into Action:

<b>Report Access</b>	Access to the private dataset and report including indicator performance tables, state report cards, and summary analysis.
<b>Advisory Support</b>	Clean Edge analysts are available to help subscribers apply the research findings to their initiatives and strategies.
<b>Webinar Presentation</b>	Clean Edge analysts deliver a live, custom webinar for each client. Slides are available to share with entire organization.
<b>Data Citation</b>	Subscribers can use the data from the <i>State Index</i> for a variety of public communications, outreach, and marketing purposes.
<b>Company List</b>	Access to private database and map of clean-tech companies.

For more information about the **State Clean Energy Index** contact:

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