

## ADVANCED ENERGY NOW 2014 MARKET REPORT – HIGHLIGHTS

The *Advanced Energy Now 2014 Market Report* is the first annual report of market size, by revenue, of the advanced energy industry, worldwide and in the United States. As defined by Advanced Energy Economy (AEE), a national association of business leaders with the goal of making the global energy system more secure, clean, and affordable, advanced energy is a broad range of technologies, products, and services that constitute the best available technologies for meeting energy needs today and tomorrow.

Prepared for AEE by Navigant Research, *Advanced Energy Now 2014* draws on more than 60 previously published Navigant Research studies on specific industry categories. The results presented in *Advanced Energy Now 2014* must be viewed, however, as a conservative assessment of advanced energy market size. Navigant Research has used strict definitions within product categories in order to distinguish advanced energy from conventional energy products. Also, U.S. market revenue counts only domestic sales of products and services and does not include revenue from exports, understating the economic scope of the U.S. advanced energy industry.

### Summary Findings – Global Market

- **For 2013, advanced energy reached \$1.13 trillion in estimated global revenue, a 7% increase year-over-year.**
- Electricity Generation was a mix of ups and downs over the last two years.
  - From 2011 to 2012 the industry experienced a **decline in large-scale hydropower** (due to a reduction in orders from China and elsewhere).
  - The Electricity Generation segment rebounded globally in 2013 with **5% growth (driven by hydro, solar, and biomass)**.
- Transportation grew 6% in 2013 driven by **strong growth in hybrid and plug-in hybrid vehicles**.
- There has been a steady growth in advanced Fuel Production (up 34% from 2011 to 2013), led by **ethanol, compressed and liquefied natural gas for transportation (CNG and LNG), and bio-oils** associated with development of cellulosic biofuels.
- The Buildings segment showed similar two-year growth globally (up 27%), led by **advanced lighting** and industrial applications of **Combined Heat and Power (CHP)**.

ENERGY SUPPLY	
Electricity Generation	Electricity Delivery & Management
<ul style="list-style-type: none"> <li>• Hydropower</li> <li>• Gas Turbines</li> <li>• Solar</li> <li>• Wind</li> <li>• Geothermal</li> <li>• Marine</li> <li>• Waste</li> <li>• Biomass</li> <li>• Nuclear</li> <li>• Fuel Cells and Other DG</li> </ul>	<ul style="list-style-type: none"> <li>• Transmission</li> <li>• Distribution</li> <li>• AMI</li> <li>• Micro-grids</li> <li>• EV Charging Infrastructure</li> <li>• Energy Storage</li> <li>• Enabling IT</li> </ul>
Fuel Production	Fuel Delivery
<ul style="list-style-type: none"> <li>• Ethanol &amp; Butanol</li> <li>• Biodiesel</li> <li>• Biogas</li> <li>• Synthetic Diesel &amp; Gasoline</li> <li>• Bio-oil</li> <li>• CNG &amp; LNG</li> <li>• Hydrogen</li> </ul>	<ul style="list-style-type: none"> <li>• Fuel Transportation Infrastructure</li> <li>• Fueling Stations</li> </ul>
ENERGY DEMAND	
Buildings	Transportation
<ul style="list-style-type: none"> <li>• Building Design</li> <li>• Building Envelope</li> <li>• HVAC</li> <li>• District Energy, CHP, CCHP</li> <li>• Water Heating</li> <li>• Lighting</li> <li>• Appliances &amp; Electronics</li> <li>• Enabling IT</li> </ul>	<ul style="list-style-type: none"> <li>• Propulsion Systems</li> <li>• Vehicle Design &amp; Materials</li> <li>• Freight Logistics</li> <li>• Land Use &amp; Infrastructure Design</li> <li>• Enabling IT</li> </ul>
Industry	
<ul style="list-style-type: none"> <li>• Manufacturing Machinery &amp; Process Equipment</li> <li>• Industrial Combined Heat &amp; Power</li> </ul>	

## Summary Findings – U.S. Market

- In the United States, the advanced energy market was an **estimated \$168.9 billion in 2013 – 15% of the global market**, up from 11% in 2011.
- **Excluding wind, U.S. advanced energy revenue grew 18% from 2011 to 2012 and 14% from 2012 to 2013.**
- **Wind energy suffered a severe, \$23 billion revenue downward swing between 2012 and 2013, due to policy uncertainty around the federal Production Tax Credit (PTC).**
- **Solar PV** revenue grew steadily over this two-year period, up 27% from 2011 to 2012, and 54% from 2012 to 2013. Two-year growth, from \$8.2 billion to \$16.2 billion, was 97%. This revenue growth is even more impressive given the continued declines in total installed prices for PV over that period. In 2013, the United States accounted for an estimated 18% of global revenue for solar PV, a doubling of its global market share from 2011 – making the United States the **third largest market for solar PV in the world.**
- The United States remains a world leader (34% of global revenue) in the production of advanced fuels – principally in **biofuels and synthetic diesel and gasoline** – as revenue in Fuel Production grew steadily, up 17% from 2011 to 2013.
- Similarly, revenue from **advanced Building products and technologies** increased 11% from 2011 to 2012 and 12% from 2012 to 2013, for **two-year growth of 24%.**
- The most dramatic growth came in Transportation, where revenue from **advanced vehicles more than doubled over the two-year period.**
  - **Hybrid vehicles** led the way in revenue, rising from \$7.2 billion in 2011 to \$11 billion in 2012 and an estimated \$14 billion in 2013.
  - **Plug-in electric vehicles** showed the most dramatic growth, from \$707 million in 2011 to an estimated \$3.6 billion in 2013.
  - **Natural gas trucks and buses** grew five-fold in two years, from \$102 million to \$530 million.

U.S. Advanced Energy Growth

