

SOLAR, WIND, AND BIOFUELS MARKETS RISE 31 PERCENT TO \$246.1 BILLION DESPITE ONGOING ECONOMIC TURBULENCE

Clean Edge Annual Report Finds Rapid Expansion in Global Deployment and Improving Cost-Competitiveness for Solar and Wind

Portland, Ore./Oakland, Calif., March 13, 2012 – Clean-energy markets continued to expand rapidly in 2011, even against a tough economic and political climate, increased industry consolidation, and downward pricing pressures on manufacturers. Combined global revenue for solar PV, wind power, and biofuels rose 31 percent over the prior year, growing from \$188.1 billion in 2010 to \$246.1 billion last year, according to the *Clean Energy Trends 2012* report issued today by clean-tech research and advisory firm Clean Edge, Inc. The bulk of this expansion came from double-digit growth rates for both wind and solar deployment globally.

The full report, read by tens of thousands of industry stakeholders and observers annually, can be downloaded for free at www.cleandedge.com.

Despite this continued market expansion, clean energy in 2011 will not likely be remembered for its robust growth and global activity, but for the now-infamous Solyndra bankruptcy. “Last year saw many in the clean-tech community caught off guard, as the industry became a modern-day whipping boy,” said Ron Pernick, Clean Edge co-founder and managing director. “The attacks, offered up in sound bite-sized nuggets delivered more for impact than accuracy, overlooked the fact that many clean-energy technologies are becoming increasingly cost-

competitive, central to the expansion of energy markets in places like China, Japan, and Germany, and a critical hedge against more volatile forms of traditional energy.”

Against this backdrop, solar, wind, and biofuels all reached new market records in 2011. The report’s key findings include:

- The global market for solar photovoltaics (including modules, system components, and installation) increased from \$71.2 billion in 2010 to \$91.6 billion in 2011. While total market revenues were up 29 percent, installations climbed more than 69 percent from 15.6 gigawatts in 2010 to more than 26 GW worldwide last year. This 40-point discrepancy was due to rapidly declining solar costs. Crystalline solar PV module prices, for example, dropped more than 40 percent between 2010 and 2011, and Clean Edge projects that the cost to install solar PV systems will fall from an average of \$3.47 per watt globally in 2011 to \$1.28 within the next decade.
- Wind power (new installation capital costs) totaled a record \$71.5 billion in 2011, up 18 percent from \$60.5 billion the prior year, and is projected to reach \$116.3 billion in 2021. Last year’s global wind power installations equaled 41.6 GW, the largest year for global installations on record. China remained the global leader in new installations for the fourth year in a row, installing more than 40 percent of all global wind capacity, or 18 GW in total.
- Biofuels (global production and wholesale pricing of ethanol and biodiesel) reached a record \$83 billion in 2011, up from \$56.4 billion the prior year. Bucking solar and wind’s declining cost trends, this increase was mostly due to a rise in ethanol and biodiesel prices, the result of higher costs for feedstock

commodities – mainly sugar for ethanol and rapeseed and other vegetable oils for biodiesel.

- U.S.-based venture capital investments in clean tech increased 30 percent from \$5.1 billion in 2010 to \$6.6 billion in 2011, according to data provided by Cleantech Group. Clean Edge analysis found that clean-tech's percentage of total U.S. venture capital investments accounted for a record 23.2 percent of total U.S. venture activity last year.

The report also outlines five key trends that will impact clean-energy markets in the coming years:

- 1. The Few, The Proud, The Green: Military Leads Clean-Energy Deployment**
- 2. Japan Moves Toward Cleaner Post-Nuclear Future**
- 3. Deep Commercial Building Retrofits Reap Major Efficiency Savings**
- 4. Waste-to-Resource Breakthroughs Attract Attention - and Investment**
- 5. New Energy Storage Solutions Embolden the Grid**

About Clean Energy Trends 2012

Clean Edge issues its annual *Clean Energy Trends* report to track key developments in clean-energy markets. Past reports have been downloaded by tens of thousands of individuals in government, finance, industry, and the media. *Clean Energy Trends 2012* is made possible by the support of its sponsors, including premier sponsors Autodesk, Cascadia Capital, Deloitte, and Travelers, and major sponsors E2, Grant Thornton, Mintz Levin, and Weber Shandwick.

About Clean Edge, Inc.

Clean Edge, Inc., founded in 2000, is the world's first research and advisory firm devoted to the clean-tech sector. For more than a decade, the firm has delivered timely data, expert analysis, and comprehensive insights to key industry stakeholders. The company offers an unparalleled suite of index, benchmarking, and advisory services, including the *Clean Energy Leadership Index* subscription service, sponsored reports, the annual Clean-Tech Investor Summit conference (co-produced with IBF), and benchmark clean-tech stock indexes with NASDAQ[®]. To keep abreast of the latest clean-tech trends or learn more about our services, visit www.cleantech.com.

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