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LAZARD RELEASES ANNUAL LEVELIZED COST OF ENERGY AND LEVELIZED COST OF STORAGE ANALYSES

LCOE 10.0 shows continued cost declines for solar energy – LCOS 2.0 shows declining but widely variable battery storage costs –

NEW YORK, December 15, 2016 – Lazard Ltd (NYSE: LAZ) has released its annual in-depth studies comparing the costs of energy from various generation technologies and of energy storage technologies for different applications.

Lazard's latest annual Levelized Cost of Energy Analysis (LCOE 10.0) shows a continued decline in the cost of generating electricity from solar technology, with lesser cost declines in other forms of renewable energy. Lazard's latest annual Levelized Cost of Storage Analysis (LCOS 2.0) shows cost declines in most battery storage technologies, but with wide variations depending on the type of application and battery technology.

In addition, LCOS 2.0, conducted with support from Enovation Partners, builds on the inaugural LCOS study conducted in 2015 with a refined methodology and the addition of new analysis that illustrates and compares the economics of "real-world" energy storage applications.

"Our studies continue to demonstrate that there are no one-size-fits-all solutions in energy generation or storage," said George Bilicic, Vice Chairman and Global Head of Lazard's Power, Energy & Infrastructure Group. "The demands of a developed economy will continue to require both traditional and alternative energy sources as the technologies driving renewable energy evolve."

"The economic viability of commercial energy storage systems varies widely by application and on a regional basis," said Jonathan Mir, Head of Lazard's North American Power Group. "As manufacturers and customers identify optimal technologies for different use cases, we expect further innovation and a continued drop in costs, which will help drive increased use of renewables."

The two studies offer a variety of insights, including the following selected highlights:

LCOE 10.0

- The cost of generating energy from solar photovoltaic (PV) technology continues to decline: The median levelized cost of energy from utility-scale PV technologies is down approximately 11% from last year, and rooftop residential PV technology is down about 26%, although the latter is still not cost competitive without significant subsidies and other policy support.
- The cost of generating energy from renewable sources other than solar, such as onshore wind, geothermal, and biomass, declined only at the margins from last year, reflecting both the maturing of technology in those areas and a relatively low level of investment. The median cost of generating energy from offshore wind generation declined approximately 22%, but remains substantially more expensive than onshore wind facilities, especially in the U.S.

• Even though alternative energy is increasingly cost-competitive and storage technology holds great promise, alternative energy systems alone will not be capable of meeting the baseload generation needs of a developed economy for the foreseeable future. Therefore, the optimal solution for many regions of the world is to use complementary traditional and alternative energy resources in a diversified generation fleet.

<u>LCOS 2.0</u>

- Due to refined methodology for LCOS 2.0, we recommend against making broad cost comparisons to the LCOS 1.0. However, the direct comparisons that can be made show that storage costs are generally dropping. For example, the median cost of using lithium-ion technologies decreased versus last year by approximately 12%, 24% and 11% for peaker replacement, transmission investment deferral and residential use cases, respectively, partially attributable to declining capital costs, among other factors.
- "Behind-the-meter" merchant energy storage systems, which are sited at factories, universities and hospitals, among other high energy use locations, show great promise. However, their economic viability depends greatly on local market structure and incentives, among other factors. For example, a battery-based storage system that is economically viable in Pennsylvania may not be viable in Texas.
- Industry participants continue to expect increased demand for energy storage to result in enhanced manufacturing scale and ensuing cost declines. If industry projections materialize over the next five years, cost-effective energy storage technologies will have increasingly broad applications across the power grid, such as providing an alternative to conventional gas-fired peaking plants in certain areas, as well as extending the usefulness over the course of the day of renewable generation such as wind and solar farms.

LCOE 10.0 and LCOS 2.0 reflect Lazard's approach to long-term thought leadership, commitment to the sectors in which it participates, and focus on intellectual differentiation. The two studies are posted at <u>www.lazard.com/perspective</u>.

Lazard's Global Power, Energy & Infrastructure Group serves private and public sector clients with advisory services regarding M&A, financing and other strategic matters. The group is active in all areas of the traditional and alternative energy industries, including regulated utilities, independent power producers, alternative energy and infrastructure.

About Lazard

Lazard, one of the world's preeminent financial advisory and asset management firms, operates from 42 cities across 27 countries in North America, Europe, Asia, Australia, Central and South America. With origins dating to 1848, the firm provides advice on mergers and acquisitions, strategic matters, restructuring and capital structure, capital raising and corporate finance, as well as asset management services to corporations, partnerships, institutions, governments and individuals. For more information on Lazard, please visit <u>www.lazard.com</u>.

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