



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

NEW YORK, October 19, 2020 – Lazard Ltd (NYSE: LAZ) has released its annual in-depth studies comparing the costs of energy from various generation technologies and the costs of energy storage technologies for different applications.

Lazard's latest annual Levelized Cost of Energy Analysis (LCOE 14.0) shows that as the cost of renewable energy continues to decline, certain technologies (e.g., onshore wind and utility-scale solar), which became cost-competitive with conventional generation several years ago on a new-build basis, continue to maintain competitiveness with the marginal cost of selected existing conventional generation technologies.

Lazard's latest annual Levelized Cost of Storage Analysis (LCOS 6.0) shows that storage costs have declined across most use cases and technologies, particularly for shorter-duration applications, in part driven by evolving preferences in the industry regarding battery chemistry.

This year's LCOE, for the first time, includes a study of hydrogen as a supplemental fuel component for combined cycle gas generation.

"As the costs of utility-scale wind and solar continue to decline and compete with the marginal cost of conventional energy generation, the focus remains on tackling the challenge of intermittency," said George Bilicic, Vice Chairman and Global Head of Lazard's Power, Energy & Infrastructure Group. "For the first time, we have integrated green and blue hydrogen into our analyses, which recognizes the energy sector's increasing appreciation of hydrogen's potentially disruptive and strategic role in managing the intermittency of renewable power generation."

### LCOE 14.0

- The cost of generating energy from onshore wind and utility-scale solar projects fell by 2% and 9%, respectively, over the past year.
- While the reductions in costs continue, their rate of decline has slowed, especially for onshore wind. Costs for utility-scale solar have been falling more rapidly (about 11% per year) compared to onshore wind (about 5% per year) over the past five years.
- When U.S. government subsidies are included, the cost of onshore wind and utility-scale solar is competitive with the marginal cost of coal, nuclear and combined cycle gas generation. The former values average \$31/MWh for utility-scale solar and \$26/MWh for utility-scale wind, while the latter values average \$41/MWh for coal, \$29/MWh for nuclear, and \$28/MWh for combined cycle gas generation.
- Regional differences in resource availability and fuel costs can drive meaningful variance in the cost of certain technologies, although some of this variance can be mitigated by adjustments to a project's capital structure, reflecting the availability, and cost, of debt and equity.

## LCOS 6.0

- Sustained cost declines were observed across the use cases analyzed in our LCOS for lithium-ion technologies (on both a \$/MWh and \$/kW-year basis). The cost declines were more pronounced for storage modules than for balance of system components or ongoing operations and maintenance expenses.
- Project returns analyzed in our “Value Snapshots” continue to evolve as hardware costs decline, and the value of available revenue streams fluctuate with market fundamentals.
- Project economics analyzed for standalone behind-the-meter applications remain relatively expensive without subsidies, while utility-scale solar PV + storage systems are becoming increasingly attractive.
- Long-duration storage is gaining traction as a commercially viable solution to challenges created by intermittent energy resources such as solar or wind.

LCOE 14.0 and LCOS 6.0 reflect Lazard’s approach to long-term thought leadership, commitment to the sectors in which we participate and focus on intellectual differentiation. The two studies are posted at [www.lazard.com/perspective](http://www.lazard.com/perspective).

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 more than 40 cities across 25 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 [www.lazard.com](http://www.lazard.com). Follow Lazard at @Lazard.

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