Institute for Energy Economics and Financial Analysis ACCELERATING THE GLOBAL TRANSITION TO A NEW ENERGY ECONOMY



The Global Energy Market Transformation: Pace Quickens in 2016 as Historic Shift Takes Root

The transformation of the global energy economy is gaining momentum in 2016, and at a faster pace than most analysts have anticipated. Policy-makers, corporations and investors who disregard this historic, technology-led moment do so at their peril and with the likelihood that they will carry growing stranded-asset risk as this widening market shift picks up speed.

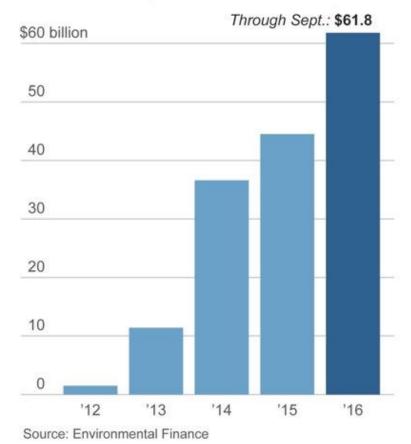


The Institute for Energy Economics and Financial Analysis (IEEFA) in a new report (scan the QR code above) sees the pace of change quickening on several fronts and in several indicators:

- In the photovoltaic solar industry, a sector in which record low tariffs were awarded in 2016 across countries as diverse as India, the UAE, Chile, Argentina, Mexico and South Africa.
- In the reduction in offshore wind prices, a trend that will accelerate global uptake of wind-powered electricity in the decade ahead, providing greater system diversity in Europe, China, Japan and the U.S.
- In the trend toward declining battery costs that will see electric vehicle approach price parity with internalcombustion vehicles.
- In the fact that clean energy is now a demonstrably sustainable business model that can deliver superior shareholder returns. Energy sector champions include Tesla and BYD in the EV sector, and ENEL, NextEra Energy, Brookfield Renewables, China Longyuan and Softbank in the

Growth in Green Bond Issuance

The renewable-energy debt market continues to grow rapidly. Through September, global issuance of green bonds had reached \$61.8 billion.



utilities sector.

- In the rapidly growing green bond market, which is indicative of the private capital moving out of fossil fuels and into renewable energy.
- In rapid increases in technological efficiency, reduced costs and more capacity per dollar in wind and solar energy.
- In the faster-than-expected rise of electricity vehicles and the rapid uptake of energy efficiency.

Beyond concluding that change is happening faster than expected, the IEEFA report finds that ideology surrounding emissions and climate is now irrelevant. The increasing regulations implemented by governments moving to fulfil their Paris obligations will create additional risks for businesses regardless of personal beliefs on climate change or emissions. Some companies are significantly more prepared than others for this new reality.

Visit <u>IEEFA.org</u> or scan on the image here to read the full report: 2016



Year in Review: Three
Trends Highlighting the
Accelerating Global
Energy Market
Transformation

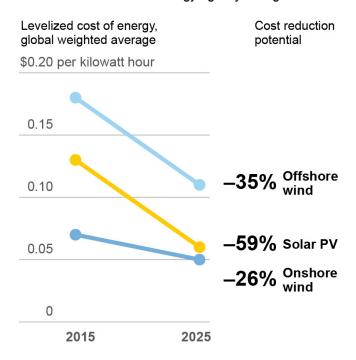
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IEEFA conducts research and analyses on financial and economic issues related to energy and the environment.

Price Declines in Solar and Wind to Continue

Big declines in the cost of solar and wind power are set to continue over the next decade according to research by a wide range or organizations. Here are forecasts from the International Renewable Energy Agency through 2025.

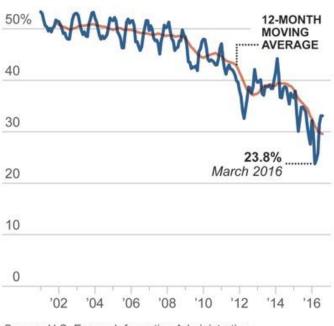


Source: International Renewable Energy Agency (IRENA)

U.S. Power Generation Shifting From Coal

Electric-power generation in the United States has been undergoing an accelerating shift away from coal. In only a decade, coal has gone from fueling half the nation's electricity to less than 25 percent in some months in 2016.

Coal's share of U.S. electricity generation, monthly



Source: U.S. Energy Information Administration