

# Opportunities & Risks in Renewable Energy

**Steve Dreyer**

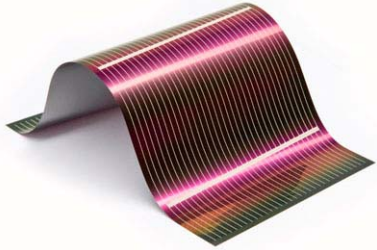
Managing Director

U.S. Utilities & Infrastructure Ratings

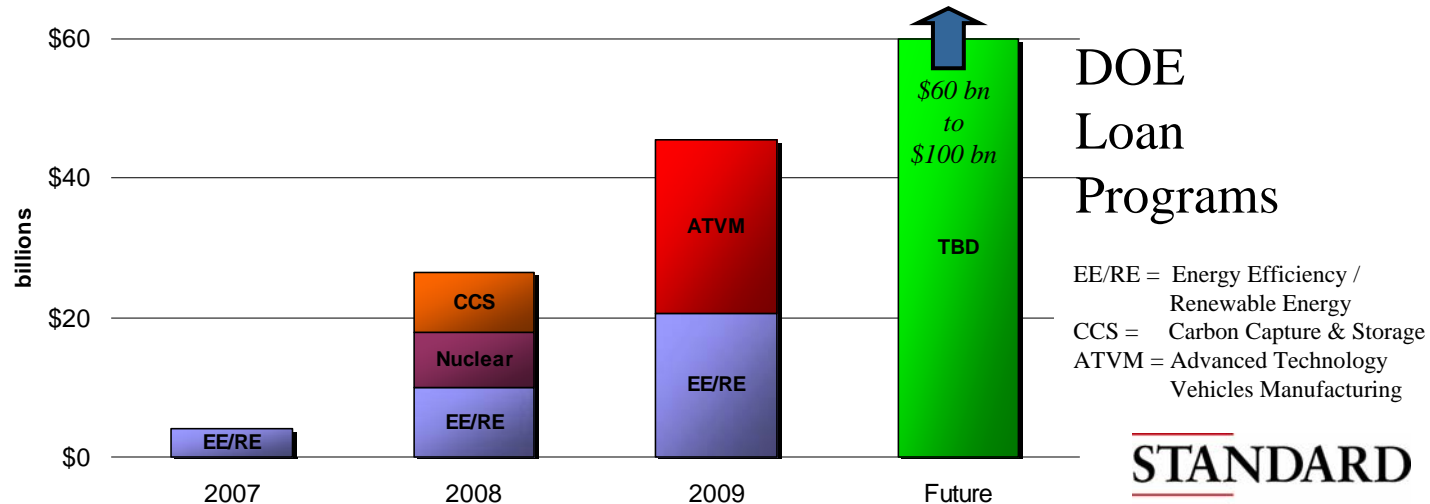
Standard & Poor's

January 7, 2010

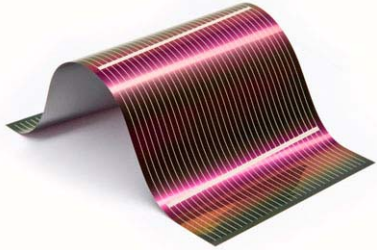
# Opportunities (1): Cheap Money from the Government



- DOE Innovative Technologies Program  
(EPACT 2005 §17.03, \$51 billion in loan guarantees + more from Stimulus)  
*Financing projects that avoid, reduce or sequester GHG*
- DOE Commercially Available Technology Program  
(EPACT 2005 §17.05 from the Stimulus Bill, \$32 billion in loan guarantees + more?)  
*Renewables, Transmission & Leading Edge Biofuels currently in pilot/demo stages*
- DOE Advanced Technology Vehicles Manufacturing Program  
(EISA 2007 \$25 billion in direct loans authorized)  
*Re-equipping, expanding or building manufacturing to produce advanced technology vehicles / authorized \$25 billion in loans*
- Extensions of Renewable Energy Production Tax Credit to 2011 and Investment Tax Credit to 2016; Treasury Cash Grants

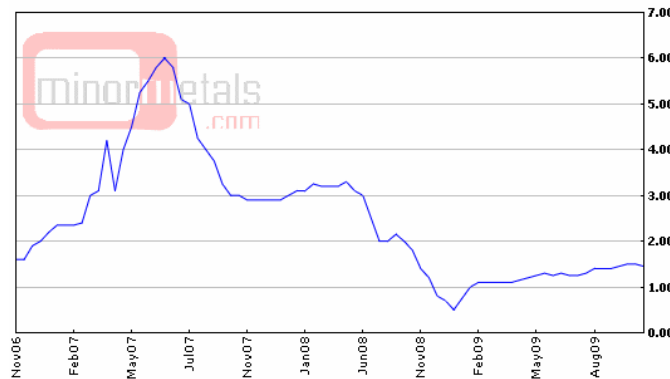


# Opportunities (2): Declining Costs, Economies of Scale



- Years of Resource Data & Product Development
- Global Demand for Renewable Products and Offset Credits
- Increasing Investor Interest: Diversification & Green Credentials
- Stabilized Prices for Components, Commodities, Labor  
falling capital costs, improving technology rapidly improving economics for solar

**Cadmium 99.95 (\$ per lb)**



Daily OHLC

**Selenium (\$ per lb)**



Daily OHLC

# Risks: Operational, Financial & Policy



- Traditional Project Risks

Construction, Contracts, Counterparties, Competition, Operations & Maintenance

- Nontraditional Risks

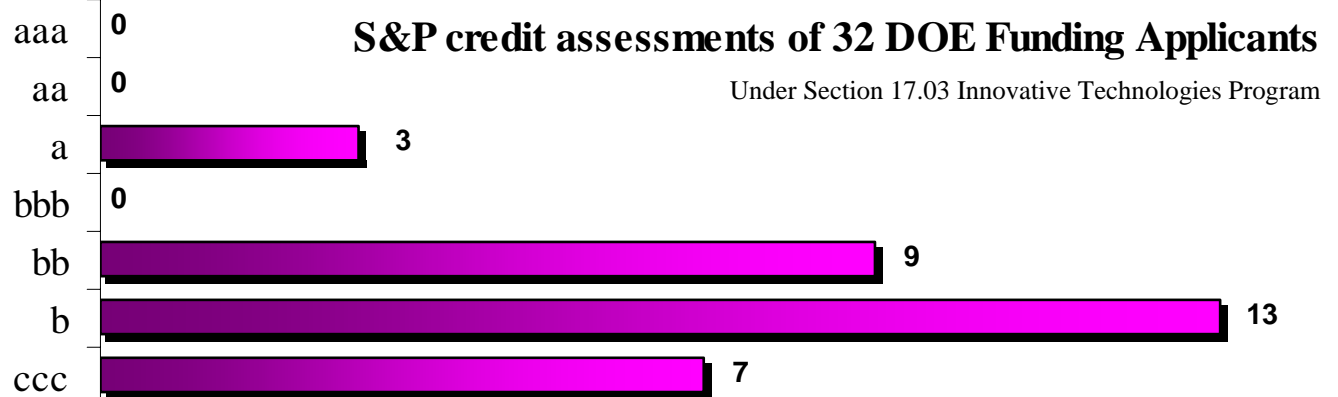
Resource availability, Building and operating new technologies, Specialized Maintenance, Obsolescence, Commitment of Investors, Changes in Regulation or Tax Policy, Falling Prices for Manufacturers, .....

- New Financing Environment

Banks and Tax Equity replaced by Institutional Investors and Government

- Economics Force Leveraged Structures

Debt burdens put projects at relatively high risk for default



---

# STANDARD & POOR'S

---

**[www.standardandpoors.com](http://www.standardandpoors.com)**

---

All rights reserved. No part of this information may be reproduced or distributed in any form or by any means, or stored in a database or retrieval system, without the prior written permission of S&P. S&P, its affiliates, and/or their third party providers have exclusive proprietary rights in the information, including ratings, credit related analyses and data, provided herein. This information shall not be used for any unlawful or unauthorized purposes. Neither S&P, nor its affiliates, nor their third party providers guarantee the accuracy, completeness, timeliness or availability of any information. S&P, its affiliates or their third party providers and their directors, officers, shareholders, employees or agents are not responsible for any errors or omissions, regardless of the cause, or for the results obtained from the use of such information. S&P, ITS AFFILIATES AND THEIR THIRD PARTY PROVIDERS DISCLAIM ANY AND ALL EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE. In no event shall S&P, its affiliates or their third party providers and their directors, officers, shareholders, employees or agents be liable to any party for any direct, indirect, incidental, exemplary, compensatory, punitive, special or consequential damages, costs, expenses, legal fees, or losses (including, without limitation, lost income or lost profits and opportunity costs) in connection with any use of the information contained herein even if advised of the possibility of such damages.

The ratings and credit related analyses of S&P and its affiliates and the observations contained herein are statements of opinion as of the date they are expressed and not statements of fact or recommendations to purchase, hold, or sell any securities or make any investment decisions. S&P assumes no obligation to update any information following publication. Users of the information contained herein should not rely on any of it in making any investment decision. S&P's opinions and analyses do not address the suitability of any security. S&P does not act as a fiduciary or an investment advisor. While S&P has obtained information from sources it believes to be reliable, S&P does not perform an audit and undertakes no duty of due diligence or independent verification of any information it receives. S&P keeps certain activities of its business units separate from each other in order to preserve the independence and objectivity of each of these activities. As a result, certain business units of S&P may have information that is not available to other S&P business units. S&P has established policies and procedures to maintain the confidentiality of certain non-public information received in connection with each analytical process.

S&P's Ratings Services business may receive compensation for its ratings and credit related analyses, normally from issuers or underwriters of securities or from obligors. S&P reserves the right to disseminate its opinions and analyses. S&P's public ratings and analyses are made available on its Web sites, [www.standardandpoors.com](http://www.standardandpoors.com) (free of charge) and [www.ratingsdirect.com](http://www.ratingsdirect.com) (subscription), and may be distributed through other means, including via S&P publications and third party redistributors. Additional information about our ratings fees is available at [www.standardandpoors.com/usratingsfees](http://www.standardandpoors.com/usratingsfees).

Copyright© 2009 by Standard & Poor's Financial Services LLC (S&P) a subsidiary of The McGraw-Hill Companies, Inc.8