



Development of Advanced CdTe Solar Cells Based on High Temperature Corning Glass Substrates

**Cooperative Research and Development
Final Report**

CRADA Number: CRD-10-373

NREL Technical Contact: Teresa Barnes

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Cooperative Research and Development Final Report

In accordance with Requirements set forth in Article XI.A(3) of the CRADA document, this document is the final CRADA report, including a list of Subject Inventions, to be forwarded to the Office of Science and Technical Information as part of the commitment to the public to demonstrate results of federally funded research.

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CRADA Title: Development of Advanced CdTe Solar Cells Based on High Temperature Corning Glass Substrates

Parties to the Agreement: Corning, Inc.

Joint Work Statement Funding Table showing DOE commitment:

Estimated Costs	NREL Shared Resources
Year 1	\$ 20,000.00
Year 2	\$ 35,000.00
Year 3	\$ 00.00
TOTALS	\$ 55,000.00

Abstract of CRADA work:

NREL has developed advanced processes for CdTe solar cells, but because of the temperature limitations of conventional soda lime glass, many of these processes have not been transferred to manufacturing. Corning is developing high temperature substrate glasses that are believed to be manufacturable and will lead to lower \$/watt modules costs. The purpose of this CRADA is to evaluate these glasses in the advanced NREL processes. In addition, the CRADA seeks to develop manufacturable processes for transparent conductive oxide layers based on cadmium stannate.

Summary of Research Results:

We determined that Corning Inc.'s engineered high strain point glass can improve CdTe device performance because it allows the use of higher deposition temperatures than are achievable with soda lime glass.

Subject Inventions Listing: N/A

Report Date: 6/20/13

Responsible Technical Contact at Alliance/NREL: Teresa Barnes

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