

MARKET DATA

Recent Price as of 1/5/11: C\$0.50
52-week Range: \$0.435 - \$1.25
Basic & Diluted Share O/S: 33.94 MM
Market Capitalization: \$ 16.97MM
Fiscal Year-end: December 31

Management

Charles R. Provini President & CEO
Richard Childs CFO
Dr. Dennis Jack Flood CTO

Board of Directors

Brien Lundin Chairman & Director
Charles Provini Director
John Meekison Director
John Calhoun Director



ANALYSTS

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Natecore Technology Inc. (NXT.V) - Not Rated

Eco-Friendly Thin-Film Coating Technology Company Making Solar Energy Economically Viable

Sector: Technology Industry: Semiconductor - Integrated Circuits
SIC: 3352 NAICS: Semiconductor and Related Device Manufacturing (334413)

SUMMARY

Natcore's technology aims to make solar energy economically viable by providing an eco-friendly and cost effective way to grow the necessary anti-reflective (AR) thin-film coating in solar cells. The AR coating is an important component of the solar cell as the AR coating eliminates reflected light and maximizes transmitted light in an a solar cell. Natcore's thin-film coating technology enables the creation of super high efficiency (30%, 17% for standard solar cells) tandem solar cells and has the potential to make solar energy viable without government subsidies. Additionally, Natcore's coating technology has applications beyond the solar realm.

Selected Balance Sheet	At Jan-10	At Dec-10	At Sept-11
US\$'000			
Cash (& Equivalent)	1,449	2,451	3,201
Total Debt	2,087	2,163	856
Shareholder's Equity	-352	996	3,330
Total Assets	1,735	3,159	4,185
Working Capital	1,196	2,015	3,099
Working Capital Ratio	4.94	4.70	21

Key Ratios	Ended 9 months Sept-11
Total Debt/Total Capital	20%
Cash Flow/Total Debt	-2.25
Earnings Per Share	(0.05)
CashFlow Per Share	(0.06)
Cash Per Share	0.10
Book Value Per Share	0.10
*Per share value based on diluted shares	



INVESTMENT OPPORTUNITY

- Better investment return (higher IRR) for solar projects
 - The solar photovoltaic market is currently driven by policy and heavily subsidized by governments. With Natcore's technology, cheaper and more efficient of solar cells are possible, meaning shorter pay-back time for investors in various Feed-In-Tariff (FIT) programs
- Making solar energy cost competitive without government subsidy
- LPD is less toxic than conventional coating technologies
- Multiple uses beyond solar. LPD coating can be used in optics, medicine, electronics and hardware. Each of these areas are of significant market opportunities

RISKS

- Micro-capitalization Risk. Such risk is typical of growth companies, including ability to finance growth and operations, share dilution and protection of intellectual property.
- No history of profitable operations. Uncertain time period to revenue generation.
- Unproven economics of its LPC technology

KEY TECHNOLOGICAL BREAKTHROUGH

The traditional thermal vacuum processes such as CVD and PECVD (chemical vapour deposition, plasma enhanced chemical vapour deposition) “bake” the AR coating onto a solar cell in a high temperature vacuum furnace. This costly process requires multi-million dollar furnace, uses toxic chemicals and warps solar cells whose thickness cannot withstand the firing. Natcore is replacing this process with its very own US patented liquid phase deposition (LPD) wet chemistry process. In this process, solar cells are “dipped” into a milder chemical bath at a room temperature and pressure.

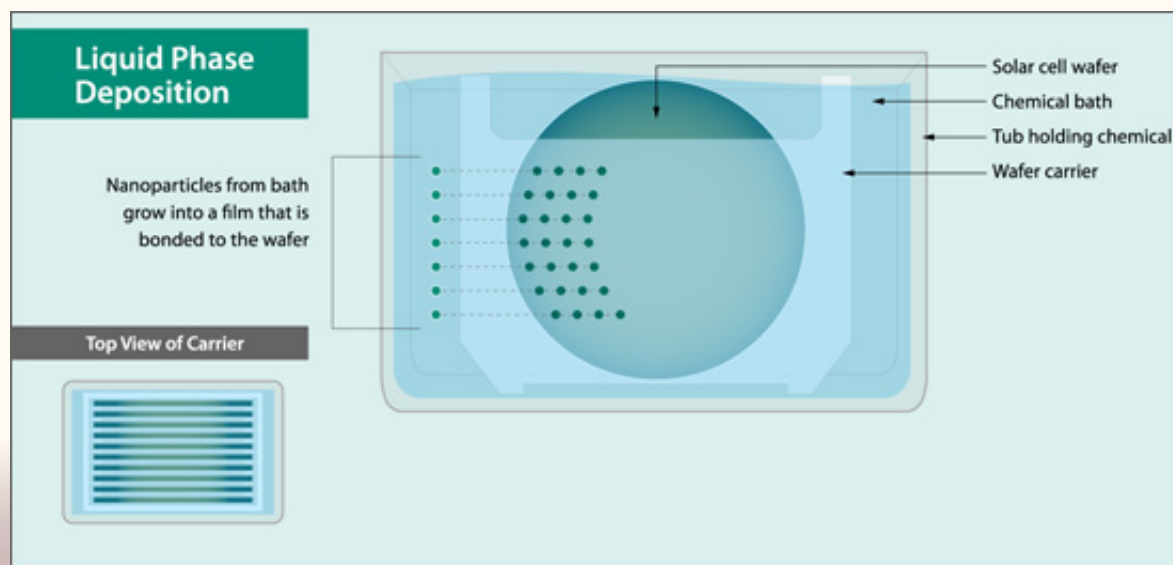


Figure 1 : Natcore's LPD process. Source: Natcore Technology Inc.

BACKGROUND

Natcore Technology Inc. (NXT) was incorporated in August, 2007 and listed on the Toronto Venture Exchange in May, 2009. Earlier in the same month, NXT acquired a private Delaware company, called Natcore Technology, Inc., which owned the exclusive intellectual property (IP) that controls the growth of thin and thick film of silicon dioxide and mixed silicon oxides on silicon and other substrates in a liquid bath at room temperature and pressure.

RECENT EVENTS

On December 20, 2011, Natcore was granted a patent license agreement from the U.S. Department of Energy's National Renewable Energy Laboratory (NREL) to develop and commercialize a line of black silicon products. "Black silicon" is a black-looking, less reflective silicon wafer that can "absorb" more solar energy than conventional silicon wafer in solar cells. Natcore's Liquid Phase Deposition (LPD) process will help coat the surface of black silicon wafer to increase efficiency of the wafer.

On Nov. 1, 2011, Natcore's scientific co-founder, Prof. Andrew R. Barron of Rice University, has received the prestigious World Technology Award for Materials.

On October 11, 2011, Natcore has signed a Letter of Intent to form a joint venture with MX Holding S.p.A., a large Italian solar manufacturer, to develop new technologies aimed at increasing the efficiency and lowering the cost of solar energy.

PROPRIETARY TECHNOLOGY - LIQUID PHASE DEPOSITION (LPD)

Solar Applications:

1) **Anti-reflective (AR) coating application:** Instead of baking the anti-reflective (AR) coating on solar cells using the costly, energy-intensive and toxic thermal vacuum processes such as CVD and PECVD (chemical vapour deposition, plasma enhanced chemical vapour deposition), Natcore's Liquid Phase Deposition Process (LPD) wet chemistry process coats the AR coating in a bath of milder chemicals in room temperature and pressure. The LPD process is gentler and allows for the use of thinner silicon wafers that would otherwise warp during conventional thermal vacuum process. Using thinner silicon wafers reduces silicon usage by more than 40%.

COMMENT: 30% of cost of a solar panel (or 15% of total cost of a solar panel installation) comes from polysilicon, excluding value-add to silicon such as wafer. The biggest driver of lower costs of solar panels is better efficiency. AR coating is a crucial component of the solar panel. About 4% of potential power output is lost due to reflection.



Picture 1. Chuck Provini (middle), President and CEO of Natcore Technology with Natcore's AR-Box at Kodak's Eastman Business Park in Rochester, NY. Source: Natcore Technology Inc.

COMMENT: Natcore's Technology is approaching commercial application, with the expectation that the sale of its AR-Box to start in 2012. AR-Box is Natcore's device that uses the company's liquid phase deposition (LPD) process to grow antireflective (AR) coatings on silicon wafers.

2) **Tandem Solar Cells (Multi-junction Solar Cells)**: In simple terms, tandem solar cells are 3 solar cells lying on top of one another like in a sandwich. The bottom solar cell is a regular solar cell, the other layers are made of silicon "quantum dots". Each solar cell layer absorbs a different part (wavelength) of the sunlight. The more cells, the more sunlight can be absorbed and the more efficient the solar panel. Tandem solar cells are very expensive and can achieve an efficiency of 30%+ or twice the power output of today's most efficient solar cells. Currently vacuum deposition techniques are used to create viable tandem cells. Natcore's LPD film growth process has the ability to make growing quantum dots in a less costly, more controlled and selective manner.

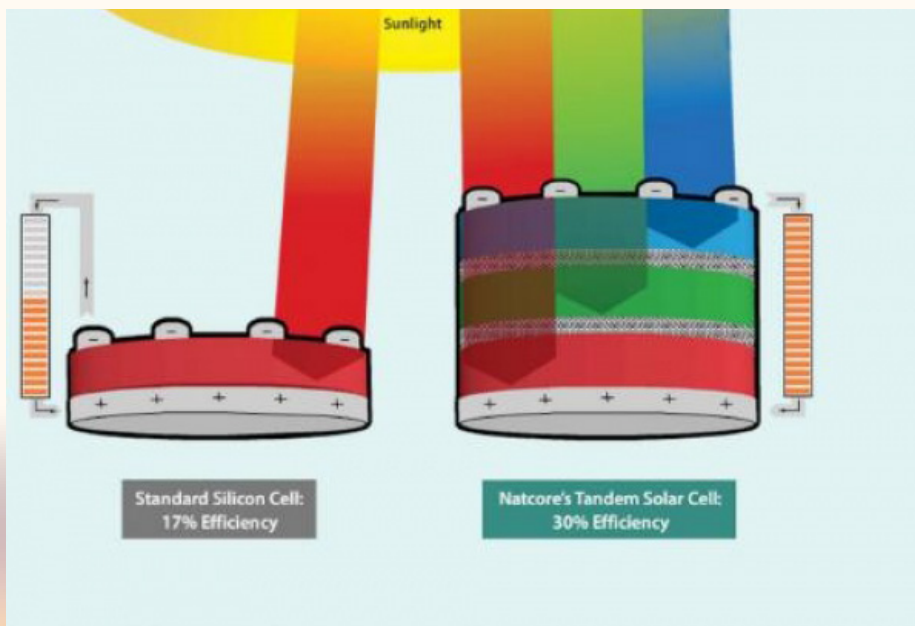


Figure 2. Standard silicon cell vs. tandem solar cell. Source: Natcore Technology Inc.

3) **Flexible thin-film Solar Cells:** Thin-film solar cells are desirable because they use less material and are flexible, which increases the ease of installation. Currently thin-film solar cells are costly to manufacture and have not achieved high enough efficiency for mass adoption. To address these problems, Natcore is developing nanostructured, thin film, flexible solar cell using its patented LPD technology. Both the fabrication process and the cell structure are exclusive to Natcore. Natcore is also in the process of developing three deposition systems that allow thin-film to be manufacture using existing photographic film manufacturing equipment, dramatically reducing capital equipment cost.

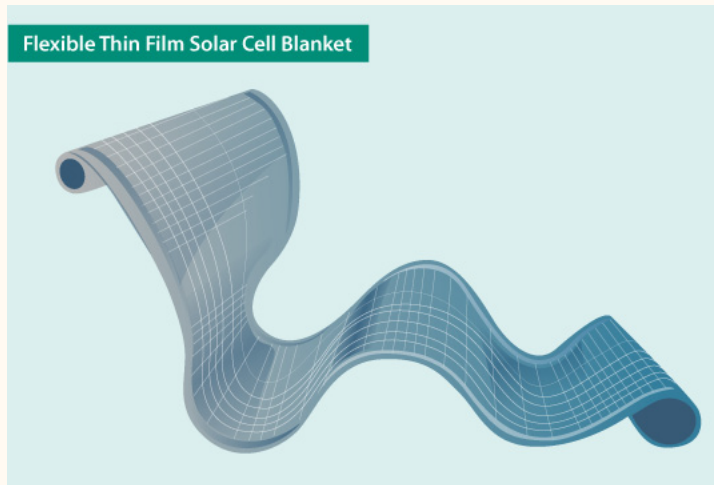


Figure 3. Flexible thin film solar cells. Source: Natcore Technology Inc.

Other Applications:

1) **Optical components** - Currently manufacturing of optical components (including higher speed all-optical internet) is costly. Natcore's LPD film growth technology enables optical-quality silicon dioxide films to be grown over high-performance silicon dioxide-based optical devices at a larger scale, lowering the cost of manufacturing

2) **Electronics** - Silicon-on-Insulator (SOI) is the future of microprocessor design. SOI wafers are predicted to replace ordinary wafer design. Natcore's technology has the potential to make production of the oxide layer in SOI cheaper.

3) **Medical** - NanoStop! Shielding Fabric - Fabric can obtain x-ray shielding properties when it is made from yarn that has been coated with thin films of silica. Garments made from such x-ray shielding fabric can be worn by x-ray technicians, and individuals in environments where they are exposed to potentially harmful levels of x-rays.

PROPRIETARY PRODUCTS

NanoStop! Shielding Fabric

Natcore's coating technology can coat different types of fibers for various applications such as a wet suit that protect the wearer from bacteria and viruses in polluted waters and a light-weight, flexible garment that protects from x-ray radiation.

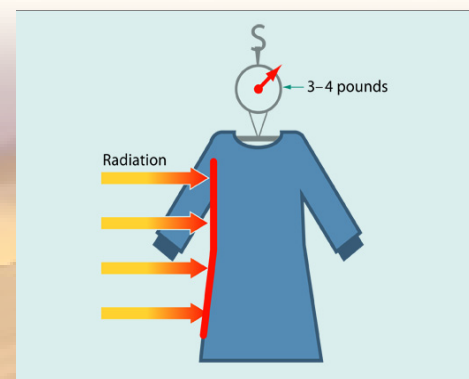


Figure 4. Light weight radiation shielding garment.
Source: Natcore Technology Inc.

NanoShade™

NanoShade™ is a solar energy collector is a collection of small solar panels that can be mounted on vertical surfaces of buildings. The collector can generate power for the host buildings and help builders qualify for LEED (Leadership in Energy & Environmental Design) certification. Natcore has filed two patent applications relating to Nanoshade systems.



Picture 2. Founders of Natcore Technology, Dr. Dennis Flood and Prof. Andrew R. Barron with a prototype NanoShade™ solar energy collector. Source: Natcore Technology Inc.

FINANCIAL PERFORMANCE

The company is currently not generating revenue. As of September 30, 2011, the Company had net cash of US\$3,200,603, compared to cash of US\$2,450,611 as at December 31, 2010. The increase primarily is a result of cash financing activities including exercise of options and private placement proceeds. The net loss for the three months ended September 30, 2011 was US\$ 313,897 as compared to a net loss of US\$408,065 for the comparative quarter in 2010, a decrease of \$94,168. This was a result of a gain of \$631,668 from a fair value adjustment in the fair value of certain share purchase warrants that are accounted for as derivative liabilities in accordance with IFRS. This gain was offset by additional expenses from increased level of activity for the quarter.

COMMENT: Natcore has currently ~US\$3 million in cash, which is enough to carry the company for a couple years without additional financing.

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