# CARMANAH TECHNOLOGIES CORPORATION

## MANAGEMENT'S DISCUSSION AND ANALYSIS
## FOR THE THREE AND SIX MONTH PERIODS ENDED JUNE 30, 2012

**AUGUST 13, 2012**

# Caution regarding forward-looking statements

Certain statements in this Management Discussion & Analysis ("MD&A") are forward-looking statements that involve risks and uncertainties. Forward statements are often, but not always, identified by words such as "may", "would", "could", "will", "intend", "should", "expect", "plan", "anticipate", "believe", "estimate", "predict", "potential", "continue" and similar expressions. Forward-looking statements in this MD&A include, but are not limited to, statements relating to the expected growth opportunities and commercial acceptance and demand for on-grid and off-grid LED lighting systems, continued government subsidies for solar grid-tie projects, and the successful development of new products to help penetrate new geographic markets.

By their very nature, forward-looking statements involve inherent risks and uncertainties, both general and specific, and a number of factors could cause actual results or events to differ materially from those anticipated in such forward looking statements. Although the forward-looking statements contained in this MD&A are based upon what we believe to be reasonable assumptions, prospective investors cannot be assured that actual results will be consistent with these forward-looking statements. In evaluating these statements, readers should specifically consider various factors, including the risks discussed under the heading "Risk Factors" in our annual information form dated March 14, 2012. Additionally, factors that could cause or contribute to such differences include, but are not limited to, the following:

- actions of competitors, including competitors with greater name recognition and financial resources;
- our ability to keep pace with rapid changes in lighting technology and evolving industry standards;
- competition with other energy sources;
- slower than anticipated adoption of off-grid LED lighting technology;
- our ability to manage expansion effectively;
- fluctuation in foreign currency exchange rates;
- our reliance on third party manufacturers;
- our reliance on sales agents and third parties with whom we have developed strategic relationships to sell our products, particularly in niche markets and developing and emerging economies;
- our reliance on key employees;
- intellectual property risks;
- environmental and regulatory compliance;
- our reliance on government contracts and subsidies, such as the Ontario, Canada Feed-in Tariff ("FIT") program;
- problems with product quality or reliability;
- downturns in general economic and market conditions;
- our ability to maintain adequate liquidity or raise additional capital when needed; and
- geopolitical or other global or local events.

Readers should not place undue reliance on forward-looking statements. The forward-looking statements in this MD&A are made as of the date hereof. We do not assume any obligation to update the forward-looking information contained in this MD&A other than as required by applicable laws (including without limitation Section 5.8(2) of National Instrument 51-102 Continuous Disclosure Obligations).

# Management's discussion and analysis

This MD&A discusses the consolidated financial condition and operating performance for our Company and should be read together with our condensed consolidated interim financial statements for the three months and six months ended June 30, 2012. These documents, along with additional information about our Company, including the Annual Report and Annual Information Form, are available at www.carmanah.com and www.sedar.com. This document contains forward-looking information qualified by reference to and should be read together with, the forward-looking statements above.

Unless otherwise indicated, all financial information presented in this MD&A is in our functional and presentation currency, United States of America ("US") dollars, and has been prepared in accordance with International Financial Reporting Standards ("IFRS").

Our consolidated financial statements include our accounts and those of our wholly-owned subsidiaries, Carmanah Solar Power Corporation (a Canadian incorporated company), and Carmanah Technologies Corporation (a US incorporated company). In June of 2012, Carmanah Lightech 2010 Ltd (an Israel incorporated company) was dissolved. This entity was incorporated to effect the proposed merger with Lightech Electronics Ltd ("Lightech"). The merger with Lightech was never completed, and the subsidiary was never active.

## Preparation of the MD&A

Our disclosure controls and procedures are designed to provide reasonable assurance that all relevant information is gathered and reported to our senior management on a timely basis so that appropriate decisions can be made regarding public disclosure. Our management determines whether or not information is material based on whether they believe a reasonable investor's decision to buy, sell or hold securities in our Company would likely be influenced or changed if the information were omitted or misstated. The MD&A and the condensed consolidated interim financial statements were reviewed by our Audit Committee and approved by our Board of Directors. This MD&A is prepared as of August 13, 2012.

Our management has issued guidance on and reports on certain non-IFRS measures to evaluate performance. As non-IFRS measures generally do not have a standardized meaning, securities regulations require non-IFRS measures to be clearly defined, qualified and reconciled with their nearest IFRS measure. Earnings before Interest, Taxes, Depreciation and Amortization ("EBITDA") used in this document means Standardized EBITDA as defined by the Canadian Performance Reporting Board of the Canadian Institute of Chartered Accountants ("CICA"). The term Adjusted EBITDA used in this document deducts from Standardized EBITDA, items of an unusual nature that do not reflect our ongoing operations. See Section 8 for the definition, calculation and reconciliation of Adjusted EBITDA.

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# 1. FINANCIAL HIGHLIGHTS

The discussion in this section is qualified in its entirety by the *Caution regarding forward-looking statements* at the beginning of the MD&A.

## Financial Highlights for the Three and Six Month Periods Ended June 30, 2012 and 2011

| *(US$ thousands, unless noted otherwise)* | **Three months ended June 30** | | | **Six months ended June 30** | | |
|---|---|---|---|---|---|---|
| | **2012** | 2011 | Change | **2012** | 2011 | Change |
| **Consolidated statements of loss** | | | | | | |
| Revenue | 6,063 | 10,725 | (43.5)% | 11,420 | 20,277 | (43.7)% |
| Gross margin % | 29.1% | 30.6% | (1.5)% | 32.9% | 31.4% | 4.6% |
| Operating expenditures | (3,190) | (3,157) | 1.0% | (6,129) | (5,965) | 2.7% |
| Other income (expenses) | (26) | (244) | (89.3)% | 9 | (271) | (103.3)% |
| Net income (loss) | (1,451) | (174) | (733.9)% | (2,362) | (16) | (14662)% |
| **Consolidated statement of cash flows** | | | | | | |
| Cash provided/(used) in operating activities | (1,065) | (1,054) | (1.0)% | (1,564) | (886) | 76.5% |
| Cash used in investing activities | (144) | (135) | 6.7% | (215) | (189) | 13.8% |
| Cash provided in financing activities | - | - | - | - | - | - |
| **Other measures** | | | | | | |
| Adjusted EBITDA * | (1,073) | 633 | (269.5)% | (1,646) | 1,326 | (224.1)% |

**Adjusted EBITDA is a Non-IFRS measure – see section 8 for discussion*

The following is an overview of our results comparing the first two quarters of 2012 to the first two quarters of 2011:

- Consolidated revenue decreased by $8.9 million or 43.7% for the six months ended June 30, 2012 compared to the same period in 2011. Approximately 60% of this decrease is the result of significantly lower Grid-tie revenues due to a delay in contract awards stemming from uncertainties in Ontario, Canada's Feed In Tariff ("FIT") program which were resolved in the early part of 2012. Grid-tie revenues picked up in the second quarter of 2012 and are expected to recover further in the third and fourth quarters. The remainder of the revenue decrease is primarily due to the longer than expected timing to close sales in our Outdoor Lighting and Aviation markets.
- Gross Margin % increased by 1.5% for the six months ended June 30, 2012 compared to the same period in 2011. This increase is primarily due to a change in sales mix, with substantially less 2012 revenues generated from the lower margin grid-tie business.
- Operating expenditures for the first six months of 2012 were $6.1 million, up slightly from $6.0 million in the same period in 2011. This increase is primarily due to an increase in head count as we hired a number of sales and marketing related staff to support our market verticals in our effort to build future revenue growth.
- Other income/(expenses) for the six months ended June 30, 2012 were $0.01 million and are primarily related to foreign exchange gains recognized on the revaluation of foreign denominated working capital. In the comparable period in 2011, we recorded other expenses of $0.3 million. This was made up of $0.2 million in legal expenses related to the terminated Lightech merger agreement, and a $0.3 million provision relating to the resignation of our CEO. This was offset by transactional foreign exchange gains of approximately $0.1 million, and investment tax credits of $0.1 million.
- Net loss for the six months ended June 30, 2012 was $2.4 million up from a net loss of $0.01 million in the same period in 2011. This decrease was primarily driven by lower revenues in the first half of 2012.
- Adjusted EBITDA for the six months ended June March 31, 2012 was negative $1.6 million, down from positive $1.3 million in the same period in 2011.
- Liquidity and capital resources highlights, with a comparison between June 30, 2012 and December 31, 2011:
  - During the six months ended June 30, 2012, our overall cash balance declined by $1.8 million. This decrease was largely the result of the net loss during the period.
    - Cash used in operating activities, for the six months ended June 30, 2012 was $1.6 million, compared to cash use of $0.9 million in the same period in 2011.
    - Cash used in investing activities, for the six months ended June 30, 2012 was $0.2 million, which is comparable to the same period in the prior year.
  - The overall decrease in cash over the past two quarters has primarily been driven by lower than expected revenues. Our expectation is that revenue will recover the later part of the year, although there will still be significant pressures on the cash balance due to timing of supply chain working capital requirements for near term grid-tie projects. As a result, we have initiated the process to raising up to CDN$4 million in cash by way of a non-brokered private placement. It is expected insiders of our company, as defined by the regulations of the TSX Exchange, will commit to participating in at least 40% of the anticipated offering. These funds will be used for strategic acquisitions, product

development and working capital purposes. The private placement is expected to close by mid-August 2012. As well, we are currently in the advanced stages of securing a new credit facility. We also anticipate having this in place by mid-August 2012.

# 2. OUR BUSINESS

The discussion in this section is qualified in its entirety by the *Caution regarding forward-looking statements* at the beginning of the MD&A.

From our headquarters in Victoria, British Columbia, Canada, we design, develop and distribute renewable and energy-efficient technologies. Our business is divided into two operating segments, the "Lighting" division and the "Solar Power Systems" division. Our Lighting division includes two market lines: (1) solar-powered beacons for marine, aviation, obstruction, and traffic applications (referred to as our "Signals" or "Signalling" market sector), and (2) solar-powered outdoor area lighting (referred to as our "Outdoor Lighting" market sector). Our Solar Power Systems division includes grid-tie solar power systems for industrial applications (our "Grid-tie" market sector) and mobile power systems (our "Mobile" market sector). These businesses are described in our 2011 annual MD&A. Any significant changes that have occurred in 2012 related to these businesses are outlined in the operational highlights section below.

# 3. OPERATIONAL AND BUSINESS HIGHLIGHTS

The discussion in this section is qualified in its entirety by the *Caution regarding forward-looking statements* at the beginning of the MD&A.

Our operational & business highlights year to date in 2012 include the following items:

- Negotiated and signed two long term exclusive cooperation agreements to enhance our portfolio and strengthen our network of strategic partnerships with the following companies:
    - Sabik Oy ("Sabik"), our marine signalling partner based in Finland which we have worked with over the past few years. The five year agreement expands on our previous two year sales and marketing collaborations to include a deeper integration of joint product development.
    - Laser Guidance Inc., a US based pioneer in aviation precision guidance systems. The agreement provides us with a five year exclusive world-wide marketing license for a portfolio of Laser Guidance aviation navigation aids.
- Strengthened our distribution channel through the addition of new partners in key markets including Best Light in Mexico and Al-Babtain in Saudi Arabia for our Outdoor Lighting market. Further details are outlined in the relevant segment updates below.
- Embarked on major development efforts for our signalling products which will see a variety of new products launched this year, most significantly a new state of the art Marine signal lantern to replace our 700 series lights and a new Traffic signalling device, the rectangular rapid flashing beacon ("RRFB") that improves crosswalk safety. Details of these product releases are outlined in the next section under the relevant segment update.
- Negotiated a number of major sales contracts, including 3 grid-tie projects worth $2.4 million. We also signed a $10 million non-binding letter of agreement with one of our South American distributors to procure, commission and install various aids to navigation on a major South America waterway. This agreement is subject to finalization of certain conditions with the end customer and we expect this to resolve in 2012.
- Expanded our focus on revenue growth with the hiring of an additional five sales employees to complement our new vertical orientated sales structure. Under this new structure, each market vertical has its own leadership and supporting team and is directly responsible for driving the planning, development and execution within the market.
- Initiated a non-brokered private placement to raise up to CDN$4 million in cash to fortify our treasury.

The following sections highlight significant events within our specific divisions and various market segments.

## 3.1. Lighting Division

### Signals market segment

In our Aviation and Obstruction market segments, during the second quarter of 2012, we have focused heavily on strengthening our strategic partnerships and on launching several exciting new products. We:

- Launched the world's first total solar LED airfield solution ("Total Airfield Solution") and began marketing the concept in June. The Total Airfield Solution offers for the first time a comprehensive LED/solar airfield lighting system that includes the entire range of products needed for complex aviation operations, increasing safety of flight in low visibility weather conditions and breaking down barriers to important new markets for our solar lights. Airport operators now have access to all of the solar technology required to light a fully functional precision airfield; from approach lights to Precision Approach Path Indicators ("PAPIs"), to runway lighting, taxiway and apron lights, and

directional signage. All systems may be tied together seamlessly through wireless radio/ARCAL controllers and laptop interfaces.
- Launched a number of new products: the A704-H and the High Mobility Cable Trailer. The A704-H, already deployed by the US Marine Corps, set an important new standard for solar LED lighting intensity in the aviation market, meeting the FAA standards for medium intensity runway lighting ("MIRL"), and high intensity runway lighting ("HIRL") up to 500 candela in white. This breakthrough development in high-intensity solar lighting signifies a major advancement in the aviation market which will position us at a critical place in the aviation market. This light is capable of being powered using either solar power or AC cable power.
- Negotiated and signed a five year exclusive cooperation agreement with Laser Guidance Inc. This agreement provides us with the exclusive world-wide marketing license for a portfolio of aviation navigation aids which includes PAPI's and Approach Light Systems. Under the agreement, both companies will cooperate on a wide range of strategic development, manufacturing efforts, and marketing campaigns. In the second quarter we bid on multiple projects that included these navigation aids which we anticipate will result in sales during 2012.

We anticipate future sales growth as a result of these new strategic initiatives with momentum building over the near term.

In our Marine segment, the second quarter of 2012 saw a continued effort to exploit new market niches and in the development of innovative new products. We further strengthened our relationship with Sabik by signing a new five year exclusive cooperation agreement. This agreement with Sabik builds upon the successful two year history of marketing and sales collaboration and includes reciprocal access to technology and includes joint product development. The combined resources of our two companies will continue to ensure a leadership position in the marine signalling market is maintained based upon leading edge technologies.

Some of the highlights within our Marine market segment include:
- Signed a $10 million non-binding letter of agreement with one of our distributors for the procurement, commissioning and installation of aids to navigation ("AToN") within a broader significant marine project on a major navigable waterway in South America. The scope of this agreement will include Buoys and Fixed Aids as well as our proprietary floating aids. The agreement is subject to funding and technical specifications finalization by all parties, which are expected to be completed in the near term.
- Launched a new marine product development program that will see some of our current product line replaced by innovative new technology in the near future. Some of the initial development efforts in 2012 include the launch of variations of our successful M650 product, which continues to post strong sales worldwide. This included the development of a GPS-synchronized, flash enabled M650 and announcement of its launch in early April 2012. The M650GPS is based on our industry-proven and highly successful M650 lantern, and provides up to 3 nautical miles of visibility and produces up to 44 candela of light output (green). This signalling lantern will be targeted at the Oil and Gas sector as well as more traditional markets. In the second quarter of 2012 the USCG approved this lantern for use on oil and gas platforms, and we commenced a worldwide sales program for this product. We also launched the M650H in July 2012. This product will offer the market a value priced 3 nautical mile light.
- Concluded a reciprocal distribution agreement within the USA Oil and Gas market with EESI Corp of Lafayette, Louisiana, USA. EESI is integral in our growth plans for the North American continent.

In our Traffic segment, in early 2012 we completed our review of the opportunity and determined there is a strong case for investment in this market. As a result, we hired a new managing director and have begun development of a new signal approved by US Federal Highways Administration for improving crosswalk safety. The RRFB provides unprecedented vehicle yielding behaviour and is a cost-effective and popular solution for cities undertaking pedestrian improvements. The industry is moving towards 'Complete Streets' policies which are a shift towards accommodating pedestrians and cyclists. Funding priorities are subsequently re-aligning towards products such as RRFBs. We expect some revenue growth in the segment over the coming quarters' following the RRFB launch which occurred in June 2012. Initial orders have begun to come in for this innovative product. Other products in the traffic portfolio will be updated with the new solar engine developed for the RRFB.

## Outdoor Lighting market segment

In our Outdoor Lighting market segment, during the second quarter of 2012, we continued to build our sales channels outside North America, completed the planned expansions of our low cost EG series and continued to help drive new industry standards through our support of the new Consortium for Solar Lighting (the "Consortium"). Year to date 2012 highlights include:
- We continued our focus on markets outside of North America:
    - Expanded our local relationships in Mexico, establishing an Agent agreement with Best Light Mexico and building on our underlying distribution agreement with Semex. We continue to build on our year to date success in the Mexican market, which over the past two quarters has accounted for approximately 20% of total outdoor lighting sales.
    - Established a key distribution agreement with Al-Babtain in Saudi Arabia to begin penetration of key Middle East countries and were successful in our first deployment of product to an oil and gas company within the UAE.

    - Distribution agreements are also being closed to establish a presence and market penetration in select African countries where there has been demonstrated market adoption of solar lighting.
- Near term sales growth outside North America will continue to be lumpy as we develop sales channels in each market and work through the timing of negotiating and closing these large infrastructure scale projects.
- As indicated, our EG series portfolio is now complete, offering a line of solar lighting products with capability from small path lighting to full multi-lane highway lighting, compliant to existing roadway specifications. The completion of this portfolio is now allowing us to pursue all key roadway and area outdoor lighting sectors with a solar solution.
- We remain active with the Consortium for Solar Lighting as one of its founding members, to promote the awareness and adoption of solar lighting and to establish standard specifications to ensure the quality and reliability of deployed solar lighting products. A managing director has been engaged by the founding members to accelerate the goals of the Consortium.

## 3.2. Solar Power Division

### Grid-tie market segment

The Ontario government's review of the Feed in Tariff ("FIT") program, which began in October of 2011, was recently completed after extensive consultation with various industry stakeholders. The Ontario government has directed the Ontario Power Authority ("OPA") to continue the program with some amendments, such as prioritizing applications through a modified points system, and policies to protect agricultural lands, etc. Overall, we are pleased with the positive outcome from this review, which should bring stability to the industry and will help to generate further projects and opportunities for us.

During the first half of 2012, we saw a significant decrease in our revenues over the same period in 2011, as contract awards industry wide were delayed until the review of the FIT program was completed. Consequently, we focused on a smaller number of larger potential contract bids with the goal of building up our pipeline of work for the remainder of the year. During the second quarter we announced $2.4 million of contracts over 3 projects we won and are continuing to pursue bids on various other projects. We continue to maintain our position as a market leader for engineer-procure-construct ("EPC") services for commercial rooftop grid-tie systems.

### Mobile market segment

Our Mobile market sector continues to show steady growth year over year. Although a part of this growth is due to the general economic recovery within the industry, it is also due to our continued sales and marketing efforts to expand our market share. Of note is that although our revenue growth has been relatively modest over the past few years, our unit volume has grown substantially. This is largely due to the general fall in photovoltaic ("PV") pricing which has reduced our revenue per unit sold, but has spurned additional demand as our solutions become less costly to customers.

During the first quarter of 2012, our main focus was on the Recreational Vehicle ("RV") market, and as a result we had one of the most successful annual booking programs in recent years. We also continued to build the Go Power! brand with the introduction of a new series of automotive power supply chargers which allows further expansion into new markets. During the second quarter of 2012, the focus continued to be on supporting the RV dealer markets in both the US and Canada. The economic recovery in the RV industry continues to improve, with many dealers discovering that their customers have a strong interest in adding dealer installed options to their existing RV's, such as solar charging kits, rather than purchasing a new RV unit.

# 4. FINANCIAL RESULTS

The discussion in this section is qualified in its entirety by the *Caution regarding forward-looking statements* at the beginning of the MD&A.

As previously noted, the information presented in the sections below have been derived from, and should be read in conjunction with our condensed interim consolidated financial statements for the period ended June 30, 2012.

## 4.1. Quarterly trend

| *(US$ thousands, except EPS amounts)* | **2012** | | 2011 | | | | 2010 | |
|---|---|---|---|---|---|---|---|---|
| | **Q2** | Q1 | Q4 | Q3 | Q2 | Q1 | Q4 | Q3 |
| Revenue | 6,063 | 5,357 | 7,124 | 8,503 | 10,725 | 9,552 | 9,311 | 8,566 |
| Gross margin | 1,765 | 1,993 | 1,961 | 2,924 | 3,281 | 3,096 | 2,422 | 3,006 |
| Gross margin % | 29.1% | 37.2% | 27.5% | 34.4% | 30.6% | 32.4% | 26.0% | 35.1% |
| Operating costs | (3,190) | (2,939) | (2,904) | (2,670) | (3,157) | (2,808) | (3,622) | (2,927) |
| Other income (expense) | (26) | 35 | (3,958) | 165 | (244) | (27) | (4,109) | 17 |
| Income tax recovery (expense) | - | - | (3,987) | (68) | (54) | (103) | 1,206 | (42) |
| Net income/(loss) | (1,451) | (911) | (8,888) | 351 | (174) | 158 | (4,103) | 54 |
| EPS – Basic | (0.03) | (0.02) | (0.21) | 0.01 | 0.00 | 0.00 | (0.10) | 0.00 |
| EPS– Diluted | - | - | - | 0.01 | - | 0.00 | - | 0.00 |
| Adjusted EBITDA[1] | (1,073) | (573) | (423) | 426 | 633 | 693 | (262) | 1,010 |

[1] *Adjusted EBITDA is a non-IFRS measure defined in section 8*

Quarterly revenues have fluctuated over the past couple of years. This is primarily due to the lumpy nature of our revenues within our product lines. In addition, a large portion of our revenues are derived from infrastructure projects that often have longer tender, negotiation and closing processes. This is most pronounced within our Grid-tie, Aviation/Obstruction, and Outdoor Lighting market segments, and to a lesser extent within our Marine and Traffic markets. The Mobile market segment, on the other hand, is more seasonal in nature with higher revenues in the first two quarters as our distributors gear up for the busier spring and summer periods. Grid-tie sales are also typically lower in the fourth quarter due to limited construction in the winter months as a result of weather conditions. From a quantitative perspective, a significant portion of the revenue growth between the fourth quarter of 2010 and the second quarter of 2011 was due to an increase in the number and size of grid-tie projects, which has seen strong demand as a result of the Ontario FIT program. However, Grid-tie sales fell overall in the third and fourth quarters of 2011 and in the first two quarters of 2012 due a slowing in the Ontario Grid-tie market place as a result of uncertainty surrounding the FIT program resulting from the Ontario provincial election followed by the scheduled review of the FIT program. This created industry wide delays in contract awards.

Our gross margin varies on a quarterly basis and is reflective of the product revenue mix and any inventory adjustments/write-offs that are tied to changes in component pricing, technology, and product offering/design. Historically, we see lower margins in the fourth quarter of each year as revisions are made to operational and product plans that often impact the recoverability of inventory.

Our operating costs and in particular compensation costs have been reduced since the fourth quarter of 2010 as a result of our restructuring initiatives. Offsetting some of these savings was the expensing of research and development costs related to new product design starting in the third quarter of 2010.

Our other income (expense) has fluctuated significantly over the quarters. Other income (expense) includes various non-operating items such as foreign exchange gains and losses, major asset write offs, acquisition costs, and other items. The major spike in other expenses in fourth quarter of 2010 was due to a write off of development intangibles and costs incurred in the terminated Lightech acquisition. An additional spike in other expenses occurred in the fourth quarter of 2011, due to our decision to write-off of our Investment Tax Credits, as we concluded that the probability of utilizing the credits in the near term was in question due to our current and anticipated revenue stream, our historical net income results, and our early stage of development in key markets. Other fluctuations have mainly related to foreign exchange gains and losses, and additional costs surrounding the terminated Lightech acquisition lawsuit.

## 4.2. Three and six month periods ended June 30, 2012 and 2011

### Revenue and gross margin

| *(US$ thousands, unless noted otherwise)* | Three months ended June 30 | | | Six months ended June 30 | | |
|---|---|---|---|---|---|---|
| | **2012** | **2011** | **Change** | **2012** | **2011** | **Change** |
| **Revenues** | | | | | | |
| Signals | 2,835 | 4,478 | (36.7)% | 5,769 | 8,353 | (30.9)% |
| Outdoor lighting | 916 | 1,168 | (21.6)% | 1,692 | 2,689 | (37.1)% |
| **Total Lighting** | **3,751** | **5,646** | **(33.6)%** | **7,461** | **11,042** | **(32.4)%** |
| Grid-tie | 600 | 3,738 | (83.9)% | 654 | 6,223 | (89.5)% |
| Mobile | 1,712 | 1,341 | 27.7% | 3,305 | 3,012 | 9.7% |
| **Total Solar Power Systems** | **2,312** | **5,079** | (54.5)% | **3,959** | **9,235** | (57.1)% |
| **Total revenue** | **6,063** | **10,725** | **(43.5)%** | **11,420** | **20,277** | **(43.7)%** |
| **Gross margin %** | | | | | | |
| Signals | 36.3% | 39.5% | (3.2)% | 38.7% | 41.7% | (3.0)% |
| Outdoor lighting | 18.0% | 27.2% | (9.2)% | 22.8% | 29.5% | (6.7)% |
| **Total Lighting** | **31.9%** | **36.9%** | **(5.0)%** | **35.1%** | **38.7%** | **(3.6)%** |
| Grid-tie | 11.5% | 20.9% | (9.4)% | 9.9% | 18.8% | (8.9)% |
| Mobile | 29.3% | 30.9% | (1.6)% | 32.6% | 31.0% | 1.6% |
| **Total Solar Power Systems** | **24.7%** | **23.5%** | **1.2%** | **28.8%** | **22.8%** | **6.0%** |
| **Total Gross margin %** | **29.1%** | **30.6%** | **(1.5)%** | **32.9%** | **31.4%** | **1.5%** |

- Revenues decreased by $8.9 million or 43.7% for the six months ended June 30, 2012 compared to the same period in 2011. Approximately 60% of this decrease is the result of significantly lower Grid-tie revenues due to a delay in contract awards stemming from uncertainties in Ontario, Canada's Feed In Tariff ("FIT") program which were resolved in the early part of 2012. Grid-tie revenues picked up in the second quarter of 2012 and due to our backlog, are expected to increase notably further in the third and fourth quarters. The remainder of the revenue decrease is primarily due to the longer than expected timing to close sales in our Outdoor Lighting, Marine and Aviation markets.

**Lighting**

Our Signals revenues for the first two quarters of 2012 were $5.8 million, down from $8.4 million in the comparable period in 2011. The results from the various market segments are outlined below:

- Year to date 2012, our Aviation/Obstruction revenues were $1.7 million, down from $3.6 million in the same period in 2011. Second quarter revenues were $0.8 million, compared to $2.2 million in second quarter of 2011. This decrease is due to the timing of major project-based sales involving large aviation installations, and deep US Department of Defense spending cutbacks associated with withdrawal of forces from Operations in the Middle East. We are currently working on a number of larger Aviation project bids and in our efforts to expand our market presence in the Obstruction market. These initiatives should help to improve our revenues from this segment in the latter half of 2012.
- Year to date 2012, our Marine revenues were $2.8 million, down $0.4 million from the same period in 2011. Second quarter 2012 revenues were $1.4 million, compared to $1.6 million in second quarter of 2011. These decreases were primarily due to increased competitive pressures on some of our older product lines. We anticipate future product releases should help to counter this trend.
- Year to date 2012, our traffic revenues were $1.3 million, down $0.3 million from 2011. Second quarter 2012 revenues were $0.7 million, comparable to the prior year. As previously mentioned, this decline is primarily due to a reduced focus on this vertical over the past year as the company assessed the opportunities in this market. We expect revenue growth for this segment in the near term as development, marketing and sales efforts begin to gain traction.

Year to date 2012, Outdoor lighting revenues were $1.7 million, down from $2.7 million from the prior year. Our second quarter 2012 revenues were $0.9 million, down $0.3 million from the prior year. These decreases are primarily due to the

longer than expected timing of closing infrastructure project sales from emerging countries as well as the fact that during the first quarter of 2011, a $0.6 million sale was recognized with no comparable significant sale in the same period of 2012. This highlights the continued lumpiness of our revenues in this segment.

Our Lighting division gross margin percentage during the first two quarters of 2012 was 35.1%, down from 38.7% in the comparable period in 2011. This decrease is primarily due to lower margins in our (1) Outdoor lighting market as we provided aggressive pricing on a couple of projects in an effort to better penetrate new markets, and (2) Marine market as we adjusted our pricing among major distributors in response to competitive activities.

**Solar Power Systems**

Year to date 2012, Solar Power Systems revenues were $4.0 million, down from $9.2 million in the prior year. Our second quarter 2012 revenues were $2.3 million, down $2.7 million from the prior year. This is primarily due to substantially lower grid-tie sales, which year to date are down $5.6 million over 2011 as a result of the industry uncertainty during the Ontario FIT program review in the first half of 2012, which has now been resolved. Although grid-tie revenues did pick up a bit in the second quarter of 2012 as a result of contracts starting to be awarded, we continued to see the delayed effects of the industry wide uncertainly. With the recent positive announcements regarding the future of the Ontario FIT program, we expect a significant upturn in contract awards during the second half of 2012. During the second quarter of 2012 we saw a significant increase in opportunities and sales activities, and we were awarded 3 major grid-tie projects totalling $2.4 million. We anticipate further project wins in the coming quarters which should help the recovery of grid-tie sales in the latter part of 2012. In regards to the mobile vertical, year to date 2012 revenues were $3.3 million, up $0.3 million from the prior year. This increase is primarily due to channel developments, strengthening market and general economic conditions improving in the US and Canada.

The gross margin percentage during the first two quarters of 2012 for our Solar Power Systems division was 29.4%, up from 22.8% in the same period in 2011. This increase is mainly due to the sales mix between Mobile and Grid-tie, with significantly less lower margin grid-tie sales in 2011 compared to higher margin mobile sales recognized in 2012.

**Sales by geographic region**

All of our international revenues have been generated by our Lighting division, as our Grid-tie business is currently solely focused on the Canadian market and our Mobile revenues generated from the Canadian and US markets.

During the six months ended June 30, 2012, approximately 19.9% of our revenues were from outside North America. This is down from 20.6% in the same period of 2011.

We are focused on increasing our international revenues by modifying and developing products to serve the rapidly growing markets outside North America, and fostering new and existing partnerships within strategic markets.

## Operating expenses

| *(US$ thousands, unless noted otherwise)* | **Three months ended June 30** | | | **Six months ended June 30** | | |
|---|---|---|---|---|---|---|
| | **2012** | **2011** | **Change** | **2012** | **2011** | **Change** |
| Sales and marketing | 1,138 | 939 | 21.2% | 2,137 | 1,661 | 28.7% |
| Research and development | 481 | 526 | (8.6)% | 840 | 1,048 | (19.8)% |
| General and administration | 1,571 | 1,692 | (7.2)% | 3,152 | 3,256 | (3.2)% |
| **Total operating expenditures** | **3,190** | **3,157** | 1.0% | **6,129** | **5,965** | 2.7% |
| Operating expenses (excluding restructuring) as % of sales* | 52.6% | 29.4% | (23.2)% | 53.7% | 29.4% | (24.3)% |
| ***Non-cash items:*** | | | | | | |
| *Amortization* | *288* | *259* | *11.2%* | *565* | *534* | *5.8%* |
| *Stock-based payments* | *90* | *116* | *(22.4)%* | *151* | *173* | *(12.7)%* |

** A Non-IFRS measure*

Our total operating expenses for the six months ended June 30, 2012 were $6.1 million, up $0.2 million from the comparable period in 2011. During the second quarter of 2012, total operating expenses were $3.2 million, up slightly from the same period in 2011. These increases are primarily as a result of our hiring a number of sales and marketing related staff to support our market verticals in our effort to build future revenue growth, offset by other executive headcount reductions. Year to date operating costs as a percentage of sales has increased to 53.7% from 29.4%, primarily due to lower revenues.

**Sales and marketing**

Our sales and marketing expenses for the first two quarters of 2012 were $2.1 million, up $0.5 million from the same period in 2011. Sales and marketing expenses for the second quarter of 2012 were $1.1 million, up $0.2 million from the same period in

2011. These increases are primarily due to higher salaries and travel costs as we hired and transferred a number of staff into sales and marketing roles to focus on increasing revenues.

**Research and development**
Our research and development ("R&D") expenses for the first two quarters of 2012 were $0.8 million, down from $1.0 million in the same period in 2011. Development expenses for the second quarter of 2012 were $0.5 million, down slightly from the comparable period in 2011. The decrease was primarily due to the timing of realigning our development resources which delayed the timing of development project spending.

**General and administration**
Our general and administrative ("G&A") expenses for the first two quarters of 2012 were $3.2 million, down from $3.3 million in the same period in 2011. G&A expenses for the second quarter of 2012 were $1.6 million, down $0.1 million from the comparable period in 2011. Overall, lower salaries were offset by small increases in rent, insurance, and legal costs.

### Other income (expense)

Our other income (expense) relate mainly to interest, foreign exchange gains or losses and various miscellaneous non-operating items. During the six months ended June 30, 2012, we recorded other income of $0.01 million, primarily related to foreign exchange gains recognized on the revaluation of foreign denominated working capital. In the comparable period in 2011, we recorded other expenses of $0.3 million. This was made up of $0.2 million in legal expenses related to the terminated Lightech merger agreement, and a $0.3 million provision relating to the resignation of our CEO. This was offset by transactional foreign exchange gains of approximately $0.1 million, and investment tax credits of $0.1 million.

### Income taxes

During the six months ended June 30, 2012, we recorded no income tax expense or benefit as, effective this year, we are no longer recognizing the benefit of tax losses and other temporary differences. In the comparable period, we had recognized an expense of $0.2 million related to future income tax.

## 5. LIQUIDITY, CAPITAL RESOURCES AND OTHER DISCLOSURES

The discussion in this section is qualified by the *Caution regarding forward-looking statements* at the beginning of the MD&A.

### 5.1. Summary of consolidated statement of cash flows

| Six months ended June 30<br>*(US$ thousands, unless noted otherwise)* | 2012 | 2011 | Change |
|---|---|---|---|
| Cash provided/(used) in operating activities | (1,564) | (886) | 76.5% |
| Cash used in investing activities | (215) | (189) | 13.8% |
| Effects of exchange rate changes on cash | (12) | (128) | (90.6)% |
| **Total change in cash** | **(1,791)** | **(1,203)** | **48.9%** |

### Cash used in operating activities

During the first two quarters of 2012, cash used by our operating activities, excluding changes in working capital, was $1.6 million compared to $0.8 million in the same period last year. In the same period, changes in working capital were negative $0.1 million in 2012, compared to negative $1.7 million in the same period in 2011. The swing in working capital in 2011 was primarily due to an increase in receivables and a decrease in payables due to ongoing grid-tie projects at that time. We actively manage our working capital by monitoring inventory turnover data, collection of accounts receivable, and taking advantage of trade discounts and/or extended payment terms granted by suppliers.

### Cash used by investing activities

During the first two quarters of 2012, cash used for investing activities was $0.2 million, a comparable amount to the same period in 2011. In both years, the additions mainly related to minor investment in IT hardware and software. 2012 includes $0.1 million related to a five year exclusive cooperation agreement with Laser Guidance Inc. ("LG"). Under the agreement signed in April 2012, we obtained the exclusive world-wide marketing license for a portfolio of aviation navigation aids designed and manufactured by LG which will enable us to sell comprehensive airfield solutions. The agreement provides fixed payments to LG totalling $0.45 million to be made over 15 months. In addition, during the term of the agreement, a variable payment of 2% of all airfield revenues that include LG products as part of the purchase order is payable to LG. At June 30, 2012, we had recorded an intangible asset of $0.45 million, $0.09 million of which has been paid with the remaining balance accrued as a liability. The total is being amortized on a straight-line basis over the 5 year term of the agreement. No variable payments have been made under the agreement, and those costs will be expensed as a cost of sale when the revenue is recognized.

## 5.2. Liquidity and capital resource measures

We continue to have no debt. Our total cash balance has decreased by $1.8 million since December 31, 2011. This decrease was largely the result of substantially lower revenues.

Of the $3.1 million total cash balance at June 30, 2012, $0.5 million (December 31, 2011 - $0.7 million) was externally restricted by our bank due to outstanding performance letters of credits on specific grid tie projects, and to secure credit associated with our corporate credit cards and foreign exchange hedging products.

Our overall working capital decreased by $2.2 million, to $5.6 million at June 30, 2012 compared to $7.8 million at December 31, 2011.

## 5.3. Credit facilities

Our $Cdn10.0 million credit facility with the Bank of Montreal ("BMO") was in effect at June 30, 2012, although it expired on July 8, 2012. This credit facility had carried certain covenants such as earnings thresholds that limit the amount available to us. We had not drawn on this credit facility. We are currently in the advanced stages of securing a new credit facility.

The overall decrease in cash over the past two quarters has primarily been driven by lower than expected revenues. Our expectation is that revenue will recover in the later part of the year, although there will still be significant pressures on the cash balance due to timing of supply chain working capital requirements for near term grid-tie projects. As a result, we have initiated the process to raising up to CDN$4 million in cash by way of a non-brokered private placement. It is expected insiders of our company, as defined by the regulations of the TSX Exchange, will commit to participating in at least 40% of the anticipated offering. These funds will be used for strategic acquisitions, product development and working capital purposes. The private placement is expected to close by mid-August 2012. As well, we are currently in the advanced stages of securing a new credit facility. We also anticipate having this in place by mid-August 2012.

## 5.4. Contractual obligations and commitments

We have a manufacturing services agreement with Flextronics Industrial Ltd. ("Flextronics"), a contract manufacturer, to build and supply a large portion of our manufactured products. Under this agreement, we are required to provide demand forecasts to Flextronics for our expected sales. Flextronics utilizes these forecasts to acquire raw materials and inventory to support that demand. If our sales are below the demand forecasts, we are then required to purchase the excess inventory. The value of the Flextronics inventory held at June 30, 2012 was $1.0 million (December 31, 2011 - $1.2 million), and the value of planned purchase orders to support our expected future demand was $1.6 million (December 31, 2011 - $2.3 million).

There have been no other substantial changes in contractual obligations since those reported in the 2011 annual MD&A.

## 5.5. Claims and lawsuits

None

## 5.6. Contingent liability

We previously disclosed that we had a potential contingent liability associated with an international trade dispute currently being examined by the US Department of Commerce ("DOC"). This action was filed by certain US solar manufacturers and alleges that Chinese solar manufacturers receive unfair subsidies in the production of solar cells. After additional research and validation, it appears none of the solar panels utilized in our businesses would be subject to this action.

## 5.7. Off balance sheet arrangements

We have not entered into any off balance sheet arrangements other than standard office/facility lease agreements.

## 5.8. Related party transactions

None

## 5.9. Outstanding share data

Our common shares trade on the Toronto Stock Exchange ("TSX") (TSX: CMH), and as at June 30, 2012 we had 43,348,547 fully issued and outstanding common shares. The following table summarizes the outstanding shares, options and other outstanding stock units stated in Cdn$.

| | | | As at | | |
|---|---|---|---|---|---|
| | August 13, 2012 | June 30, 2012 | March 31, 2012 | Dec 31, 2011 | Sept 30, 2011 |
| Share price – closing (Cdn $) | 0.42 | 0.47 | 0.46 | 0.45 | 0.50 |
| Market capitalization (Cdn $ in thousands) | 18,353 | 20,374 | 19,931 | 19,383 | 21,412 |
| **Outstanding** | | | | | |
| Shares | 43,696,456 | 43,348,547 | 43,327,716 | 43,074,027 | 42,824,027 |
| Options | 1,710,756 | 2,079,656 | 2,094,156 | 2,094,156 | 1,352,406 |
| Restricted share units | 90,836 | 317,768 | 294,151 | 404,737 | 404,737 |
| Performance share units | 110,777 | 242,865 | 243,865 | 323,633 | 323,633 |

# 6. Critical Accounting Estimates and accounting policy developments

The discussion in this section is qualified in its entirety by the *Caution regarding forward-looking statements* at the beginning of the MD&A.

## 6.1. Critical accounting estimates

Our financial statements are prepared in accordance with IFRS. The application of IFRS requires that we make estimates that affect our reported amounts of assets and liabilities and the disclosure of contingencies at the date of the financial statements and the reported amounts of revenues and expenses during the period. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances. We evaluate our estimates and assumptions on an ongoing basis. Our actual results may differ significantly from these estimates.

The significant accounting policies and estimates are discussed below:

- **Warranty reserve** – A provision for future potential product warranty costs is included in cost of goods sold based primarily on prior warranty experience regarding cost of claims and expected product returns. These future product warranty costs include costs associated with repair or replacement of products returned under warranty. Actual future costs in support of these claims may differ from those estimates. We review the provision quarterly and adjust it prospectively. The total provision as at June 30, 2012 was $0.6 million, down from $0.7 million at December 31, 2011. The warranty provision was decreased after we continued to see reduced warranty costs over the past few quarters.
- **Valuation of inventory** - We evaluate inventory balances at each balance sheet date and record a provision as necessary for slow moving or obsolete inventory. In performing this review we consider such factors as forecasted sales, demand requirements, product lifecycle and product development plans, quality issues, and current inventory levels. If future demand or market conditions for our products are less favourable than forecasted or if unforeseen technological changes occur, we may be required to record write-downs which would negatively affect gross margins in the period when the write-downs are recorded and our operating results and financial position could be adversely affected. At June 30, 2012 our inventory provision was approximately $0.6 million, down from $0.7 million at December 31, 2011.
- **Allowance for doubtful accounts** - We record an allowance for doubtful accounts related to trade accounts receivable. This allowance is based on our knowledge of the financial condition of our customers, the aging of the receivables, the current business environment and historical experience. A change in one or more of these factors could impact the estimated allowance and provision for bad debts recorded. At June 30, 2012, our allowance for doubtful accounts was $0.1 million, essentially unchanged from December 31, 2011.
- **Forfeiture rates associated with share-based payments** – In determining share-based payments expense, we make estimates related to forfeiture rates for each specific grant. Forfeiture rates are used to estimate the number of awards that are expected to vest considering employee turnover rates. The changes in estimates are recognized in the statement of income (loss) and total comprehensive income (loss) in the year that they occur. Current forfeiture rates applied to grants range from 5% to 16% and vary depending upon the employee make-up of the associated grants.

## 6.2. Accounting policy developments

There have been no changes to our accounting policies from those disclosed in the consolidated financial statements for the years ended December 31, 2011 and 2010. IFRS 7 Financial instruments: disclosures which became effective in 2012 had no significant impact.

## 6.3. Future changes in accounting policies

Unless stated otherwise, the following standards are required to be applied for periods beginning on or after January 1, 2013 and based upon our current facts and circumstances, we do not expect to be materially affected by the application of the following standards:

- IFRS 9, Financial Instruments, is required to be applied for periods on or after January 1, 2013 although there is a current proposal which may push back the effective date to January 1, 2015.
- IFRS 10, Consolidated Financial Statements
- IFRS 11, Joint Arrangements
- IFRS 12, Disclosure of Interests in Other Entities
- IFRS 13, Fair Value Measurement
- IAS 1, Presentation of Financial Statements (amended), is required to be applied for periods beginning on or after July 1, 2012.
- IAS 12, Income Taxes (amended), is required to be applied for periods beginning on or after January 1, 2012.
- IAS 27, Separate Financial Statements (amended)
- IAS 28, Investments in Associates (amended)

Other than for the disclosure requirements therein, the requirements of IFRS 10, IFRS 11, IFRS 12, IAS 27 (amended 2011) and IAS 28 (amended 2011) must be initially applied concurrently.

## 6.4. Disclosure controls and internal controls over financial reporting

Disclosure controls and procedures ("DC&P") have been designed to provide reasonable assurance that information required to be disclosed is accumulated and communicated to management as appropriate to allow timely decisions regarding required disclosure. ICFR have been designed to provide reasonable assurance regarding the reliability of financial reporting. Pursuant to Multilateral Instrument 52-109, the Chief Executive Officer ("CEO") and Chief Financial Officer ("CFO"), collectively referred to as Officers, are responsible for overseeing the establishment and maintenance of disclosure controls and procedures as well as internal controls over financial reporting.

There were no changes in internal control over financial reporting that occurred during our most recent interim period that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

# 7. Risks and Risk Management

The discussion in this section is qualified in its entirety by the *Caution regarding forward-looking statements* at the beginning of the MD&A.

In the course of our operations, we are exposed to various business risks and uncertainties that can affect our financial condition. While some financial exposures are reduced through insurance, hedging and other risk management measures we have in place, there are certain cases where the market and operating risks are driven by external factors beyond our influence and control. A discussion of certain risks that may affect us is included below.

**Competitive Environment**
The off-grid LED lighting industry is highly competitive. Our competition includes companies who manufacture, sell and install off-grid lighting devices. We compete on the basis of product performance, product features, price, quality and post-installation product support. Our ability to compete successfully depends on factors within and beyond our control, including successful and timely development of new products, product performance and quality, product availability, intellectual property protection obtained by us and our competitors, customer service, pricing, industry trends and general economic trends. In particular, we anticipate that certain competitors may transition to off-grid lighting in the future. If and when this transition occurs, the greater name recognition and financial resources of these competitors may make it difficult for us to compete.

To be successful, the we will need to keep pace with rapid changes in lighting technology, changing customer requirements, new product introductions by competitors and evolving industry standards, any of which could render the our existing products obsolete if it fails to respond in a timely manner. Development of new products incorporating advanced technology is a complex process subject to numerous uncertainties. We have in the past experienced, and could in the future experience, delays in introduction of new products. If effective new sources of light are discovered, our current products and technologies could become less competitive or obsolete. If others develop superior innovative proprietary lighting technology, or if we fail to accurately anticipate technology and market trends, respond on a timely basis with our own development of new products and

enhancements to existing products, and achieve broad market acceptance of these products and enhancements, our competitive position may be harmed and it may not achieve sufficient growth in revenue to attain, or sustain, profitability.

**Competition with Other Energy Sources**
Off-grid LED lighting products compete with products powered by conventional energy and other sources of renewable energy. There is a risk that similar products with alternative power sources will enjoy greater policy support or provide a more cost-effective alternative to conventional lighting than our products.

**Technological Changes**
Our products rely on us keeping pace with technological changes. Failure to keep pace with state-of-the-art technologies and methodologies may have a materially adverse effect on our results. Evolving industry standards and/or customer needs may have an effect on demand for our products. Our products may be rendered obsolete or less marketable due to technological advances made by competitors. In order to maintain our current market share, we may have to make substantial investments in product innovation and development.

**Anticipated Adoption Rates for Off-Grid LED Lighting**
While we have invested heavily in the development of off-grid LED lighting products, off-grid LED lighting is still in its early stages. If the rate of off-grid LED lighting adoption is slower than the anticipated commercial trends and we are unable to meet the forecasted sales volumes, we may not generate sufficient revenues to sustain profitability. In addition, demand for off-grid LED lighting products in our targeted markets may not develop or may develop to a lesser extent than anticipated.

**Ability to Manage Expansion Effectively**
We expect to expand our business in the future to meet the anticipated growth in demand for off-grid LED lighting products. If we are unable to manage growth effectively, we may not be able to take advantage of market opportunities, execute our business strategy or respond to competitive pressures. To manage the potential growth of our operations, we may be required to improve operational systems and procedures and expand our relationships with suppliers, manufacturers, distributors and customers. There can be no assurance that the current and planned operations, personnel, systems and internal procedures will be adequate to support future growth.

**Foreign Exchange**
Although we utilize the US Dollar as our functional currency, we are still exposed to fluctuations in the exchange rates between the US and Canadian dollar as a portion of our sales are denominated in currencies other than US dollars. Our exposure to Canadian dollar/US dollar fluctuations is reduced as we purchase a portion of inventory and other cost of sales items in Canadian dollars. If the US dollar rises relative to the Canadian dollar, our operating results may be negatively impacted.

Additionally, we enter into foreign exchange contracts to manage foreign exchange risk as required. We do not use contracts or any other financial instruments, for speculative purposes. As at June 30, 2012, we had no forward exchange contracts outstanding.

**Reliance on Third Party Manufacturers**
We rely on third party manufacturers and suppliers to provide certain products used in our components. While we maintain good relationships with suppliers, increased product demand can lead to increased demand on these providers, which they may not be able to meet. The failure of a supplier to meet product demands and/or specifications could result in significant production delays, which could harm our operations. Should a manufacturer or supplier suffer financial difficulties or any other disruption in manufacturing capacity, we may not be able to secure adequate substitute manufacturing sources for our products in a timely manner. While we believe we have sufficient access to manufacturing capacity to meet current and expected future requirements, it is possible that future capacity needs will not be available. Additionally, as we rely on third party manufacturers, we are subject to risks associated with limited control over delivery schedules, reductions in capacity, the possibility of defects, the possibility of increased products costs and variable product quality.

**Reliance on Outside Agents and Distributors**
We utilize a mixture of a direct sales force, strategic relationships and distribution agency arrangements to access our target markets. As a consequence, we rely to a significant extent upon our ability to develop strategic alliances with distributors, particularly in niche markets and in developing and emerging economies. Furthermore, market penetration of our products heavily depends on the success levels of our distributors and sales agents. There can be no assurances that we will successfully develop and maintain such alliances or that the sales efforts of our distributors and sales agents will be successful.

**Reliance on Key Employees**
Our success depends on our continued ability to identify, attract, hire, train, retain and motivate highly skilled technical, managerial, manufacturing, administrative and sales and marketing personnel. To a significant extent, our success will depend on our senior management team. Competition for these individuals is intense and we may not be able to successfully recruit, assimilate or retain sufficiently qualified personnel. In particular, we may encounter difficulties in recruiting and retaining a sufficient number of qualified technical personnel, which could harm our ability to develop new products and adversely impact our relationships with existing and future customers. The inability to attract and retain necessary technical, managerial,

manufacturing, administrative and sales and marketing personnel could harm our ability to obtain new customers and develop new products and could adversely affect our business and operating results.

**Intellectual Property Risks**

We consider our technology and processes proprietary. If we are not able to adequately protect or enforce the proprietary aspects of our technology, competitors may utilize our proprietary technology and our operations could be harmed. We currently attempt to protect our technology through a combination of patent, copyright, trademark and trade secret laws, employee and third party nondisclosure agreements and similar means. Despite our efforts, other parties may attempt to disclose, obtain or use our technologies. Competitors may also be able to independently develop products that are substantially equivalent or superior to our products or design around our patents. In addition, the laws of some foreign countries do not protect proprietary rights as fully as do the laws of Canada. As a result, we may not be able to protect our proprietary rights adequately in Canada or abroad.

Because our patent position involves complex legal, scientific, and factual questions, the issuance, scope, validity and enforceability of our patents cannot be predicted with certainty. Our issued patents may be invalidated or their enforceability challenged, they may be designed around, and they may not provide us with competitive advantages against others with similar products and technology. Furthermore, others may independently develop similar products or technology or duplicate or design around any technologies that we have developed.

We may receive notices that claim we have infringed upon the intellectual property of others. Even if these claims are not valid, they could subject us to significant costs. Litigation may be necessary in the future to enforce our intellectual property rights or to determine the validity and scope of the proprietary rights of others. Litigation may also be necessary to defend against claims of infringement or invalidity by others. An adverse outcome in litigation or any similar proceedings could subject us to significant liabilities to third parties, require us to license disputed rights from others or require us to cease marketing or using certain products or technologies. We may not be able to obtain any licenses on acceptable terms, if at all. We also may have to indemnify certain customers if it is determined that we have infringed upon or misappropriated another party's intellectual property. Any of these results could adversely affect our business, financial condition and results of operations. In addition, the cost of addressing any intellectual property litigation claim, both in legal fees and expenses, and the diversion of management resources, regardless of whether the claim is valid, could be significant and could materially harm our business, financial condition and results of operations.

**Environmental and Regulatory Compliance**

We are subject to a variety of environmental laws, rules and regulations, with which we believe we are in compliance. In certain cases, the cost of compliance with regulations can be substantial. Failure to comply with present or future regulations could result in legal claims, fines, operation suspensions or cessation of operations. Compliance often requires incurring costs and capital expenditures. We face few, if any, of these issues directly as we rely on third party manufacturers.

**Government Contracts and Subsidies**

A significant portion of our revenues are derived from government and military agencies. Consequently, any disruption in government funding or in the relationship with those agencies could adversely affect our business.

Additionally, there are many government subsidies and economic incentives for solar energy related businesses, including the FIT Program established by the Government of Ontario. There is no guarantee that these incentives and subsidies will remain in place or that other countries, states, provinces or municipalities will adopt similar programs. The elimination of such subsidies and incentives, or the failure of additional countries, states, provinces or municipalities to adopt similar programs, may have an adverse impact on the solar market, and may result in rapid changes in demand and pricing. Such changes may have an adverse impact on our business and financial condition.

**Product Quality & Reliability, Warranty Liability and indemnification Risks**

Problems with product quality and/or performance, including defects in products could damage our reputation, or result in a decrease in customers and revenue, unexpected expenses and loss of market share. We cannot test for all defects, and occasionally defects may be detected after products have been shipped or installed. These defects could cause us to incur significant costs, including product replacement, and may adversely affect our customer relations and business reputation. Additionally, because we source many of our components from third party manufacturers, our ability to control product quality is limited.

Our grid tie business strategy is to focus on securing EPC contracts. By their nature, these contracts include construction industry agreement terms including, amongst others, liquidated damages and indemnification obligations. We try to use our commercial best efforts to minimize our liability on such exposure. If negative factors occur that are beyond our control or if disputes arise and are not settled favorably, they may have an adverse impact on our business, financial condition and results of operations.

**Downturn in Economic and Market Conditions**

The lighting industry is susceptible to downturns related to declines in general economic conditions. 2012 continues to be challenging for the solar lighting industry, as demand for solar lighting products and components are adversely impacted by the global financial crisis and corresponding decreases in or postponement of infrastructure spending budgets.

We may continue to be adversely impacted by downturns in general economic and market conditions, both nationally and internationally. Economic downturns generally, or in our markets specifically, would have a material adverse effect on our, cash flows, financial condition and results of operations. Our future results of operations may experience substantial fluctuations from period to period as a consequence of these factors, and such conditions and other factors affecting capital spending may affect the timing of orders. As we sell to governments who continue to suffer from deficit spending and may need to cut spending further, we may experience a softening demand for our products.

Continued economic adversity coupled with a decline in our revenue could adversely affect our ability to meet capital requirements, support working capital requirements and growth objectives, or otherwise adversely affect our business, financial condition and results of operations.

**Liquidity and Capital Requirements**
We face significant challenges in order to achieve profitability. There can be no assurance that we will be able to maintain adequate liquidity or achieve long-term viability. Our ability to meet our obligations in the ordinary course of business is dependent upon our ability to establish profitable operations or raise capital, as needed, through public or private debt or equity financing, or other sources of financing to fund operations. Our credit facility with BMO Financial Group has expired and we are currently in the advanced stages of finalizing a new credit facility by mid-August 2012. As well, we have initiated the process to raising up to CDN$4 million in cash by way of a non-brokered private placement. It is expected insiders of our company, as defined by the regulations of the TSX Exchange, will commit to participating in at least 40% of the anticipated offering. The private placement is expected to close by mid-August 2012. There can be no guarantee that we will be able finalize both the new credit facility and the closing of the private placement by mid-August 2012 or at all.

The disruption of the capital markets and the continued decline in economic conditions, amongst other factors, could negatively impact our ability to achieve profitability or raise additional capital when needed. In order to optimize the growth of the business, we may need to seek to raise additional debt or equity financing. There can be no assurance that we will be able to identify a source of such financing, or that such financing will be available on terms acceptable to it, if at all. Moreover, should the opportunity to raise additional capital arise, any additional debt or equity financing could result in significant dilution of the existing holders of our common shares.

**Litigation Risk**
We may in the future become involved in disputes, litigation or arbitration proceedings. The results of these proceedings cannot be predicted with certainty. If we are unable to resolve these disputes favorably, it may have an adverse impact on our business, financial condition and results of operations.

**Acquisitions or other Business Transactions**
We may, when and if the opportunity arises, acquire other products, technologies or businesses involved in activities, or having product lines, that are complementary to our business. Acquisitions involve numerous risks, including difficulties in the assimilation of the operations, technologies and products of the acquired companies, the diversion of management's attention from other business concerns, risks associated with entering new markets or conducting operations in industry segments in which we have no or limited experience and the potential loss of key employees of the acquired company. Moreover, there can be no assurances that any anticipated benefits of an acquisition will be realized. Future acquisitions by us could result in potentially dilutive issuances of equity securities, the use of cash, the incurrence of debt and contingent liabilities, and write-off of acquired research and development costs, all of which could materially adversely affect our financial condition, results of operations and cash flows.

**Potential Reorganization of Operations or Product Offerings**
We routinely review our operations for additional efficiency opportunities or to reduce costs. That analysis may lead to the determination to close, eliminate, rationalize or reduce operations and divisions and/or alter the sales, manufacturing or distribution structure. Should we decide to pursue any such changes, it may incur additional charges and losses in connections with such changes in the future, and such charges and losses may be material. In addition, we could experience difficulties, disruptions or delays in the implementation of any such changes and there can be no assurance that we will be able to implement these programs successfully or on a timely basis.

**Geopolitical and other Global or Local Events**
We currently distribute our products in a number of markets. Accordingly, geopolitical and other global or local events may have a significant effect on our operations. Various events, including natural disasters, extreme weather conditions, labour disputes, civil unrest, war, political instability, terrorism, and contagious illness outbreaks, or the perceived threat of these events, may cause a disruption of our normal operations and may disrupt the domestic and international travel of our distributors and sales agents.

# 8. Definitions and reconciliations

The discussion in this section is qualified in its entirety by the *Caution regarding forward-looking statements* at the beginning of the MD&A.

## Adjusted EBITDA

For the three and six month periods ended June 30, 2012 and June 30, 2011, we are disclosing adjusted EBITDA, a non-IFRS financial measure, as a supplementary indicator of operating performance. We define adjusted EBITDA as net loss before interest, income taxes, amortization, non-cash stock-based compensation, retirement provisions, and terminated Lightech agreement costs. We are presenting the non-IFRS financial measure in our filings because we use it internally to make strategic decisions, forecast future results and to evaluate our performance. We are also presenting this measure because we believe that our current and potential investors and many analysts use it to assess our current and future operating results and to make investment decisions. Adjusted EBITDA is not intended as a substitute for IFRS measures.

| Adjusted EBITDA reconciliation | Three months ended June 30 | | Six months ended June 30 | |
|---|---|---|---|---|
| *(US$ in thousands)* | **2012** | **2011** | **2012** | **2011** |
| Net loss | (1,451) | (174) | (2,362) | (16) |
| Add/(deduct): | | | | |
| Interest | - | - | - | 4 |
| Income tax expense/(recovery) | - | 54 | - | 157 |
| Amortization | 288 | 259 | 565 | 534 |
| EBITDA* | (1,163) | 139 | (1,797) | 679 |
| Terminated Lightech agreement costs/(recovery) | - | 88 | - | 184 |
| Retirement provision | - | 290 | - | 290 |
| Non-cash stock based compensation | 90 | 116 | 151 | 173 |
| Adjusted EBITDA* | (1,073) | 633 | (1,646) | 1,326 |

* A Non-IFRS measure