

# PYROGENESIS CANADA INC. MANAGEMENT'S DISCUSSION AND ANALYSIS

For the three and twelve months ended December 31, 2012

(All figures expressed in Canadian dollars unless otherwise noted.)

April 30, 2013

This management's discussion and analysis (MD&A) of PyroGenesis Canada Inc. ("PCI" or the "Company") have been prepared by management and should be read in conjunction with the audited financial statements and related notes thereto of the Company for the period ending December 31, 2012 which were prepared in accordance with International Financial Reporting Standards ("IFRS"). The Company's Audit Committee has reviewed and approved this MD&A.

The MD&A was prepared as of April 30, 2013. Additional information regarding the Company is available on SEDAR (www.sedar.com).

#### FORWARD-LOOKING STATEMENTS

This MD&A contains forward-looking statements. All statements other than statements of historical fact contained in this MD&A are forward-looking statements, including, without limitation, the Company's: statements regarding its products and services; relations with suppliers and customers; future financial position; business strategies; potential acquisitions; potential business partnering; litigation; and plans and objectives. In certain cases, forward-looking statements can be identified by the use of words such as "plans", "expects" or "does not expect", "is expected", "budget", "scheduled", "estimates", "forecasts", "intends", "anticipates" or "does not anticipate", or "believes", or variations of such words and phrases or state that certain actions, events or results "may", "could", "would", "might" or "will be taken", "occur" or "be achieved" and similar words or the negative thereof. Although management of the Company believes that the expectations represented in such forward-looking statements are reasonable, there can be no assurance that such expectations will prove to be correct.

In particular, this MD&A contains forward-looking statements relating to:

- the business strategies of the Company;
- the capital resources of the Company;
- the ability of the Company to increase sales, including as a result of the successful completion of the Company's current projects;



- management's expectation that the Company will achieve sustained annual growth and profitability, and that gross margins will increase resulting in a decrease in expenses as a percentage of revenue; and
- the Company's overall financial performance.

By their nature, forward-looking statements require assumptions and are subject to inherent risks and uncertainties including those discussed herein. In particular, forward-looking statements relating to future sales, growth and profitability are based on the assumption that current projects will be completed and the Company will be awarded certain anticipated contracts pursuant to recent negotiations with, and statements made by, third parties. There is significant risk that predictions and other forward-looking statements will not prove to be accurate. Readers are cautioned to not place undue reliance on forward-looking statements made herein because a number of factors could cause actual future results, conditions, actions or events to differ materially from the targets, expectations, estimates or intentions expressed in the forward-looking statements.

The future outcomes that relate to forward-looking statements may be influenced by many factors, including, but not limited to, the strength of the Canadian and US economy; operational, funding, and liquidity risks; unforeseen engineering and environmental problems; delays or inability to obtain required financing and/or anticipated contracts; risks associated with licenses, permits and regulatory approvals; supply interruptions or labour disputes; foreign exchange fluctuations and collection risk; competition from other suppliers or alternate less capital intensive energy solutions; and the risk factors described under the heading "Risk Factors" in the Company's annual information form for the financial year ended December 31, 2012. We caution that the foregoing list of factors is not exhaustive, and that, when relying on forward-looking statements to make decisions with respect to the Company, investors and others should carefully consider these factors, as well as other uncertainties and potential events, and the inherent uncertainty of forward-looking statements.

Although the Company has attempted to identify important factors that could cause actual actions, events or results to differ materially from those described in forward-looking statements, there may be other factors that cause actions, events or results not to be as anticipated, estimated or intended. There can be no assurance that forward-looking statements will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements. Accordingly, readers should not place undue reliance on forward-looking statements. Forward-looking statements are provided as of the date of this MD&A, and the Company assumes no obligation to update or revise such forward-looking statements to reflect new events or circumstances except as required under applicable securities laws.

The forward-looking statements contained herein are expressly qualified in their entirety by this cautionary statement. The forward-looking statements included in this MD&A are made as of the date of this MD&A or such other date specified herein.



# **OVERVIEW**

PyroGenesis is a leader in the design, development, manufacture and commercialization of plasma torches and advanced plasma waste to energy systems. The Company's torches are some of the most reliable in the world and its systems are capable of converting waste into energy and non-hazardous products. The Company's patented, proprietary and proven technologies have been developed over 20 years. Accepted systems by the US Navy and the US Air Force set the Company's business apart from many of its competitors.

The Company has four distinct product offerings. (i) Torches: the Company has recently been aggressively developing the market for its plasma torches as a standalone product. The Company has found that its torches have novel and promising applications in the mining and metallurgical industry as well as in the petrochemical sector to name only a few; (ii) Engineering Services: the Company's engineering services and piloting capabilities are being increasingly sought after due to its capable and innovative team of professionals and its state of the art facilities; (iii) Marine-Based Waste Treatment: the Company offers a marine based Plasma Arc Waste Destruction System ("PAWDS") which can destroy combustible waste on board ships; and a (iv) Land-based Waste Treatment: Plasma Resource Recovery System ("PRRS") which is designed to treat a range of industrial, hazardous, clinical and municipal waste streams on land.

# SELECTED FINANCIAL INFORMATION

	Three mor 2012	nths en	ded Dec. 31 2011 Restated	% Change	Twel∨e mor 2012	nded Dec. 31 2011 Restated	% Change	
Revenues	\$ 1,221,501	\$	.1,326,420	-7.9% \$	.3,323,236	\$	.4,610,358	-27.9%
Cost of sales and services	1,189,195		.1,424,671		.4,841,633		.5,626,263	
Selling, general and administrati∨e	738,185		.522,839		.3,832,087		.4,510,809	
Financing charges	134,288		.252,479		.468,791		.859,189	
	2,061,668		.2,199,989		.9,142,511		.10,996,261	
Loss from operations	.(840,167)		.(873,569)		(5,819,275)		(6,385,903)	
Other income	2,032		.5,101		12,147		51,964	
Public company listing	.=		.=		=		.(694,877)	
Loss on convertible debenture	.(2,007)		. <del>-</del>		.(2,007)		. <del>-</del>	
Total comprehensive loss	\$ .(840,142)	\$	(868,468)	-3.3% \$	(5,809,135)	\$	.(7,028,816)	-17.4%
Loss per share - basic	.(0.01)	\$	(0.02)		\$ .(0.09)	\$	.(0.13)	



#### Statement of Financial Position at:

	[	December 31 2012	December 31 2011 Restated
Total assets Total liabilities	\$	10,235,869	\$ .12,205,455 .12,837,082
Shareholders' equity	\$	.(2,454,311)	\$ .(631,627)

# **RESULTS OF OPERATIONS**

#### Revenues

Revenues for the 2012 year totaled \$3,323,236, a decrease of 27.9% from the \$4,610,358 reported for the 2011 business year. This decrease in revenue in 2012 reflects the "gap period" the Company has been faced with while securing its first reorder from its established client base. During 2012, the Company completed the last of the work on its contract with the US Air Force and signed and executed several smaller contracts. In late November 2012, the Company announced that it had secured a \$5.5 million reorder from Newport News Shipbuilding for a plasma waste destruction system to be installed on the CVN-79 the next US Navy Ford-class air craft carrier which is to be delivered and recognized into income over the next two years. The Company has received the initial funds of \$2.1 million of the \$5.5 million, and the balance to be released over the next 18 months.

Revenues for the fourth quarter of fiscal year 2012, ending December 31, 2012 (hereafter "2012-Q4") were \$1,221,501, a decrease of 7.9% over revenues of \$1,326,420 reported during the same period in fiscal 2011. It is expected that revenues will increase in future quarters reflecting increased project progress particularly on the reorder from Newport News Shipbuilding.

#### Cost of Sales and Services

Cost of Sales and Services	Three month 2012	s ended Dec. 31 2011 Restated	% Change	Twelve months of 2012	ended Dec. 31 % 2011 Change Restated
Salaries and sub-contracting	.289,204	.931,089	-68.9%	2,053,098	3,654,717 -43.8%
Materials and equipment	.548,710	.43,544	1160.1%	1,100,125	1,251,122 -12.1%
Sub-total Direct Cost of Sales and Services	.837,914	.974,633	-14.0%	3,153,223	4,905,839 -35.7%
Manufacturing overhead	.249,219	.156,745	59.0%	.681,774	.700,238 -2.6%
Amortization of licences	.349,268	.351,980	-0.8%	1,397,073	.1,115,031 25.3%
Sub-total before government grants and research and development credits Government grants and research and development tax credits	.1.436.401	.1,483,358	-3.2% 321.2%	.5,232,070	6,721,108 -22.2% (1,094,845) -64.3%
Total Cost of Sales	\$ .1,189,195	\$ .1,424,671	-16.5%	\$4,841,633	5,626,263 -13.9%



Cost of Sales before government grants and research and development tax credits for the 2012 year, was \$5,232,070, a decrease of 22.2% over the \$6,721,108 reported during the prior fiscal year. This is mainly due to salary costs and sub-contracting in 2012 having been brought in line with the volume of work on hand as part of management's closer control over technical resources.

As previously announced, in May 2012, the Company implemented significant cost containment measures. As a result of these measures, management believes that the Company is better positioned and has become more competitive as many of the cost containment measures will have a long term positive impact on the company's profitability, as an example rental expenses were reduced by approximately 50% to \$350,000 per year.

During 2012, management has been restructured to permit more focus on business development and operations. The results of these changes has been particularly positive on operations, where the Company has benefitted from better utilization of resources and cost containments, on-time delivery, meeting key project milestones, and improved reporting with respect to project progress and issues.

The level of Material and Equipment costs incurred on projects during 2012 has decreased by 12.1% which is a reflection of the decreased business volume during the "gap period" and the nature of the projects executed. The actual value of Material and Equipment costs can vary very significantly from one quarter to another, and is influenced directly by the number of projects being executed and the level of Material and Equipment cost components in the contracts under execution.

The level of government grants and research and development ("R&D") tax credits recorded in fiscal 2012 was \$390,437, versus \$1,094,845 in 2011. The decrease in the R&D tax credits recorded is due to (i) less favorable tax treatment available to public companies as the Company went public in July 2011 (credits available from the Federal government are now in the form of non-refundable credits) as well as (ii) the decreased spending on R&D eligible projects as the company focused greater portion of its resources on revenue generating projects.

During 2012-Q4, Cost of Sales and Services before government grants and research and development tax credits were \$1,436,401 versus \$1,483,358 for the same period in the prior year; a reduction of 3.2%. Manufacturing overhead increased in 2012-Q4 over 2011-Q4 due to increased losses on foreign exchange on project costs which accounted for a net increase of \$48,090, as well as increased repairs and maintenance costs of \$42,664 which related to the relocation of the manufacturing facility to a more cost effective location, as discussed above.



# Selling, General and Administrative Expenses

	Thre	ee months e 2012	nde		% Change	Twelve months ended Dec. 31 % 2012 2011 Change			
		2012		Restated	_	2012		Restated	_
Salaries	\$	.362,504	\$	.270,576	34.0%	\$ .1,267,275	\$	.1,195,579	6.0%
Professional fees		.(33,830)		.172,879	-119.6%	.567,941		.1,311,024	-56.7%
Royalty		.=		=		, <del>-</del>		.75,000	-100.0%
Office and general		.142,753		.61,327	132.8%	.354,079		.446,748	-20.7%
Travel		.49,070		.75,528	-35.0%	.241,999		265,912	-9.0%
Insurance & taxes		.11,622		.13,014	-10.7%	.88,808		.113,709	-21.9%
Interest and bank charges		.30,238		.31,696	-4.6%	.71,579		.54,174	32.1%
Donations		.2,100		.=		.3,980		.1,308	204.3%
Advertising		.20,101		4,330	364.2%	.25,420		.14,220	78.8%
Amortization Machinery & Equipment		.70,282		.92,454	-24.0%	.258,951		322,100	-19.6%
Sub-total	\$	.654,840	\$	.721,804	-9.3%	\$ ,2,880,032	\$	.3,799,774	-24.2%
Stock based compensation		.83,345		(198,965)	-141.9%	.952,055		.711,035	33.9%
Total		.738,185		.522,839	41.2%	.3,832,087		.4,510,809	-15.0%

Selling, general and administrative expenses (before Stock based compensation expense) for the 2012 fiscal year are \$2,880,032, a decrease of 24.2% versus \$3,799,774, reported in fiscal year 2011. The single largest reduction in costs over 2011 was in professional fees. In 2011, the Company went through a reverse takeover pursuant to which it became publicly traded and as a result, the level of professional fees incurred was exceptionally high. The level of professional fees in 2012 is more representative of regular cost levels after rationalizing of the level of external services employed.

Additional savings were realized in office & general, travel, and insurance costs. After adjusting for exceptional spending in 2011 associated with the reverse takeover, overall SG&A costs decreased by 6.0%.

The costs associated with stock based compensation (a non-cash item on which options vest over a four year period) commenced in 2011-Q3 pursuant to the grant of stock options in accordance with the Company's stock option plan . In 2012, the Stock based compensation of \$952,055 represents the expense for a full year, whereas the cost reported in 2011 reflects the cost for two quarters.

Selling, general and administrative expenses (before Stock based compensation) for the 2012-Q4 were \$654,840, a decrease of 9.3% versus \$721,804 in 2011-Q4. Increases in salary costs, office and general and advertising costs, were offset by recovery on professional fees, lower travel, insurance and amortization of property and equipment.

Management is confident that additional cost reductions will be achieved through a closer management of expenses and better management of information from its recently implemented ERP (Enterprise Resource Planning) System as well as through its realigned management structure.



# Financing Charges

Financing Charges	Th	ree months	ende	d Dec. 31	%	Twelve months e	nde	d Dec. 31	%
		2012		2011 Change Restated		2012	2012 2011 Restated		
Financing charges	\$	.134,288	\$	.252,479	-46.8%	\$ .468,791	\$	.859,189	-45.4%

Financing charges for the 2012 fiscal year decreased by 45.4% to \$468,791 from \$859,189 for 2011, and deceased 46.8% in 2012-Q4 versus 2011-Q4.

The decrease in financing charges is primarily due to the repayment of the Company's bank lines-of-credit which occurred in the second half of fiscal 2011. Financing charges in 2012 relate primarily to the non-current debt and current portion of long-term debt.

As at the end of 2012-Q1, the Company had repaid all bank lines-of-credit and Venture Capital loan (\$1,000,000 convertible debenture from Fier Croissance Durable). As such, there is currently no debt owed to non-related parties.

#### Amortization of Property and Equipment

	Three	ree months ended Dec. 31			%	Twe	ve months	ende	d Dec. 31	%
		2012		2011 Change Restated			2012 Res			Change
Amortization of machinery and equipment	\$	.70,282	\$	92,454	-24.0%	\$	.258,951	\$	322,100	-19.6%

Amortization of property and equipment decreased by 19.6% to \$258,951 in 2012 from the 2011 level of \$322,100. In 2012-Q4, amortization expenses decreased by 24.0% over the same period in 2011. The reduction in amortization expenses is primarily a result of decreased investments in property and equipment during both 2011 and 2012 compared to investments made in 2010 when major assets were acquired.



# Research and Development Tax Credits

	Three months ende	ed Dec. 31 %	Twel∨e months e	nded Dec. 31	%
	2012	2011 Change Restated	2012	2011 Restated	Change
Research tax credits	\$ .242,264 \$	58,687 312.8%	\$ .361,325 \$	.1,058,192	-65.9%

R&D tax credits of \$361,325 were accrued in 2012 fiscal year versus \$1,058,192 in 2011. When PyroGenesis became a public company in July 2011, its entitlement to R&D tax credits was significantly reduced and the credits available from the Federal government are now in the form of non-refundable credits. Additionally, projects qualifying for R&D tax credit treatment have decreased significantly in 2012 due to the fact that the Company is now commercializing its product lines.

Investment in R&D remains a priority for the Company, as new applications for its core technologies are identified. Whereas a significant source of funding for R&D projects in the past has been government R&D tax credits, current and future R&D investment type projects will be less reliant on this form of funding as i) Management believes this form of funding will be increasingly reduced by governments in general and ii) as a public company PyroGenesis entitlement to such funding is reduced. As such, the Company will rely more heavily on partnerships and other granting agencies.

In 2012-Q4, the Company accrued \$242,264 of R&D tax credits versus \$58,687 in 2011-Q4. The amount accrued in 2012-Q4 includes approximately \$120,000 of recoveries in excess of the amounts accrued in earlier periods.

#### Net Profit/Loss

	Three months ended Dec. 31				%	Twelve months	ended Dec. 31	%		
		2012		2011 ( Restated	Change	2012	2011 Change Restated			
Loss from operations	\$	(840,167)	\$	.(873,569)	-3.8%	\$ .(5,819,275)	\$(6,385,903)	-8.9%		
Total comprehensive loss		(840,142)		.(868,468)	-3.3%	.(5,809,135)	(7,028,816)	-17.4%		

Loss from operations for fiscal 2012 was \$5,819,275 compared to a loss of \$6,385,903 in fiscal 2011; a decrease of 8.9%. The 2012-Q4, loss from operations decreased by 3.8% over the same period in the prior year (\$840,167 compared to \$873,569).

Total comprehensive loss for fiscal 2012 was \$5,809,135 compared to a loss of \$7,028,816 in fiscal 2011, for a decrease of 17.4%. The 2011 loss included a one-time initial public listing cost of \$694,877.

Excluding this one-time cost in 2011, the 2012 loss is 8.3% decreased from the 2011 level. The 2012-Q4 total comprehensive loss decreased by 3.3% over the prior year.



2012 has been defined by the management as a "gap period", between the announcements in 2011 of the acceptance of its first orders by the US Navy and the US Air Force, and a reorder of one of the Company's systems. The duration of the "gap period" was longer than initially anticipated by management. During 2012, Management restructured the organization with a view of rationalizing labor and reducing expenses thereby reducing its break-even point.

Despite, the longer than anticipated "gap period" and decreased revenues over 2011, the Company has restructured and strengthen its key management group, it has decreased its fixed operating costs, it has improved gross margin on execution of projects, and it has improved its operational and financial reporting ability.

Loss from operations for 2012 before non-cash items (stock based compensation: \$952,055; amortization of licenses and property and equipment: \$1,656,024) was \$3,211,196. Before including these non-cash items, loss from operations for the quarter is \$337,247.

#### **SUMMARY OF QUARTERLY RESULTS**

			2012	2011 Restated					
	Q4	Q3	Q2	Q1	Q4	Q3	Q2	Q1	
Revenues	.1,221,501	516,595	777,197	807,943	.1,326,420	1,909,231	.167,054	.1,207,653	
Loss from operations	(840,167)	(1,742,758)	.(1,358,294)	.(1,878,056)	.(873,569)	.(2,165,062)	(2,643,105)	.(704,167)	
Total comprehensive loss	(840,142)	(1,742,581)	.(1,358,249)	.(1,868,163)	.(868,468)	.(2,815,300)	(2,643,105)	.(701,943)	
Net loss per share - basic	(0.01)	(0.03)	.(0.02)	.(0.03)	.(0.02)	(0.05)	.(0.05)	.(0.01)	

Revenues and losses from operations have varied considerably from quarter to quarter. Revenues are recognized based on a percentage of completion basis, and project work is dependent on customer timing for project engineering, manufacturing, and testing.



#### LIQUIDITY AND CAPITAL RESSOURCES

During the 2012 fiscal year, the primary sources of funding for PyroGenesis have been cash generated through the sale of shares. On March 29, 2012, PyroGenesis completed its second public offering whereby it issued 4,424,555 units at a price of \$0.80 per unit (each unit being comprised of one common share and one warrant for the purchase of a common share at \$1.20 expiring on March 29<sup>th</sup> 2015, for aggregate gross proceeds of \$3,539,644.

At December 31, 2012, PyroGenesis had cash on hand of \$2,195,571 and the Company's current liabilities exceeds its current assets as at December 31, 2012 in the amount of \$1,436,384 (2011 - \$1,374,877).

At December 3, 2011, PyroGenesis had available an investment tax credit demand facility. In January 2012, the facility has been repaid in full by the Company and is no longer in place. It is the Company's intent to reinstate a revolving line of credit once business levels increase to justify such a line.

On March 29, 2012, PyroGenesis paid off its Venture Capital loan (\$1,000,000 convertible debenture from Fier Croissance Durable).

Since the end of 2012-Q1, there is no debt owing to non-related third parties.

Since the Company went public in July 2011, the primary source of funding has been the issuance of shares via public offerings. The Company's ability to raise additional funds from the equity markets will largely depend upon general market conditions and the Company's ability to secure contracts. Current market conditions do limit the potential to raise additional funding.

In late November 2012, the Company announced that it had secured a \$5.5 million reorder from Newport News Shipbuilding for a plasma waste destruction system to be installed in a new US Navy air craft carrier. The Company has received a purchase order for the initial \$2.1 million of the \$5.5 million, and the balance will be released over the next 18 months. This order provides the Company a solid foundation of backlog and workload going into 2013, as it works at securing additional new orders.

#### **GOING CONCERN**

During 2011 and 2012, due to the reduced level of revenues, cash generated on projects with external clients was not sufficient to meet the overall cash requirements to cover operating costs. For the Company to generate sufficient positive cash-flow from projects and meet current cash requirements, the level of business intake and revenues must increase. Management's plan for 2013, calls for increased intake and revenues, competitive gross margins and controlled SG&A expense levels.



The December 31, 2012 financial statements have been prepared using International Financial Reporting Standards ("IFRS") applicable to a going concern, which contemplates the realization of assets and settlement of liabilities in the normal course of business as they become due.

The Company has incurred material operating losses in 2011 and 2012 which have occurred as a result of the longer than anticipated "gap period" between the initial orders for our waste destructions systems sold to the US Navy and US Air Force, and obtaining the critical reorders. During this period of time, the Company has lived through many challenges including a demanding cash management situation. During 2011 and 2012, the funds raised in the initial public offering and the subsequent second public offering which took place in March 2012, have allowed the Company to deal with the difficult market period all the while allowing management to restructure its operations and further develop its technologies and markets.

#### **CASH USED IN OPERATIONS**

	T	hree months 2012	end	ed Dec. 31, 2011 Restated	Tv	velve months 2012	end	ed Dec. 31, 2011 Restated
Cash provided by (used) by operating activities	\$	.915,269	\$	.(1,853,826)	\$	.353,789	\$	.(1,185,913)
Cash provided by (used in) investing actiities		.(166,095)		.(957,125)		(591,127)		. (504,435)
Cash provided by (used in) financing activities		.322,148		.2,513,590		.1,951,513		.1,466,663
Increase (decrease) in cash		.1,071,322		.(297,361)		.1,714,175		.(223,685)

For the twelve months ending December 31, 2012, cash flow from operating activities resulted in a generation of cash of \$353,789 compared to a net use of cash from operating activities of \$1,185,913 for the same period the prior year.

Despite the Net Comprehensive Loss in 2012 of \$5,809,135, items not requiring outlay of cash totaled \$2,625,561, for a net use of cash from operations of \$3,183,574. This net use of cash was offset positively by a net change in non-cash operating working capital items of \$3,537,363 as disclosed in note 16 of the financial statements, resulting in a net cash flow from operations in 2012 of \$353,789.

For the three months ended December 31, 2012, cash provided by operating activities was \$915,269, compared to a negative use of cash of \$1,853,826 for the same period in the prior year. Strong level of contract down-payments in 2012-Q4 were responsible for the positive cash flow from operations for fiscal 2012 and 2012-Q4.

Investing activities during the twelve month period ended December 31, 2012 resulted in cash use of \$591,127 compared to a cash use of \$504,435 in 2011. In 2012, the investment activity comprised of investments in property and equipment, of which the



bulk of the funds were spent on the development of a new torch asset that the Company is developing to treat ozone destroying substances (ODS).

For the three months ended December 31, 2012, cash used in investing activities was \$166,095 compared to \$957,125 for the same period in the prior year.

Financing activities for the twelve months ended December 31, 2012 generated \$1,951,513, compared to \$1,466,663 for the same period in the previous year. During 2012, proceeds from equity issuance raised net cash of \$3,040,518; \$1,240,000 was used for the repayment of bank debt, and the repayment of long-term debt. During 2012, as described in note 13 of the financial statements, the \$40,000 per month balance of sale payments were not made during the year and as such an amount of \$466,591 has been deferred until March 31, 2014.

For the three months ended December 31, 2012, financing activities resulted in positive cash of \$322,146 versus \$2,513,590 for the same period in the prior year.

For the twelve months ended December 31, 2012, the net cash position of the Company increased by \$1,714,175 as compared to a net decrease of \$223,685 for the same period in the prior year, reflecting the positive impact of the significant down-payments received on a contract in December 2012. For the three months ended December 31, 2012 the net cash position improved by \$1,071,322 compared to a decrease of \$297,361 for the same period in the previous year.

# **RELATED PARTY TRANSACTION**

Details of related party transactions are disclosed in note 18 of the financial statements for the period ended December 31, 2012.

There were no material changes during the 2012 fiscal year in the nature or extent of the related party transactions from those conducted in the 2011 fiscal year, and these transactions are in the normal course of business.

#### **COMPARATIVE FIGURES AND RESTATEMENT OF PRIOR YEARS**

Management has determined that restatements to the earnings of the Company were required for the years ended December 31, 2010 and December 31, 2011. The full details of the restatements are presented in Note 25 of the Financial Statements of December 31, 2012.



### **SUBSEQUENT EVENTS**

On February 16, 2013 Dr Chris Twigge-Molecey, P.Eng., FCIM was appointed as a director of the Company. Having worked for the Hatch Group for some forty years in a wide range of technical and management positions in the minerals and metallurgical field, Dr. Twigge-Molecey currently serves as Senior Advisor at Hatch Ltd. after having served on the main board for several years. Dr. Twigge-Molecey has contributed to Hatch's expansion by establishing the group's presence in Russia, Peru, Brazil and its very successful operations in Chile and China. Moreover, he has made some notable technical contributions to the Hatch group by implementing technology development programs, managing research and development programs as well as designing and commissioning full-scale plant.

# **OUTLOOK**

In retrospect, 2012 has indeed been a challenging year for your Company.

The great successes of 2011, of having our two main projects accepted by the US Navy and US Air Force, were slow in translating into the long anticipated re-order, which Management believed would provide your Company with unprecedented credibility and fuel its growth.

This reorder did occur in 2012-Q4 when the US Navy reordered one of PyroGenesis' marine plasma waste destruction system for their next Ford-class Air Craft Carrier. However, the Gap Period (the period between the announcements in 2011 of the acceptance of its first orders by the US Navy and the US Air Force, and reorders of the Company's marine and/or land-based systems) was particularly challenging for your Company. Indeed the majority of 2012 saw the Company managing the gap period and refocusing its strategic objectives with the intent of leveraging off its strengths. Management believes that as a result of the changes implemented in 2012 the Company is now better positioned to secure multiple contracts and as a result reach profitability sooner.

The Gap Period was particularly challenging for the Company given the financially unstable times we, and our customer base, found ourselves in. The economic slowdown, and lower natural gas prices, undoubtedly had an impact on the waste to energy sector. Because PyroGenesis' technologies focus on niche markets now includes mining and metallurgy, military, isolated communities, and the marine industry, its value proposition is more robust and as such is better positioned to be competitive even under more strained fiscal times.

Management, having identified the risks associated with a prolonged Gap Period, prudently looked at various strategies to mitigate the impacts associated with such an adverse economic environment. As such, the Company (i) engaged in significant cost containment initiatives to lower fixed and variable costs while at the same time (ii) defined new market niches for its other two potential business lines (Torch



Manufacturing and Engineering Services) with a view of increasing its backlog of new orders. Once again, management is proud to announce that it has been successful on both of these fronts.

Many of the cost containment measures implemented by Management have had an immediate impact on profitability (for example, premise rent expense and utilities have, as a result of a permanent relocation of its manufacturing facility, decreased by over 50% to \$350,000 per annum). Furthermore, during the Gap Period, the Company not only rationalized its work force, but also broadened its focus from ensuring the successful delivery and timely acceptance of its two main projects, to undertaking an aggressive business development effort now that its main product lines have been commercially validated by their acceptance and reorder. Concurrently, the Company has implemented a Management Information System designed to ensure budgetary controls based on past experiences, provide timely information, while at the same time relieving itself from the labor intensive nature of the system that was previously used.

Separately, as a result of having focused its efforts on defining new market niches, Management has identified several new markets for which its torch products are already commercially viable. These new markets are already making a significant contribution to the Company's overall performance, and Management believes that this market segment may in time, eclipse the results from the Company's environmental product offering.

Looking forward, and as a result of these changes and developments, Management believes that the Company is now positioned as a strong and credible player within both the market for plasma based waste destruction technologies as well as that for niche torch applications. The Company has successfully realigned its workforce, rationalized and significantly reduced its expenses, paid off all bank and venture capital debt and, is therefore ideally positioned to expand its business across all sectors.

The Company's focus has changed in 2012 from one of ensuring a reorder of its game changing plasma-based waste destruction to that of increasing revenues from both its core business as well as newly identified Torch and Engineering Services niches. Management is of the opinion that, although the future is not without its challenges, the recent announced contracts totaling in excess of \$7.8MM (one plasma system 5.5MM, one torch contract 2.2MM, other contract \$0.1MM) position the Company well to build on this success and execute on its strategy embarked on in 2012.

As a result, Management expects to achieve significant growth in revenues and profitability in the mid-term. In the short term however, quarterly results will be susceptible to quarter over-quarter variability as PyroGenesis builds its backlog of orders and increases personnel to service this business.

#### **ADDITIONAL INFORMATION**

Additional information is contained in the company's annual information form filed on SEDAR on November 4, 2011 (the "AIF"). The AIF and other additional information regarding the Company can be found on SEDAR at <a href="www.sedar.com">www.sedar.com</a>.