WTERT Bi-Annual Meeting
Columbia University
October 2008

PlascoEnergy GROUP

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Burn it

Bury it


Complete Conversion of Waste to Value
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Waste as a Resource

- Affluent urban societies create ¾ of a tonne of solid waste per person per year
- Jurisdictions have established policies to
  - **Maximize recycling,**
  - **Maximize value recovery and**
  - **Minimize disposal**
- Four imperatives will be key:
  - Reduction **action by consumers and producers**
  - Maximize recycling **to the limits of feasibility**
  - Eliminate environmental impact on **land, water and air**
  - Maximize net economic value **from residual waste**

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Recovery vs. Disposal

- California legislation recognizes conversion of waste to useful products without air emissions and without contamination of water or land as a concept that implements the “waste as a resource” policy

- European Union (Jan 2008) considers Plasco Conversion System as Recovery not Disposal

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Ottawa Facility: Commercial Module

Ground breaking: Sept 2006

Construction: 9 months

Power sales: 13 months

MSW receipt: 16 months

Power from MSW: 17 months

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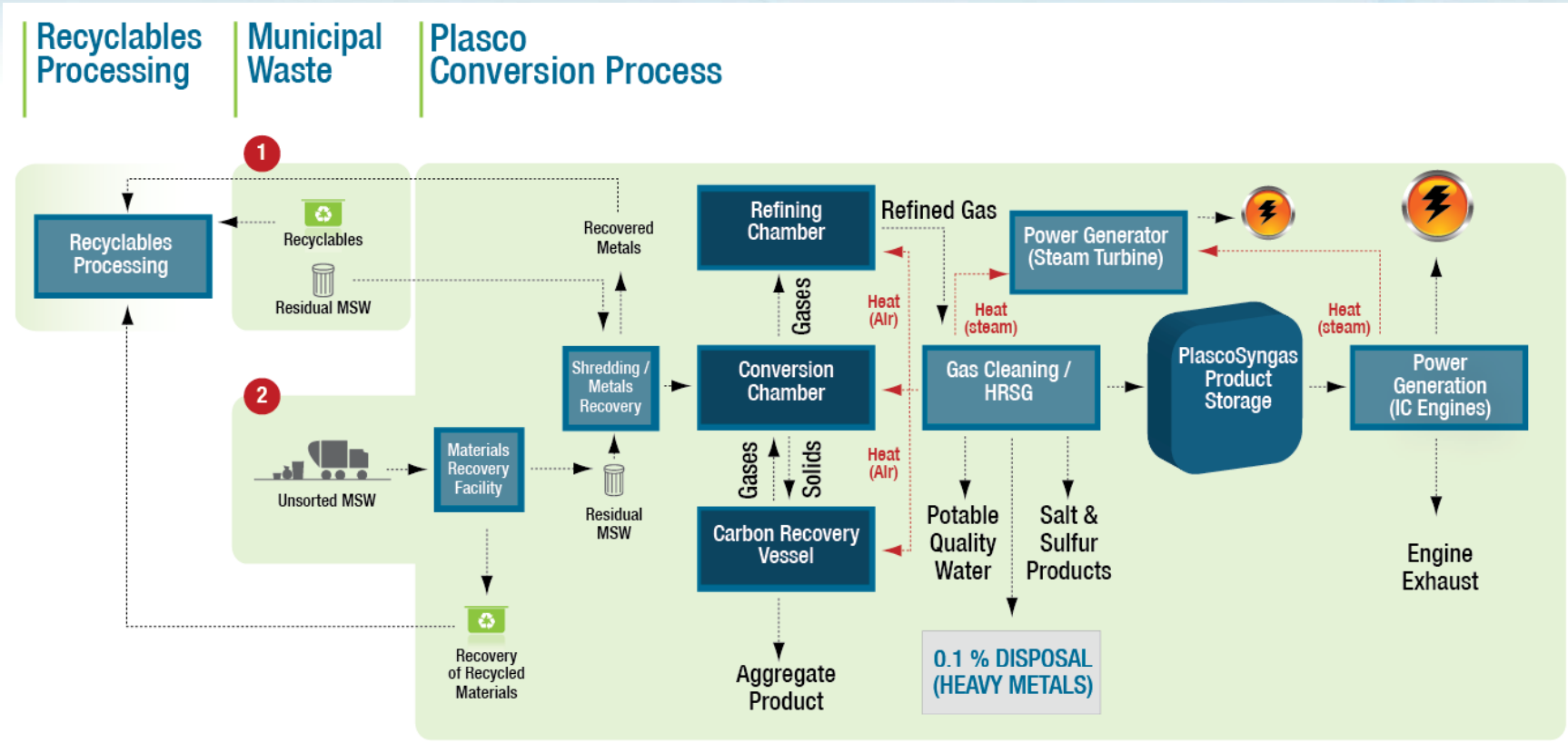
Simplified Flow Diagram



Maximum Technical Advantage

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Plasco Conversion is Not Incineration

Plasco Trail Road

- Value Recovery
- NO Stack
- NO Emissions from Conversion
- Tallest piece of equipment is 16 m (H_2S Absorber)

Burnaby Incinerator

- Waste Disposal
- Emissions from MSW Combustion
- 60 m stack height

Maximum Value

What Becomes of the Waste?

Per Tonne (Based on 16,500 MJ @ 30% moisture)	Type
2600 Nm^3*	Syngas @ LHV = 4.85 MJ/Nm3 (dry basis)
150 kg	Vitrified Slag
5 kg	Sulphur
5 - 10 kg	Salt
300 L	Water (potable water standards)
1.3 kg	Heavy metals and particulate**

* Normal conditions are ^{0}C and 101.3 kPa.
** These heavy metals are due to improper disposal of hazardous waste, such as batteries, by the public and not due to Plasco Conversion.

99.8% of waste is converted to clean fuel and valuable products

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Maximum Value cont'd

What Becomes of the Syngas?

Net Power per 2600 Nm^3 of Dry Syngas @ 4.85 MJ/Nm^{3*}

	Internal Combustion Engine	Steam Turbine	Steam / Hot Water
Combined Cycle**	970 kWh_{el}	260 kWh_{el}	210 kWh_{th}
Cogeneration***	970kWh_{el}	0 kWh_{el}	1325 kWh_{th}

* Normal conditions are 0°C and 101.3 kPa
** 1230 kWh_{el} will sustain a household for 50 days (750 kWh/month)
*** 970 kWh_{el} will sustain a household for 40 days (750 kWh/month)

Syngas is used to run internal combustion engines. Waste heat is recovered for additional power.

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PlascoEnergy – A Partner in the Solution

	PLASCO CONVERSION	WIND	SOLAR
Methane Avoidance from Landfills	✓		
Elimination of Long-distance Trucking of Waste	✓		
Displacement of GHG-intensive Power (e.g. Coal)	✓	✓	✓
Reduction in Transmission Losses	✓		✓

Processing waste through Plasco Conversion reduces greenhouse gas (GHG) emissions.

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Excellent Performance Against the Toughest Regulations

		Regulatory Limits				Plasco	
Parameter	Units	Ontario	British Columbia	California	EU	**Enforcement Limit**	**Target**
Particulate Matter	mg/m^3	12	19	14	**9**	**9**	**3**
Organic Matter	mg/m^3	49	39	-	**9**	**9**	**7**
Hydrogen Chloride (HCl)	mg/m^3	19	69	27	**9**	**9**	**2**
Sulphur dioxide (SO_2)	mg/m^3	**37**	246	56	46	**37**	**11**
NOx expressed as NO_2	mg/m^3	207	344	202	**183**	**13**	**9**
Mercury (Hg)	mg/m^3	**0.020**	0.19	0.035	0.046	**0.005**	**0.0005**
Cadmium (Cd)	mg/m^3	0.014	0.10	**0.007**	0.046	**0.007**	**0.001**
Lead	mg/m^3	0.142	**0.049**	0.098	-	**0.02**	**0.012**
Dioxins and furans	ng/m^3	**0.040**	0.5	9	0.9	**0.01**	**ND**

Notes: 1. All values are expressed at 11%O_2 and regular conditions (101.3 kPa, 25°C)
2. EU regulations combine Thallium with Cadmium and Lead with Class III Metals

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And we are aiming higher (and lower!)

Parameter	Units	PTR Operational Limits	PlascoEnergy Targets	Current Data
Particulate Matter	mg/Rm^3	12	3	10.9, 9.9, 20.2, 3.9, 3.5, 6.8
Organic Matter	mg/Rm^3	50	9	4, 4
Hydrogen Chloride (HCl)	mg/Rm^3	19	2	1, 2
Hydrogen Fluoride (HF)	mg/Rm^3	-	0.02	<0.03, 0.11, 0.27, 0.05, 0.03
Sulphur dioxide (SO_2)	mg/Rm^3	37	10	28, 38
NOx expressed as NO_2	mg/Rm^3	207	9	112 , 114
Mercury (Hg)	µg/Rm^3	20	0.5	0.25, 0.09, 0.04, 0.06
Cadmium (Cd)	µg/Rm^3	14	1	<0.41, <0.06, <0.07, <0.14
Lead	µg/Rm^3	142	12	3.9, 7.4, 1.2, <0.3
Class III Metals	µg/Rm^3	458 (EU)	46	342, 14, 51, 45
Dioxins and furans	pg/Rm^3	40	ND	10.8

Notes:
All values are expressed at 11%O2 and reference conditions (101.3 kPa, 25oC)

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Comparing the Alternatives

WHAT HAPPENS TO 1 TONNE OF WASTE?

Maximum Value

Comparator	Plasco Conversion	Incineration	Landfill with Landfill Gas Capture
Power Generation			
Primary	Internal Combustion Engine	Heat Recovery-Steam Turbine	Internal Combustion Engine
Secondary	Heat Recovery - Steam Turbine		
Power per Ton	1.1-1.2 MWh	0.6 MWh	0.15 MWh
Diversion	99.8%	75-80%	0%

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Comparing the Alternatives

WHAT HAPPENS TO 1 TONNE OF WASTE?

Maximum Environmental Protection

Comparator	Plasco Conversion	Incineration	Landfill with Landfill Gas Capture
GHG's avoided (tonnes of CO2e)	**2.1**	**1.5**	**1.2**
CACs (per MWh)			
NOx (g)	80	1660[b]	570[e]
Sulfur (g)	40	95[b]	50[a]
Particulate Matter (g)	13	37[b]	8[e]
CO (g)	168	190[b]	2950[e]
Mercury (mg)	2	60[d]	2[a]
Dioxins and Furans (ng)	0	60[d]	0

a Parameters based on US EPA AP-42 Emission Factors for IC engines and methane produced per tonne of waste.
b Based on Montenay's response to Request for Expressions of Interest, GVRD, 2006.
c Assumes 90-100 ppm H2S in gas.
d Based on "Life Cycle Assessment of Two Waste Management Scenarios for Metro Vancouver".
e Based on 2006 National Pollutant Release Inventory (NPRI) data for Vancouver Landfill and electrical capacity of 7.4 MW.

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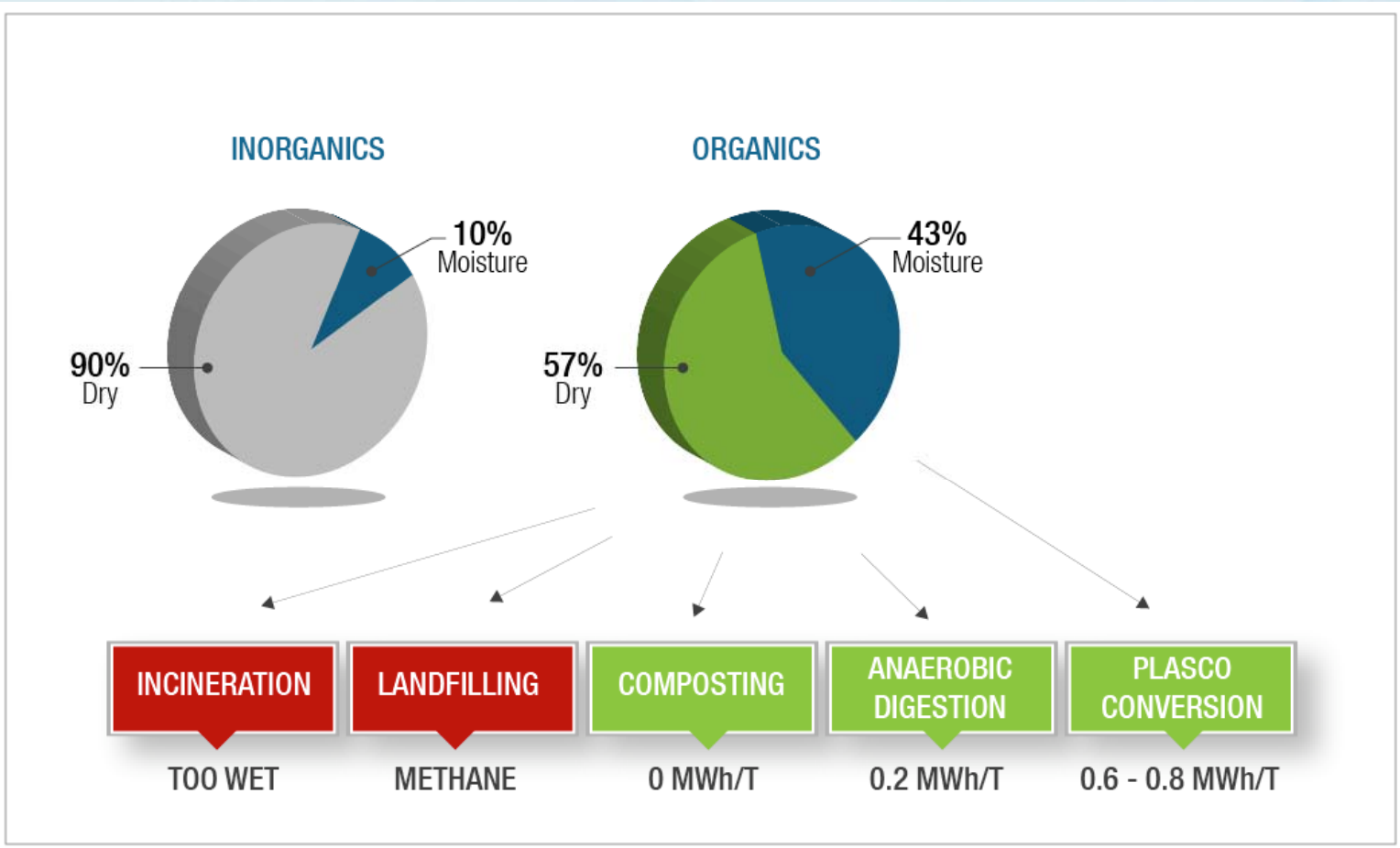
Being Wise About Waste



Innovative Technology Offers Another Option

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LAST REPORTING DATE:

July 22, 2008

NOx:	60.46	ppmv
HCl:	1.19	ppmv
SO_2:	14.33	ppmv
Organic Matter:	6.14	ppmv

WEEKLY COMMENTS:

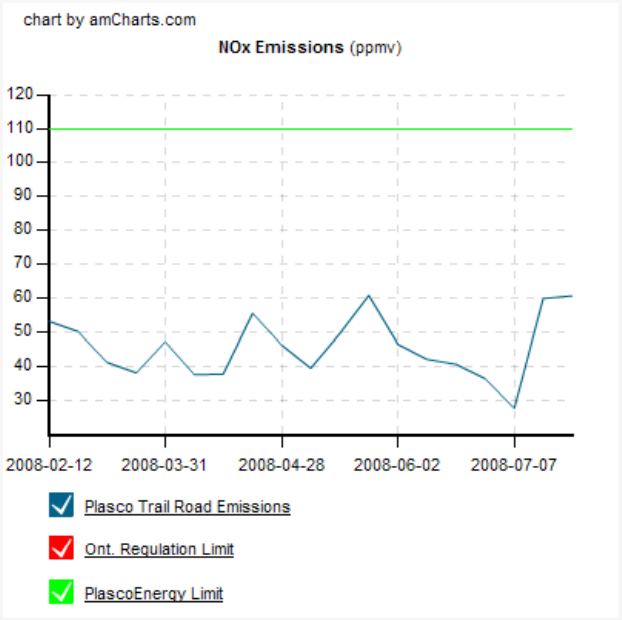
This is the data submitted to the Ministry of Environment of Ontario for the week of July 14th through the 20th.

We experienced a brief period where the plant exceeded its permitted SO2 level due to an unforeseen chemical reaction in the carbon filter. The process was shut down safely and rapidly, and the event reported to the Ministry of Environment according to the provisions of our C of A.

ENVIRONMENTAL PERFORMANCE

The PlascoEnergy Trail Road demonstration facility activated its Certificates of Air and Waste Approvals on January 27th, 2008. Below you will find the regularly reported results for the Continuously Monitored Emisions required by PlascoEnergy for Plasco Trail Road.

NOx:



NOTE: PlascoEnergy will be installing SCR (Selected Catalytic Reduction) devices on the exhaust manifolds of the engines to further improve our NOx emissions.

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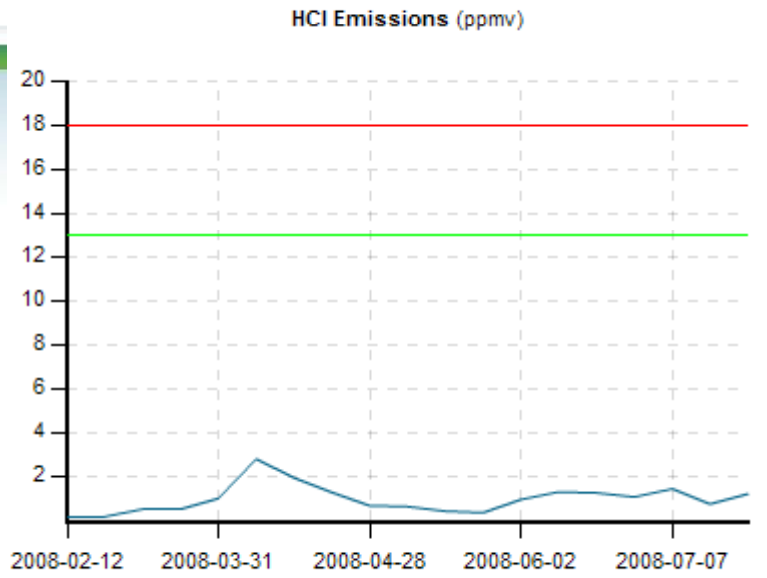

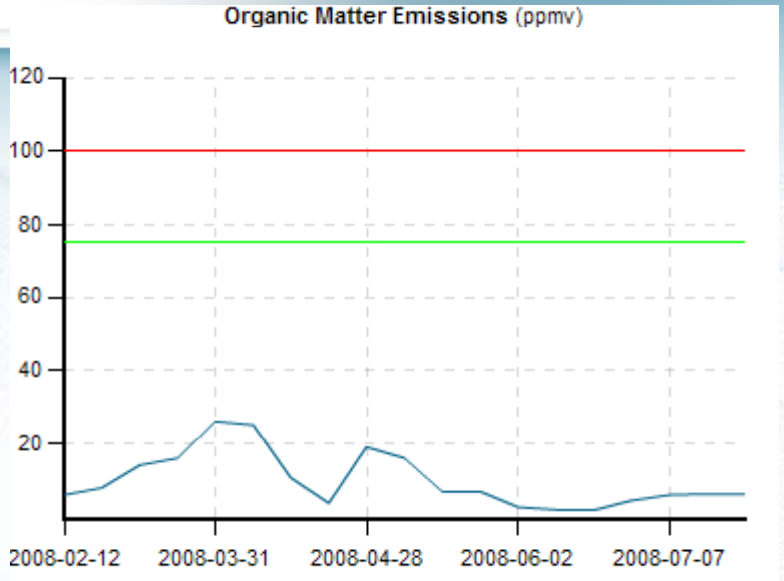

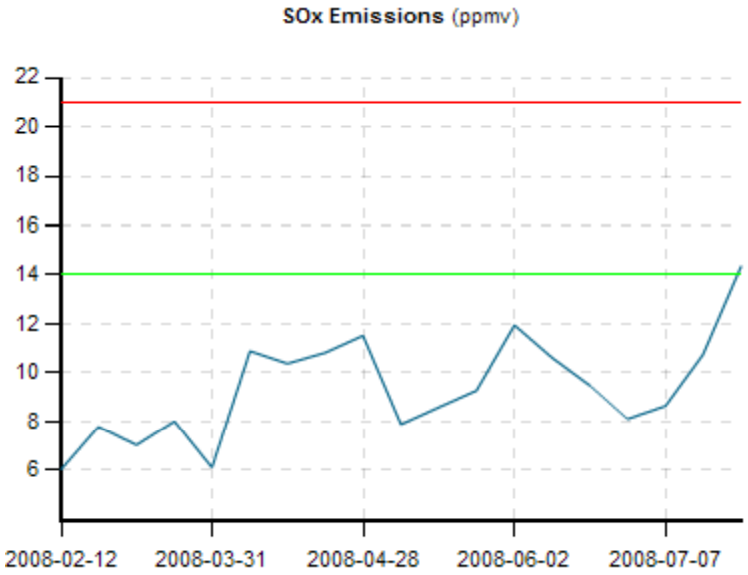

Plasco Trail Road Emissions

Ont. Regulation Limit

PlascoEnergy Limit

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The Public Advisory Committee

Comprised of 10 Ottawa residents that range from involved citizens and members of community associations to professional engineers and environmentalists

The Committee will:

- Be Chaired by a City councilor
- Review, discuss and form opinions on emissions data
- Independently report to the public and City council on PlascoEnergy's emissions test results
- Publish statements to zerowasteottawa.com
- Meet as often as its members feel necessary, but no less than four times a year

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Nanoparticles

- **Dr. Javad Mostaghimi, PhD, PEng, FASME, FIUPAC**
  - **Canada Research Chair Professor * Director, Centre for Advanced Coating Technologies Faculty of Applied Science and Engineering, University of Toronto * Chair, Gordon Plasma Conference on Plasma Processing Science * Chair, International Symposium on Plasma Chemistry**

- **Plasma can create or destroy them**
  - Plasco Conversion destroys them

- **Engines can create them**
  - Natural Gas or Plasco Syngas less tendency to create than gasoline or diesel

- **Dr. Mostaghimi to analyze and advise**
  - Best measurement method
  - Actions to remove if they are found

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Zero Risk Business Model

PlascoEnergy builds, owns and operates its patented Conversion System

- No capital required from customers
- No operation risk
- In operation 12 months after permitting
- Environmental performance is guaranteed
- Long-term budgetary certainty – competitive tipping fees are fixed for 20 years
- Revenue sharing above an agreed threshold

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Zero Risk: Investor Confidence

$90 million raised since August 2005

- **$9.5 million from Sustainable Development Technology Canada**
- **$4 million loan from Ontario's Ministry of Research and Innovation**
- **2006: Black River Asset Management (Cargill)**
- **2007: First Reserve Corporation**

2008:

- **CalSTRS**
- **CalPERS**

"First Reserve has allocated a further $115 million for investment in PlascoEnergy during 2008 to fund the commercialization and construction of facilities. Our investment builds on our knowledge of the waste to energy business developed through prior investments and our continued appetite for economically attractive renewable energy opportunities"

Glen Payne, Director of First Reserve

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Los Angeles 200 tpd Plant

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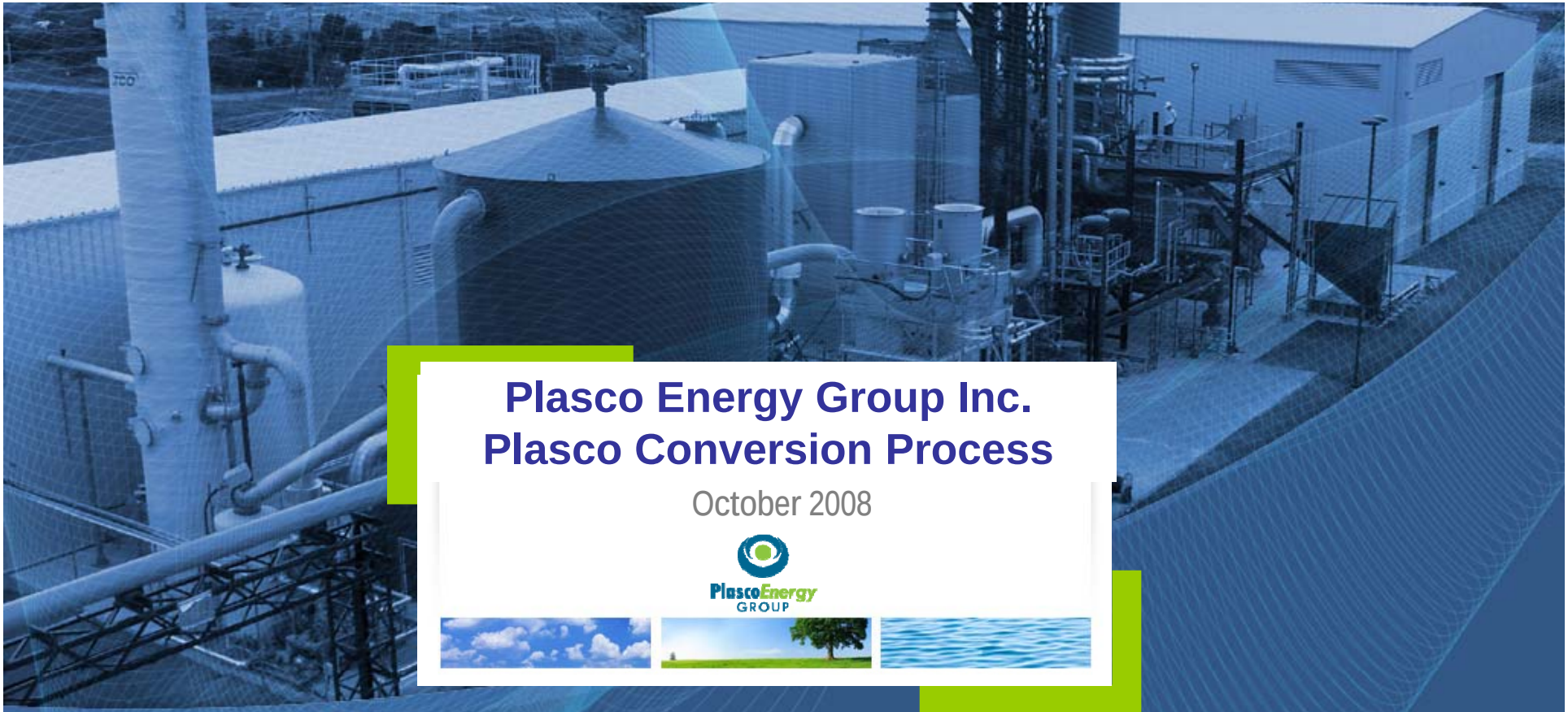

Plasco Energy Group Inc.
Plasco Conversion Process

October 2008

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Thank You

Questions?