



Solar Energy Audit Report

Date of Report: June 09, 2005

Name of Institution:

Northside College Preparatory High School

Owner, if other than Institution Address:

Chicago Public Schools

Address (Street or P.O. Box) City, State, Zip

5501 N. Kedzie

Chicago, Illinois

Date of Audit: From Plans/Energy costs

Executive Summary

Northside College Prep High School has a 3280 square foot indoor swimming pool. The pool uses a natural gas swimming pool heater to maintain 84 degrees Fahrenheit.

Solar pool heating would be of considerable benefit to the School District for reducing energy costs (see economic analysis). The economic analysis includes calculations based on a natural gas at \$0.78 per Therm which is the billed cost for April 2005 and just below the average 12 month cost.

The solar swimming pool heating system will provide an average of 56% of the annual load. The system was sized based on the performance of the system to not exceed approximately 90% of the July load.

Expected annual savings is \$ 11,563 saving 14,824 Therms of natural gas.

The financial calculations do not consider any incentives or grants that may be available to the owner.

2101 Westinghouse Blvd. #115
Phone: 919-871-0423

Raleigh, NC 27604
Fax: 919-871-0702

www.solargenix.com

T H E N A T U R A L P O W E R F O R G O O D™



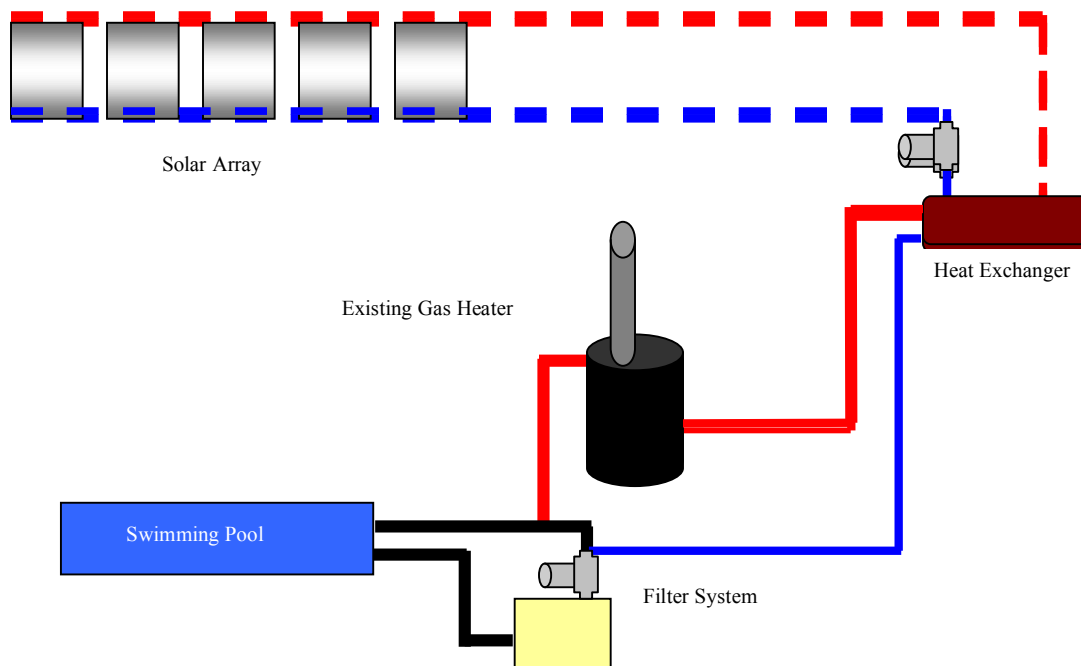
Solar System Performance Data for 140 Winston Series CPC Collectors

754.6 MMBtu Delivered by Solar

Solar Fraction per month

Jan	0.256
Feb	0.352
Mar	0.439
Apr	0.605
May	0.749
Jun	0.866
Jul	0.91
Aug	0.865
Sep	0.717
Oct	0.54
Nov	0.286
Dec	0.198
Year	0.556

Preliminary System Design



2101 Westinghouse Blvd. #115
Phone: 919-871-0423

Raleigh, NC 27604
Fax: 919-871-0702

www.solargenix.com

T H E N A T U R A L P O W E R F O R G O O D™



Economic Analysis; Natural Gas @ \$0.78/therm

Estimated cost of 140 KWt solar thermal heating system.\$ 303,380.00

RetScreen Calculations	Yearly Cash Flows			
	Year #	Cumulative \$	Year	Cumulative
	0	(303,380)	16	67,819
	1	(291,097)	17	110,298
	2	(277,820)	18	156,192
	3	(263,469)	19	205,775
	4	(247,958)	20	254,836
	5	(231,195)	21	312,707
	6	(213,077)	22	375,225
	7	(193,498)	23	442,764
	8	(172,340)	24	515,726
	9	(149,475)	25	594,544
	10	(128,287)	26	679,688
	11	(101,589)	27	771,665
	12	(72,740)	28	871,021
	13	(41,569)	29	978,348
	14	(7,888)	30	1,088,515
	15	28,502		
	TOTAL			\$ 1,088,515
Financial Feasibility				
Energy savings per year		Therms	14,824	
O&M		\$	200	
Annual energy savings		\$	11,563	
Pre-tax IRR and ROI		%	8.8	
Year-to-positive cash flow		yr	14.2	

2101 Westinghouse Blvd. #115
Phone: 919-871-0423

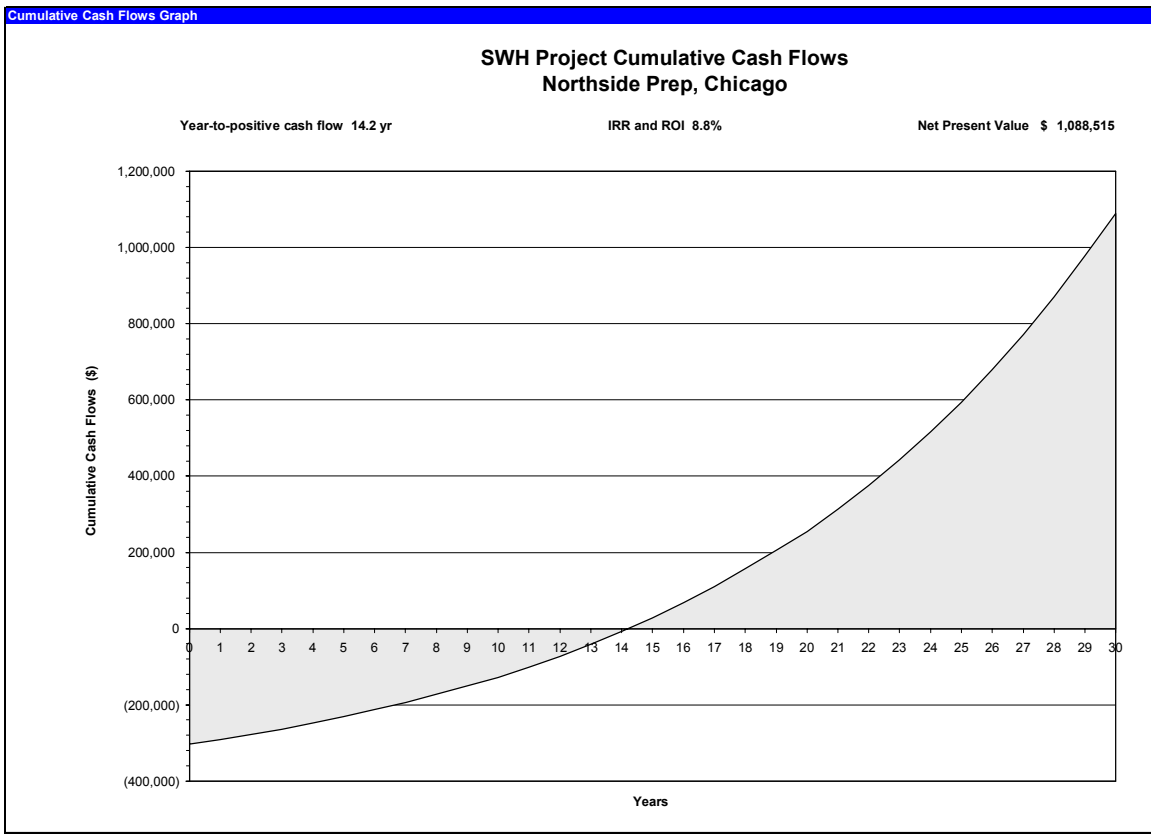
Raleigh, NC 27604
Fax: 919-871-0702

www.solargenix.com

T H E N A T U R A L P O W E R F O R G O O D™



140 kWt with Natural Gas @ \$0.78/ therm



Version 2000 - Release 2

© Minister of Natural Resources Canada 1997 - 2000.

NRCan/CEDRL

2101 Westinghouse Blvd. #115
Phone: 919-871-0423

Raleigh, NC 27604
Fax: 919-871-0702

www.solargenix.com

THE NATURAL POWER FOR GOOD™



Environmental Benefits Emission savings for 140 *Winston Series CPC Collector* in Chicago

Gas (assuming 14,824 Therms saved per year).

Your Energy Efficiency Efforts Will Also Result in the Following Pollution Reductions:	
Type of Pollution	Amount of Reduction per Year
Greenhouse Gases (CO ₂)	<input type="text" value="176709"/> Pounds
Volatile Organic Compounds (VOC)	<input type="text" value="8"/> Pounds
Nitrogen Oxides (NO _x)	<input type="text" value="226"/> Pounds
Carbon Monoxide (CO)	<input type="text" value="36"/> Pounds
Sulfur Dioxide (SO ₂)	<input type="text" value="1"/> Pounds
Particulates (PM10)	<input type="text" value="3"/> Pounds
Toxic Metals Pollution	Amount of Reduction per Year
Mercury (Hg)	<input type="text" value="0"/> Milligrams

2101 Westinghouse Blvd. #115
Phone: 919-871-0423

Raleigh, NC 27604
Fax: 919-871-0702

www.solargenix.com

T H E N A T U R A L P O W E R F O R G O O D™