Research partners	Research Projects	2001	2002	2003	2004	2005	2006	2007	2008	2009	Total Spent	Total Project Funding	Delta	
Fuel Quality Research focused on maintenance cost and customer service issues associated with fuel quality														
NYSERDA & Brookhaven National Laboratory	Fuel quality study 1		$ -	$ -	$ 11,772	$ 96	$ -	$ 540	$ -	$ -	$ 12,408	$ 12,408	$ -	
NYSERDA & Brookhaven National Laboratory	Fuel quality study 2		$ 211,343	$ 196,219	$ 143,450	$ 320	$ -	$ 4,640	$ 50,697	$ 20,085	$ 626,752	$ 626,752	$ -	
Brookhaven National Laboratory	Studies on equipment and avail of low sulfur		$ 15,253	$ 11,975	$ 31,422	$ 8,942	$ -	$ 100	$ -	$ -	$ 67,693	$ 67,693	$ -	
Brookhaven National Laboratory	Study on ultra low sulfur availability		$ -	$ -	$ -	$ -	$ -	$ -	$ 36,500	$ -	$ 36,500	$ 36,500	$ -	
Allegra & Brookhaven National Laboratory, Hart Energy	Ultra low sulfur study		$ -	$ -	$ 28,488	$ 45,000	$ -	$ -	$ -	$ -	$ 73,488	$ 73,488	$ -	
Quality Research			$ 226,596	$ 208,194	$ 215,132	$ 54,358	$ -	$ 5,280	$ 87,197	$ 20,085	$ 816,841	$ 816,841	$ -	
and leveraged effort			$ 267,992	$ 248,267	$ 209,005	$ 14,005	$ -	$ 6,500	$ 72,496	$ 25,106	$ 843,371	$ 798,950		
Advanced Fuels focused on storage, handling, and combustion of future fuels such as sustainable biodiesel blends														
Brookhaven National Laboratory	Space Heater performance on low sulfur fuel	$ -	$ -	$ -	$ -	$ -	$ 20,000	$ 2,972	$ -	$ -	$ 22,972	$ 22,972	$ -	
Brookhaven National Laboratory	Coal to liquids study	$ -	$ -	$ -	$ -	$ -	$ 40,347	$ 86	$ -	$ -	$ 40,433	$ 76,000	$ 35,567.10	87992
Brookhaven National Laboratory	Bio in tanks - biodiesel compatibility	$ -	$ -	$ -	$ -	$ -	$ -	$ 11,000	$ 4,000	$ -	$ 15,000	$ 15,000	$ -	
NEFI, BNL, National Biodiesel Board	Research on biodiesel	$ -	$ -	$ -	$ -	$ -	$ -	$ 20,000	$ -	$ -	$ 20,000	$ 20,000	$ -	
Consumer Energy Council of America	Case study on fuel	$ -	$ -	$ -	$ -	$ 25,000	$ -	$ -	$ -	$ -	$ 25,000	$ 25,000	$ -	
Sage Environmental	Study on tanks and technology improvements	$ -	$ -	$ 14,336	$ 56,819	$ 49,438	$ 16,200	$ 5,218	$ -	$ -	$ 142,011	$ 142,011	$ -	
Petroleum Equipment Contractors Association	Develop alternative leak detection	$ -	$ -	$ -	$ -	$ 7,500	$ 7,500	$ 10,188	$ -	$ -	$ 25,188	$ 25,188	$ -	
Petroleum Equipment Contractors Association	Cleanup technologies	$ -	$ -	$ -	$ -	$ -	$ 71,457	$ 69,423	$ 10,948	$ -	$ 151,828	$ 151,828	$ -	
Benfield	Leak detection, cleanup - tanks insurance	$ -	$ -	$ -	$ 150,000	$ 150,000	$ -	$ 113,956	$ 8,456	$ -	$ 422,412	$ 422,412	$ -	
Petroleum Equipment Contractors Association	Study on leak detection	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 20,000	$ -	$ 20,000	$ 20,000	$ -	
Consumer Energy Council of America	Technology transfer work on tanks	$ -	$ -	$ 133,000	$ 36,469	$ 30,000	$ -	$ -	$ -	$ -	$ 199,469	$ 199,469	$ -	
nced Fuels Research		$ -	$ -	$ 147,336	$ 243,288	$ 261,938	$ 155,504	$ 232,842	$ 43,404	$ -	$ 1,084,312	$ 1,119,879	$ 35,567.10	
and leveraged effort		$ -	$ -	$ -	$ -	$ -	$ 15,087	$ 3,514	$ 1,000	$ -	$ 19,601	$ 28,493		
Application Research and Technology Transfer														
IWO Institut für wirtschaftliche in Germany	Interface support and conference	$ -	$ 8,043	$ 11,255	$ 928	$ 7,965	$ 6,700	$ 8,491	$ 12,890	$ -	$ 56,271	$ 56,271	$ -	
Consumer Energy Council of America	Developing research agenda	$ -	$ 48,500	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 48,500	$ 48,500	$ -	
Brookhaven National Laboratory	Boiler & DHW Testing - including 8699	$ -	$ -	$ -	$ -	$ 26,763	$ 12,314	$ 11,581	$ 82,367	$ 23,013	$ 156,039	$ 156,039	$ -	
Brookhaven National Laboratory	Energy Savings Calculator	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 54,450	$ -	$ 54,450	$ 54,450	$ -	
NYSERDA & Brookhaven National Laboratory	FSA Calculator develop web based system	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 9,945	$ -	$ 9,945	$ 9,945	$ -	
cation Research and Technology Transfer Research		$ -	$ 56,543	$ 11,255	$ 928	$ 34,728	$ 19,014	$ 20,072	$ 159,651	$ 23,013	$ 325,205	$ 325,205	$ -	
and leveraged effort		$ -	$ -	$ -	$ -	$ 6,691	$ 3,079	$ 2,895	$ 46,635	$ 5,753	$ 65,053	$ 65,053		
Advanced Appliance Research														
Adams	Condensing Furnace	$ -	$ -	$ 265,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 265,000	$ 265,000	$ -	1 Canadian dollar =
Kerr	Condensing Furnace, also 8707 added in 2009	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 126,155	$ 91,495	$ 217,650	$ 323,456	$ 105,806.00	65,817.42
Thermopride	Two Stage & Heat Pak	$ -	$ -	$ 55,355	$ 77,497	$ -	$ -	$ -	$ 132,894	$ -	$ 265,746	$ 459,464	$ 193,718.00	
Energy Kinetics	High Efficiency Heating & Hot H20 Sys	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 25,000	$ -	$ 25,000	$ 143,000	$ 118,000.00	
Bock Water Heater	Small water heater development	$ -	$ -	$ -	$ -	$ -	$ 37,344	$ 87,134	$ -	$ -	$ 124,478	$ 124,478	$ -	
Brookhaven National Laboratory	2 Stage Condensing Wall Hung Boiler	$ -	$ -	$ -	$ 50,636	$ 54,659	$ 72,470	$ 16,894	$ 28,585	$ -	$ 223,245	$ 223,245	$ -	
Heat Wise	Wall Hung Boiler	$ -	$ -	$ -	$ -	$ -	$ -	$ 25,474	$ 29,420	$ -	$ 54,894	$ 54,894	$ -	
P B Heat LLC	Near Condensing	$ -	$ -	$ -	$ -	$ -	$ 147,125	$ -	$ -	$ -	$ 147,125	$ 147,125	$ -	Project Stopped
Confidential	Condensing Boiler	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
Peerless Pinnacle	Condensing Boiler	$ -	$ -	$ -	$ -	$ 41,000	$ 109,000	$ -	$ -	$ -	$ 150,000	$ 150,000	$ -	
nced Appliance Research		$ -	$ -	$ 320,355	$ 128,133	$ 95,659	$ 365,939	$ 129,502	$ 342,054	$ 91,495	$ 1,473,137	$ 1,890,661	$ 417,524.00	
and leveraged effort		$ -	$ -	$ 13,839	$ 32,033	$ 23,964	$ 91,617	$ 34,498	$ 104,824	$ 24,892	$ 325,667	$ 498,817		
Combustion Research & Development														
Bacharach	develop electronic smoke tester	$ -	$ 85,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 85,000	$ 85,000	$ -	
Testo	develop electronic smoke tester	$ -	$ -	$ 78,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 78,000	$ 78,000	$ -	
Carlin	2 stage burner	$ -	$ -	$ -	$ -	$ -	$ 60,000	$ -	$ -	$ -	$ 60,000	$ 440,000	$ 380,000.00	
Beckett	White flame burner	$ -	$ -	$ -	$ -	$ 77,000	$ -	$ -	$ -	$ -	$ 77,000	$ 77,000	$ -	
Heat Wise	2 stage burner	$ -	$ -	$ -	$ -	$ -	$ -	$ 11,210	$ -	$ -	$ 11,210	$ 11,210	$ -	
ustion Research		$ -	$ 85,000	$ 78,000	$ -	$ 77,000	$ 60,000	$ 11,210	$ -	$ -	$ 311,210	$ 691,210	$ 380,000.00	
and leveraged effort		$ -	$ -	$ -	$ -	$ -	$ 59,232	$ -	$ -	$ -	$ 59,232	$ 434,371		
Controls Research & Development														
Honeywell	Smart controls	$ -	$ -	$ -	$ 65,000	$ 60,000	$ -	$ -	$ -	$ -	$ 125,000	$ 125,000	$ -	
Carlin Combustion Technologies	Field test 100 smart controls	$ -	$ -	$ -	$ -	$ -	$ -	$ 80,000	$ 120,000	$ -	$ 200,000	$ 260,000	$ 60,000.00	
State of Pennsylvania	Controls efficiency project	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 30,000	$ 30,000.00	
ols Research		$ -	$ -	$ -	$ 65,000	$ 60,000	$ -	$ 80,000	$ 120,000	$ -	$ 325,000	$ 415,000	$ 90,000.00	
and leveraged effort		$ -	$ -	$ -	$ -	$ -	$ -	$ 20,000	$ 30,000	$ -	$ 50,000	$ 65,000		
New Applications and Approaches														
Brookhaven National Laboratory	Robur Heat Pump	$ -	$ -	$ -	$ -	$ -	$ -	$ 40,389	$ -	$ -	$ 40,389	$ 40,389	$ -	
NYSERDA & Brookhaven National Laboratory	Self Powered, Oil-Fired Heating System Based on TPV-Phase II	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 119,921	$ 119,921.00	
NYSERDA & Brookhaven National Laboratory	Advanced Venting Solution	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 150,000	$ 150,000.00	
NYSERDA & Brookhaven National Laboratory	Reduced Sulfur Content for Boiler and Furnace Design	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 70,000	$ 70,000.00	
NYSERDA & Brookhaven National Laboratory	Plastic Heat Exchanger research	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 100,000	$ 100,000.00	
Applications and Approaches Research		$ -	$ -	$ -	$ -	$ -	$ -	$ 40,389	$ -	$ -	$ 40,389	$ 480,310	$ 439,921.00	
and leveraged effort		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 872,313		
RA R&D 2002 - 2008											$ 363,421	$ 363,421		
R&D Funding to be committed for in process and internal R&D										$ 777,114	$ -	$ 777,114		
Project Funding		$ -	$ 368,140	$ 765,140	$ 652,481	$ 583,683	$ 600,457	$ 519,295	$ 752,307	$ 911,707	$ 4,739,516	$ 6,879,642	$ 1,363,012.10	
ling of state R&D projects		$ 412,024	$ 185,870	$ 101,105	$ 60,759	$ 22,387	$ 63,035	$ 55,563	$ 217,691	$ 43,425	$ 1,161,859	$ 1,161,859		
NORA Project Funding		$ 412,024	$ 554,010	$ 866,245	$ 713,241	$ 606,070	$ 663,492	$ 574,858	$ 969,998	$ 955,131	$ 5,901,374	$ 8,041,501		
and leveraged effort		$ -	$ 267,992	$ 262,106	$ 241,038	$ 44,660	$ 169,014	$ 67,408	$ 254,955	$ 55,752	$ 1,362,925	$ 2,762,998		
and Indirect R&D Funding		$ 412,024	$ 822,002	$ 1,128,351	$ 954,279	$ 650,731	$ 832,506	$ 642,266	$ 1,224,952	$ 1,010,883	$ 7,264,299	$ 10,804,498		

		Project	Co-funding	request	% cofunding
Brookhaven National Laboratory	Biofuels Storage and Stability, B2-B5 Blends with Heating oil	$ 100,000.00	$ 20,000.00	$ 80,000.00	25%
Carlin Combustion Technology, Inc	Carlin-Econox Two Stage Burner	$ 939,386.00	$ 466,669.00	$ 472,717.00	99%
P B Heat	Oil-fired Two-stage burner	$ 480,615.00	$ 96,495.00	$ 384,120.00	25%
Heat Wise, Inc.	Low Power Advanced High-Low Domestic Oil Burner	$ 333,000.00	$ 83,250.00	$ 249,750.00	33%
Mark 1 Engineering, LTD	Improved Water Removal Device for Heating Oil Fuel System	$ 101,630.00	$ 20,326.00	$ 81,304.00	25%
Energy Research Center, Inc	Delivery Cost Reduction Demonstration with Fuel Oil Marketer - P	$ 124,650.00	$ 40,000.00	$ 84,650.00	47%
P B Heat	Near-Condensing Boiler	$ 408,906.00	$ 81,781.00	$ 327,125.00	25%
Bock Water Heaters, Inc.	20 Gallon Oil Fired Water Heater	$ 174,625.00	$ 34,925.00	$ 139,700.00	25%
Brookhaven National Laboratory	Emissions Characteristics of Modern Oil Fired Residential Heating	$ 360,000.00	$ 200,000.00	$ 160,000.00	125%
Brookhaven National Laboratory	Advanced Synthetic Coal-to-Liquid Fuels for Oil-fired Burners	$ 95,000.00	$ 19,000.00	$ 76,000.00	25%
Energy Kentrics	Combined Heating/Water Heating Appliance	$ 223,000.00	$ 100,000.00	$ 123,000.00	81%
Brookhaven National Laboratory	Ultra-Low Sulfur Fuels for Space Heaters	$ 50,000.00	$ 10,000.00	$ 40,000.00	25%
Kerr	Condensing Furnace	$ 411,456.00	$ 88,000.00	$ 323,456.00	27%
NYSERDA Venting		$ 400,000.00	$ 250,000.00	$ 150,000.00	167%
NYSERDA TPV		$ 255,992.00	$ 136,071.00	$ 119,921.00	113%
NYSERDA low sulfur		$ 261,242.00	$ 191,242.00	$ 70,000.00	273%
NYSERDA plastic heat ex		$ 395,000.00	$ 295,000.00	$ 100,000.00	295%