

**GROUP BUYING OF FUEL OIL
AND PROPANE IN NEW YORK STATE:**

A Feasibility Study

July 2001

Prepared For:

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This report considers the feasibility of creating a group purchasing alliance in an eight county region of New York State. The group purchasing alliance is intended to purchase fuel oil and propane for small general use customers. A general use customer can include either residential customers exclusively, or can include residential customers along with small businesses, nonprofits, and religious institutions.

The multi-county region initially covered by this study included Herkimer, Jefferson, Oneida, Onondaga, Rensselaer, Saratoga and Schenectady. Albany County was added during the course of the work.

THE PRODUCT TO BE SOLD

A New York group purchasing alliance would be aimed at negotiating fuel oil and propane purchases for New York consumers. For the most part, the fuel oil and propane product being sold by Dealer A does not substantively differ from the fuel oil and propane product being sold by Dealer B. Several attributes of the product being sold, however, are relevant to the consideration of a feasibility of a group purchasing project. The three in particular examined below include:

- The price of the product, particularly as it affects the overall consumer budget;
- The particular time sensitivity of the delivery of the product; and
- The services associated with the delivery of the product.

Fuel Oil/Propane and Total Household Expenditures

As a commodity, fuel oil and propane are marked by their lack of differentiation between products sold by different suppliers. Unlike products that are differentiated by taste (e.g., Coke vs. Pepsi) or style (e.g., Honda vs. Ford), one gallon of fuel oil is pretty much the same as any other gallon of fuel oil. The significance of this is that competition for the fuel is thus based almost exclusively on price.

The importance of price in competition for home heating fuels is magnified because of the importance which home heating expenditures play in the consumer budget. Setting aside the nature of home heating as a necessity of modern life, the sheer magnitude of the expenditure on home heating is sufficiently large that consumers will pay it particular attention.

The Average Consumer

Home energy bills are one of the highest annual expenditures in a consumer's budget. While information specific to the counties in the study area is not available, the Consumer Expenditure Survey published by the U.S. Bureau of Labor Statistics (BLS) provides information for "all consumer units in the Northeast."¹ New York is a Northeast state for purposes of the Consumer Expenditure Survey.

¹ "A consumer unit comprises either: (1) all members of a particular household who are related by blood, marriage, adoption, or other legal arrangements; (2) a person living alone or in permanent living quarters in

A typical consumer in the Northeast region of the country spent about \$38,000 a year in the two year period 1998 – 1999. Of those total expenditures, more than \$13,200 was spent on shelter, including home utilities. Consumers tend to spend roughly 20% of their total shelter costs on utility service (including water/sewer). In the Northeast, a consumer spends about seven percent (7.0%) of all consumer dollars on home utilities.

Housing and Energy Expenditures: 1993/1994 – 1998/1999						
All Consumer Units in the Northeast						
	98-99	97-98	96-97	95-96	94-95	93-94
Average annual expenditures	\$37,971	\$36,548	\$35,131	---	\$32,778	\$32,089
Shelter	\$13,229	\$12,861	\$12,155	---	\$11,403	\$11,022
Utilities, fuel and public services	\$2,457	\$2,470	\$2,455	---	\$2,315	\$2,271
Percent utilities of all	6.5%	6.8%	7.0%	---	7.1%	7.1%
Percent utilities of shelter	18.6%	19.2%	20.2%	---	20.3%	20.6%
SOURCE:						
Consumer Expenditure Survey, Selected northeastern metropolitan statistical areas: average annual expenditures and characteristics, U.S. Bureau of Labor Statistics..						

On an annual basis, only expenditures on food at home, (\$3,001), mortgage payments (\$5,209), vehicle purchases (\$2,761) and social security payments/pension contributions (\$3,037) were higher than home utility costs in the two year period 1998-1999. To the extent that a group purchasing alliance can reduce home energy expenditures, therefore, the effort can substantively reduce the outflow of dollars from the consumer budget. This is not only good news from the consumer’s perspective, but it provides a powerful selling point for a group purchasing alliance offering significant discounts.

The Low-Income Consumer

From a low-income perspective, information about the proportion of total expenditures devoted to home utility expenses presents a mixed message. While average home utility expenditures for all consumers in the Northeast are \$2,457, average expenditures of households with income less than \$5,000 are only \$1,304. Even consumers with incomes of between \$10,000 and \$15,000 spend only \$1,806 on utilities, substantially less than that spent by all consumers.²

a hotel or motel, but who is financially independent; or (3) two or more persons living together who pool their income to make joint expenditure decisions. Financial independence is determined by the three major expense categories: housing, food and other living expenses. To be considered financially independent, at least two of the three major expense categories have to be provided by the respondent.” U.S. Bureau of Labor Statistics, Consumer Expenditure Surveys, Glossary (May 2001).

<http://www.stats.bls.gov/csxgloss.htm>

² According to the U.S. Department of Energy’s Residential Energy Consumption Survey (RECS), while low-income energy use is less efficient on a per square foot of housing space basis, the number of square feet of housing purchased by low-income households is sufficiently smaller that total energy use is less.

What this means is that, while every dollar saved through a group purchasing alliance is “more important” to a low-income consumer –each dollar is a higher proportion of income as well as a higher proportion of total shelter costs— there are fewer dollars spent and it will be more difficult to generate the same level of dollar savings for low-income consumers as for higher income households.

Average Total Expenditures, Housing Expenditures and Utility Expenditures Northeast Region by Income Level				
	Less than \$5000	\$5000 - \$9,999	\$10,000 - \$14,999	\$15,000 - \$19,999
1998 – 1999				
Average annual expenditures	\$18,211	\$15,586	\$21,077	\$23,630
Housing	\$6,890	\$5,986	\$8,554	\$9,113
Utilities, fuels, & public svcs	\$1,304	\$1,371	\$1,806	\$1,964
Pct utilities of total	7.2%	8.8%	8.6%	8.3%
Pct utilities of housing	18.9%	22.9%	21.1%	21.6%
1997 – 1998				
Avg annual expenditures	\$15,526	\$15,750	\$21,169	\$22,159
Housing	\$6,159	\$6,420	\$8,605	\$8,800
Utilities, fuels, & public svcs	\$1,166	\$1,333	\$1,770	\$2,046
Pct utilities of total	7.5%	8.5%	8.4%	9.2%
Pct utilities of housing	18.9%	20.8%	20.6%	23.3%
SOURCE:				
Consumer Expenditure Survey, Table 31, Northeastern region by income before taxes: average annual expenditures and characteristics.				

Time Sensitivity as a Component of the Fuel Oil/Propane Product

Consumers who are expected to participate in a group purchasing alliance are those who use fuel oil or propane for space heating. As a result, the product to be sold has not only the fuel component to it, but it has a time component to it as well. The bulk of the fuel consumption is expected to occur during the cold weather months. The table below sets forth the monthly heating degree days (HDDs) for the regions of New York State where the group purchasing alliance is expected to operate. These HDDs are intended to represent a surrogate for the rate at which residential customers purchase heating fuel. Heating consumption “intensity” is generally measured in terms of Btu’s³ per thousand square feet of heated space per HDD. The regions in which the group purchasing alliance are expected to operate involve, at least initially, Albany, Syracuse and Utica.

The heating season is important to the feasibility of a group purchasing alliance for a variety of reasons. The season really demarcates the time during which the purchasing alliance can effectively compete. Experience with other fuel oil group buying initiatives counsels that consumers are reticent to change oil vendors in the middle of the winter heating season. Once a satisfactory vendor is found, a consumer tends to effectively “lock in” their business to that

³ British Thermal Units (BTUs) are a standard unit of energy measurement.

vendor for the heating season. Consumers do not “experiment” or move to an unknown (even a potentially less expensive unknown) during the cold weather months.

The heating degree day data would seem to indicate that the period of aggressive competition (and enrollment) would be through the month of October (and perhaps through November). While this is not to say that consumers will not enroll in a group purchasing alliance during the middle of the winter heating season, it *is* to say that the most aggressive solicitation, and most effective enrollment, will occur before cold weather sets in. Moreover, clearly, the later a consumer enrolls in a group purchasing alliance, the lower the total seasonal savings the consumer can expect. Finally, the later a consumer enrolls in a group purchasing alliance, the smaller the commission the alliance will receive (and the less contribution the consumer will make toward the financial sustainability of the organization).

Heating Degree Days by Month Albany and Syracuse (NY)			
Month	This Year (2000 – 2001)	Last Year (1999 –2000)	Normal (30-year)
<i>Albany</i>			
October	461	501	459
November	805	631	759
December	1,327	1,050	1,194
January	1,255	1,373	1,376
February	1,063	1,053	1,162
March	1,051	768	952
10/01 – 04/21	6,395	5,800	6,329
<i>Syracuse/Utica</i>			
October	432	476	443
November	791	620	735
December	1,346	1,051	1,138
January	1,220	1,355	1,321
February	1,045	1,019	1,148
March	1,082	714	964
10/01 – 04/21	6,319	5,757	6,190
SOURCE: http://www.NYSERDA.org			

As can be seen, the heating season for both the Albany and the Syracuse/Utica areas peaks in January. December and February present roughly equal heating loads (Albany: 1194 vs. 1162; Syracuse: 1142 vs. 1138). Within these winter months, the weekly heating load looks as set forth in the table below. As can be seen, in a normal year, from the last week of December through the middle of February, the heating load is relatively constant in the Albany and Syracuse areas. In contrast, the heating requirements during the last week of December are noticeably greater than during the first week of December. Conversely, the heating requirements during the last week of February are noticeably less than the requirements during the first week of February.

Heating Degree Days by Week Albany and Syracuse/Utica (NY)						
Week Ending	Albany			Syracuse/Utica		
	This Year	Last Year	Normal	This Year	Last Year	Normal
12/02	207	200	219	221	218	211
12.09	306	170	243	310	158	233
12/16	283	211	266	265	204	252
12/23	276	255	282	284	260	268
12/30	342	295	295	357	306	281
01/06	313	211	304	296	199	291
01/13	303	222	308	297	222	297
01/20	257	398	315	255	388	301
01.27	292	378	315	281	392	301
02/03	248	342	309	254	330	301
02/10	241	295	304	228	287	299
02/17	284	286	294	277	287	291
02/24	283	240	280	284	224	278
03/03	266	180	261	265	177	261
SOURCE: http://www.NYSERDA.org						

In sum, the purpose of a New York group purchasing alliance is to obtain retail supplies of fuel oil and propane to meet these heating loads in the quantity and at the time they are required. Purchases need to be arranged so that, in particular, discounted prices are available from the last week of December through the last week of February. This time period presents the bulk of space heating consumption and thus the bulk of potential bill savings.

The Fuel Oil/Propane Product and the Accompanying “Services”

Even while one gallon of oil is pretty much the same as any other gallon of oil, fuel oil vendors may be able to differentiate themselves by the service which they offer. Service can come in two forms. On the one hand, differentiation may come in quality of service. On the other hand, differentiation may come in the range of services offered.

To succeed, the group purchasing alliance must succeed in enlisting vendors that offer a full range of services. A survey of low-income households was distributed through local community action agencies in the study region. The survey identified several factors that low-income customers considered to be equal in importance to price in deciding which fuel oil vendor to patronize.

Survey respondents indicated that price was important in “deciding who I buy my fuel oil from.” Of the 79 persons completing these survey questions, 39 said that among the factors that were “most important” was the fact that “the price for fuel oil is the cheapest available (n=39). Factors commonly identified as being “most important” included that: (1) the fuel oil dealer be located close to me; (2) the fuel oil dealer will fill-up my tank at night or on weekends if I need it; (3) the fuel oil dealer will fill-up my tank only part-way if that is all I want; (4) the fuel oil

dealer will offer a payment plan if I want it; and (5) I have used the fuel oil dealer before. Responses to these questions are provided in the table below.

Most Important Factors in Deciding Who I Buy Fuel Oil From	
The price for fuel oil is the cheapest available.	39
The fuel oil dealer will offer a payment plan if I want it.	39
The fuel oil dealer will fill-up my tank at night or on weekends if I need it.	37
The fuel oil dealer will fill-up my tank only part way if I want it.	34
I have used the fuel oil dealer before	32
The fuel oil dealer is located close to me.	30
The fuel oil dealer will not charge extra fees.	21
The fuel oil dealer will repair my furnace if I need it.	21
Some I know has recommended that I use this fuel oil dealer.	16
I know the fuel oil dealer personally.	11
The fuel oil dealer does not charge a fee if I am late on a payment.	11

The survey responses do not appear to support the conclusion that the delivery of maintenance services was particularly important to low-income consumers (although, it has been suggested, the importance of such service is greater for consumers with higher incomes). Instead, the services cited by survey respondents primarily involved payment and delivery options.

An undercurrent of ability-to-pay is evident in the low-income responses. In addition to seeking the cheapest fuel oil available, 39 respondents indicated that the presence of a payment plan was important, while an additional 34 indicated that being allowed to obtain a partial fill-up when desired was important.

When asked to provide an unaided response to which factors were the most important in the selection of their fuel oil dealer, price was not a primary consideration. Of the 33 respondents answering the open-ended question, nine indicated that the most important factor was that the dealer offered credit arrangements or budget billing plans (three more indicated “flexibility,” which could mean flexibility in fill-ups as well as flexibility in payment terms). Only three respondents identified “price” as one of the most important factors.

The feasibility of a group purchasing alliance will need to marry the price-based concerns of lower income consumers with the service-based concerns of higher income consumers. Experience counsels that higher income consumers will pay higher prices for increased service quality. This quality includes, for example, deliveries within 24 hours rather than 48 hours, as well as annual service contracts for heating equipment. In contrast, lower income households are willing to sacrifice these service amenities for marginally less expensive fuel. To succeed in serving both markets (lower income and non-lower-income), the purchasing alliance will need to establish minimum service standards without pricing itself above the competition for low-income business.

THE NATURE OF THE FUEL OIL/PROPANE CONSUMER

Aside from the nature of the product, one factor that affects the feasibility of a group purchasing alliance is the nature of the consumer of the product.

The Potential Customer Base

The study counties have a substantial customer base for a fuel oil and propane purchasing alliance. Propane is not as prevalent in the service territory as is fuel oil, and neither are as prevalent as natural gas. Nonetheless, there are more than 135,000 fuel oil customers in the region, representing more than 21% of all occupied housing units.

Fuel Oil and Propane as Primary Space Heating Fuel New York Study Counties			
	Total Occupied Units	Primary Heating Fuel	
		Bottled, Tank, LP Gas	Fuel Oil
Albany County	115,824	1,702	25,210
Herkimer County	24,936	816	8,994
Jefferson County	37,851	1,667	10,619
Oneida County	92,562	2,442	23,861
Onondaga County	177,898	2,501	13,154
Rensselaer County	57,612	1,609	21,479
Saratoga County	66,425	2,913	20,334
Schenectady County	59,181	754	11,692
Total	632,289	14,404	135,343
SOURCE: U.S. Census Bureau, American Fact Finder, DP-5, Housing Characteristics, 1990.			

Propane is not a common space heating fuel, with only 14,400 customers in eight counties. In contrast to propane, however, fuel oil is a significant primary heating fuel in the region in which the purchasing alliance is anticipated to first operate.

The prevalence of fuel oil heating is important to assessing the economic viability of a purchasing alliance. A group purchasing alliance differs somewhat from a co-op that would have its own customers to the exclusion of other vendors. A purchasing alliance does not displace existing vendors from their role as the supplier of fuel to the ultimate consumer. Instead, the purchasing alliance serves only to broker the price of the fuel, which the vendor then delivers. If there are ten vendors serving customers in Albany today, in other words, those same ten vendors could retain all of their existing customers and still have the purchasing alliance broker the sale of oil at negotiated discounted prices.

Despite this observation, the market for fuel oil needs to be large enough to allow the purchasing alliance to attract a sufficient number of members to sustain the organization. The various financial statements attached to this report and discussed in a subsequent section document that a minimum net enrollment of 3,000 new customers per year for three years is needed to sustain a purchasing alliance with a staff of four persons.

The numbers would seem to suggest that this is an eminently manageable proposition. There are in excess of 163,000 fuel oil customers in the three metropolitan regions in which the alliance is proposed to begin. Enrolling 3,000 members a year, with a retention rate of 80% per year, would provide the following customer flow over a three year period:

Member Flow by Year (3,000 New Members per Year)			
	Year 1	Year 2	Year 3
Beginning Year Members	0	2,400	4,320
New Members	3,000	3,000	3,000
Year End Members	3,000	5,400	7,320

Having a market penetration of five percent (5%) ($7,500 / 163,000 = 0.046$) does not seem to be an unreasonable proposition.

Fuel Oil Consumption/Bills

Macro level data published by the Energy Information Administration of the U.S. Department of Energy (EIA/DOE) provides insights into the extent to which a group purchasing alliance might generate benefits for consumers. EIA/DOE publishes data specific to New York State based on the 1997 Residential Energy Consumption Survey.⁴ According to EIA/DOE, the average New York household uses 828 gallons of fuel oil each year and pays \$774. If a group purchasing alliance could generate savings of as little as \$0.20 to \$0.25 per gallon, the alliance would be generating annual savings of nearly \$200 for its membership.

New York Fuel Oil Usage and Costs			
	Space Heating	Domestic Hot Water	Space Heating + DHW
Average use (gallons)	588	240	828
Average bill (\$)	\$570	\$204	\$774
SOURCE: Energy Information Administration, 1997 Residential Energy Consumer Survey (November 1999).			

Types of Housing Units

Most occupied housing units are single-family homes in the study region. There is, in addition, a sizable population of manufactured housing units. The significance of the mobile home units is that mobile homes are frequently, if not almost universally, heated with fuel oil or propane (rather than with electricity or natural gas). The population of mobile home units presents a population to which a fuel oil purchasing alliance could be marketed. The specific heating fuels used by mobile homes in New York State, however, have not been identified. In addition, while mobile homes located in parks would appear to present an ideal marketing opportunity, an

⁴ This state data, however, is for the entire state, including New York City.

assessment has not been made of what proportion of mobile homes in the study region are sited in mobile home parks.

Occupied Units by Number of Units in Structure						
	Units in Structure					
	1 unit detached	1 unit attached	2 – 4 units	5 – 9 units	10 or more units	Mobile Home /a/
Albany County	59,290	4,680	34,841	7,819	13,729	3.896
Herkimer County	19,514	285	4,890	768	1,331	4,011
Jefferson County	26,744	1,462	9,103	2,266	2,163	8,781
Oneida County	55,975	1,467	24,987	4,507	6,578	7,737
Onondaga County	112,707	5,598	30,852	13,187	23,788	4,746
Rensselaer County	33,211	1,349	16,619	3,488	4,246	3,678
Saratoga County	43,938	3,601	10,682	2,717	4,189	9,978
Schenectady County	36,779	615	16,701	2,937	4,262	1,475

NOTES:

/a/ Includes trailers or “other.”

SOURCE:

U.S. Census Bureau, American Fact Finder, DP-1, General Population and Housing Characteristics, 1990.

Geographic Density of Customer Base

One issue that poses an obstacle to a group purchasing alliance in the region is the rural nature of much of the territory. The nature of the obstacle can be measured by looking at the density of the population.

Population Density by New York County		
	Persons per Square Mile	Metro Area
Albany County	563.2	Albany-Schenectady-Troy
Herkimer County	45.7	Utica-Rome MSA
Jefferson County	87.8	None
Onondaga County	194.1	Utica-Rome MSA
Oneida County	587.6	Syracuse MSA
Rensselaer County	233.2	Albany-Schenectady-Troy MSA
Saratoga County	247.1	Albany-Schenectady-Troy MSA
Schenectady County	711.4	Albany-Schenectady-Troy MSA

SOURCE:

U.S. Census Bureau, State and County Quick Facts, <http://quickfacts.census.gov/qfd/states/36>.

A low population density may mean that it would be difficult to convince fuel oil or propane vendors to serve the area at a discount. In those cases, transportation costs at the distribution level would be a larger proportion of the margin over wholesale prices. Insufficient margin may exist -this is not to say with certainty that it does; it simply may- to allow a significant discount below rack.

If, however, the group purchasing alliance focuses, at least initially, on the three metropolitan areas, it will serve a huge proportion of the fuel oil and propane consumers in the study region. Indeed, it would appear that the metropolitan regions include multiple counties that are not among the study counties. While there are 135,000 fuel oil customers in the study counties, for example, there are 163,000 fuel oil customers in the metropolitan areas. A membership base of 7,500 represents 4.5% of the total fuel oil customers in the three metropolitan regions.

Fuel Oil and Propane Customers In Three Upstate New York Metropolitan Areas			
	Occupied Housing Units	LPG	Fuel Oil
Albany-Schenectady MSA	335,823	8,266	97,114
Syracuse MSA	243,899	7,073	33,185
Utica-Rome MSA	117,498	3,258	32,855
Total MSAs	697,220	18,597	163,153
SOURCE:			
U.S. Census Bureau, Summary Tape File 3C1			

Purchasing Alliance Membership and Residential "Churn"

One risk to the group purchasing alliance is that there might be such substantial churn in the residential population in the region that the alliance would not be able to maintain its membership base (or at least would have to spend inordinate amounts of money to re-enroll replacement customers). The turnover rate for the customers of a business is commonly referred to as the "churn rate." Household "churn" can be measured in two different ways.

First, the U.S. Census Bureau tracks "migration" in its decennial census reports. The table below shows that roughly 20% of all households have moved into their current housing unit within the past year. With the exception of Herkimer (somewhat lower) and Jefferson (somewhat higher), the migration rates among counties is relatively uniform.

Year Householder Moved into Unit New York Study Counties			
	Occupied Units	Moved in 1989 - 1990	
		Number	Percent
Albany County	115,824	23,192	20.0%
Herkimer County	24,936	3,929	15.8%
Jefferson County	37,851	9,152	24.2%
Onondaga County	92,562	15,493	16.7%
Oneida County	177,898	33,873	19.0%
Rensselaer County	57,612	9,704	16.8%
Saratoga County	66,425	12,750	19.2%
Schenectady County	59,181	10,193	17.2%
Total counties	632,289	118,286	18.7%

SOURCE:
U.S. Census Bureau, Summary Tape File 3A, Table H28.

The second way to measure churn is to look at length of residence. Within the households participating in the New York REACH project, churn was about 25% per year. The five community action agencies participating in REACH reported that 31 of 127 REACH participants had lived in their current residence for less than one year; 52 of the 127 had lived in their current residence for more than three years.

Length of Residence: New York REACH Participants REACH Profiles: NYSCAA						
	Length of Residence (years)				Total	Pct <1
	Less than 1	1 - 3	3 - 10	More than 10		
CAPC	5	5	9	6	25	20.0%
CEO	3	12	8	2	25	12.0%
Mohawk Valley	12	12	6	0	30	40.0%
PEACE	3	7	4	11	25	12.0%
Saratoga	8	8	5	1	22	36.4%
Total	31	44	32	20	127	24.4%

The survey of individual households using CAA services in these five Community Action Agencies generated results showing somewhat less churn. Roughly 1-in-12 of the 82 persons completing the survey (11 of 82 = 13%) said that they had lived in their current residence for one year or less. More than 60% (n=51) said they had lived in their current residence for more than three years.

Low-income households, overall, have a much higher mobility than do households in general.⁵ While information specific to New York State is not available, we know generally that the median

⁵ The annual Census reports based on the Current Population Survey document this conclusion. See, e.g., Current Population Survey (March 1999), *Geographical Mobility: March 1998 to March 1999, Detailed Tables*, at Tables 11, 12, 17 (detailed tables revised and posted to Internet, November 2, 2000).

duration of residence for people overall is 5.2 years. This means that half of all persons have lived in their current home for a longer period and half have lived there for a shorter period. We know further, however, that there are differences in populations. People who rent their homes tend to live in their residence for a shorter time than homeowners--a median duration in their current residences of 2.1 years, compared with 8.2 years for people living in owner-occupied housing units.⁶ Indeed, we know that one-third of people living in renter-occupied housing units in March 1998 moved in the previous year (33.4%), while in contrast, only 1-in-7 people in owner-occupied housing moved during the same period (8.2%).⁷ We know finally that low-income households are disproportionately renters.

Churn affects the feasibility of a group purchasing alliance in two ways. First, if a customer moves and leaves the organization, the alliance loses the income from the commission that customer would have provided. Second, every member who leaves the alliance needs to be replaced if the alliance is to remain stable. Acquiring that replacement involves a cost to the alliance. For purposes of calculating the financial feasibility of the alliance, an 80% retention rate was assumed (i.e., a 20% annual churn rate).

The Lack of Customer Shopping

One of the real risks to the viability of a group purchasing alliance in New York would be the refusal of consumers to “shop” for retail fuel oil supplies. Despite the theory that, due to the high portion of a consumer’s budget devoted to home heating, consumers will seek to minimize those expenditures through shopping, an initial survey of low-income consumers within the REACH CAAs indicates this often does not happen. Of the 74 persons responding to this survey question, 60 indicated that they had purchased fuel oil from only one dealer. When asked how many dealers they call to check prices before asking someone to come fill their tank, 65 of the 74 respondents said they called only one dealer.

It is clear from the survey that the selection of a fuel oil dealer often does not turn on objective and measurable factors. In responses to the survey, 32 respondents indicated that they would choose a dealer because they have used the dealer before. In addition, the unaided responses included the fact that the dealer was “dependable.” In the unaided responses, as many respondents said they chose their dealer because he or she was “friendly” as chose their dealer because he or she offered the lowest prices (n=3).

Whatever the theoretical responses to why consumers *might* choose a fuel oil dealer, the fact remains that 60 of 74 survey respondents (81%) indicated that they had purchased fuel oil from only one dealer in the 2000 – 2001 winter heating season, and 65 of 79 respondents (82%) said that they had contacted only one dealer to check on price before making their purchases. These responses may indicate an informed dealer selection at the beginning of the heating season,

⁶ Kristen Hansen (October 1998). *Seasonality of Moves and Duration of Residence*, Current Population Report P70-66, U.S. Department of Commerce, Economics and Statistics Administration: Washington D.C.

⁷ Carol Faber (January 2000). *Geographical Mobility: Population Characteristics*, Current Population Report P20-520, U.S. Department of Commerce, Economics and Statistics Administration: Washington D.C.

which is simply not revisited during the heating season. If this is the case, the alliance must simply seek to time its outreach and member enrollment to compete for the *initial* decision on where to buy fuel oil. In contrast, however, the responses may alternatively indicate a tight allegiance to fuel oil vendors irrespective of price, whether by choice or merely because of consumer inertia. If this is the case, the alliance may be facing a market that is hard to enter and in which it will be a struggle to acquire sufficient market penetration to achieve self-sufficiency.

The lack of price checking by consumers occurs despite the presence of multiple fill-ups over the course of the heating season. Survey respondents typically reported from three to four fill-ups during the course of a heating season.

Best Estimate of Number of Fuel Oil Tank Fill-ups Each Winter	
1	5
2	8
3	15
4	12
5	5
6+	12

The success of a group purchasing alliance will depend on its ability to break through consumer inertia in making fuel oil purchasing decisions to convince consumers that the price breaks available through an alliance are both credible *and* significant enough to merit changes in purchasing decisions.

The Low-Income Consumer

Somewhat more than one of every eight persons in the region represented by the New York REACH project lived with incomes below the federal Poverty level in 1997. Jefferson County had the highest proportion of persons below Poverty (15.9%) while Saratoga had the lowest (7.3%).

Poverty Rate by County		
	1997 Poverty Rate	2000 Population
Albany County	10.9%	294,565
Herkimer County	13.9%	64,427
Jefferson County	15.9%	111,738
Onondaga County	15.1%	235,469
Oneida County	12.7%	458,336
Rensselaer County	11.7%	152,538
Saratoga County	7.3%	200,635
Schenectady County	11.0%	146,555
SOURCE:		
U.S. Census Bureau, Model-Based Income and Poverty Estimates for New York in 1997, http://www.census.gov/hhes/www/saipe/saipe/estimate		

Knowing simply what the Poverty rates are in the study counties does not inform us of the depth or distribution of low-income status. While Year 2000 Census data is not available, insights can

be obtained from the 1990 Census. The table below shows the distribution of low-income persons over Poverty Ranges at or below 150% of the federal Poverty Level. Uniformly, roughly one-fifth of all low-income households in each county living below 150% of Poverty, in fact, live below 50% of the Poverty Level. For example, while 24% of all persons in Herkimer County live below 150% of Poverty, 5% of all persons live below 50% of Poverty; while 21% of all persons in Jefferson County live below 150% of Poverty, 4% live below 50% of Poverty.

Distribution of Poverty in Study Counties New York REACH Counties						
	Percent of Persons by Poverty Range					
	Below 50%	50-74%	75-99%	100-124%	125-149%	Total <150%
Albany County	5%	2%	3%	3%	3%	16%
Herkimer County	5%	3%	5%	6%	6%	24%
Jefferson County	4%	3%	4%	5%	5%	21%
Oneida County	5%	3%	4%	4%	4%	19%
Onondaga County	4%	3%	3%	3%	3%	16%
Rensselaer County	4%	2%	3%	3%	3%	15%
Saratoga County	2%	1%	2%	3%	2%	11%
Schenectady County	4%	2%	2%	3%	3%	14%

SOURCE:
U.S. Census Bureau, Summary Tape File 3A, Table P121, 1990 Census.

The depth and distribution of poverty is important in that it helps to determine home energy burdens for low-income households. Two different three-person households with identical energy bills of \$800, for example, will have dramatically different home energy burdens, if the first household has an income of 50% of Poverty (\$7,075) yielding an energy burden of 11.3% and the other has an annual income of 125% of Poverty (\$17,688), yielding an energy burden of 4.5%.

One thing that Poverty Level does not do is to provide insights into the actual level of income experienced by a household (unless the size of the household is known as well). The table below presents 1990 information on household income for households having income of less than \$15,000 per year.

Household Income (1989) By New York REACH County			
	Less than \$5,000	\$5,000 - \$9,999	\$10,000 - \$14,999
Albany County	5,188	9,388	8,934
Herkimer County	1,204	3,723	2,993
Jefferson County	1,756	4,086	4,125
Onondaga County	8,364	16,819	14,115
Oneida County	5,199	10,441	9,066
Rensselaer County	2,595	4,630	4,845
Saratoga County	1,774	4,315	4,409
Schenectady County	2,351	5,114	4,919

SOURCE:
U.S. Census Bureau, Basic Facts, Quick Table DP-4 (income and poverty status in 1989).

A group purchasing alliance can target these low-income households as a core of the alliance membership. These households can be reached through collaboration with the social service network serving low-income households. Moreover, the high numbers of low-income households indicate that a group purchasing alliance has the potential to “do good” by reducing home heating burdens for significant numbers of low-income consumers.

Non-Payment and Receipt of Fuel Assistance

Given the intent to have low-income consumers as a core membership base, one risk to the viability of a group purchasing alliance is that fuel vendors will balk at the notion of serving such a low-income customer base. There would appear to be two competing interests involved here. On the one hand, it is possible that the low-income status of customers would make them greater credit risks. On the other hand, it is possible that the receipt of federal fuel assistance in support of bill payment would offset that risk, and more.

The concern about late or missed payments seems well-founded. Of the 28 fuel oil customers providing a “profile” through NYSCAA in the REACH CAAs, 16 reported having made a late payment within the past year, while 12 reported having “missed” a payment during the year. Only one REACH participant, however, reported having experienced a discontinuance of fuel oil deliveries due to nonpayment during the past year. The households reporting having missed payments, or made late payments, said that the most common reason for the delinquency was either unexpected household expenses (including car repairs) (n=12) or high seasonal home energy bills (n=11).

LIHEAP is a significant presence in the multi-county region initially to be served by a group purchasing alliance. Of the 28 New York REACH fuel oil customers, 16 received federal fuel assistance. Information on the number of fuel oil customers receiving LIHEAP is not available. Neither the state nor the county LIHEAP offices could provide information on the number of grants going to fuel oil customers or on the amount of LIHEAP benefit dollars broken down by fuel type.

THE FUEL OIL/PROPANE RETAIL INDUSTRY

The Prevalence of Fuel Oil/Propane Vendors

One issue for a group purchasing alliance to consider is the extent to which there are existing vendors serving the population. Information can be obtained for individual counties on the presence of fuel oil and propane vendors. The U.S. Economic Census reports the number of establishments.

Fuel Dealers, Heating Oil Dealers, Propane Dealers			
	Fuel Dealers /a/	Heating Oil Dealers	Propane Dealers
Albany County	16	13	3
Herkimer County	7	6	---
Jefferson County	9	7	1
Onondaga County	20	16	4
Oneida County	8	6	1
Rensselaer County	17	15	2
Saratoga County	12	10	2
Schenectady County	14	13	---

NOTES:

/a/ Fuel dealers include both heating oil and propane dealers.

SOURCE:

1997 Economic Census, New York State, Retail Establishments.

Other fuel buying alliances have counseled that an alliance should have contracts with multiple dealers to serve customers. The goal of the alliance should be to become a sufficiently large provider of customers to be “important,” but to avoid becoming over-dependent on any particular dealer. An over-dependence can impede effective bargaining, since a decision to change dealers would hurt the alliance as much or more than it would hurt the dealer. One alliance, for example, had an exclusive arrangement with one dealer. When the alliance switched vendors due to escalating prices, only 40% of the membership switched along with the alliance. An additional 40% stayed with the vendor and 20% of the membership went “somewhere else” (unknown, but lost to the alliance in any event).

One recommendation has been to aim for an average member-to-dealer ratio of 500-to-1. Using this benchmark, a total membership of 7,500 customers would thus require 15 participating dealers to achieve the recommended ratio. Given the 86 fuel oil dealers reported in the study region by the 1997 Economic Census of New York State, this would involve a participation of roughly one of every six fuel oil vendors in the purchasing alliance. Obviously, use of different member-to-dealer ratios would change these needs.

Given the combination of a relatively small number of propane customers along with the proportionately small number of propane dealers, propane purchasing will not be discussed in the remainder of this report.

Fuel Oil Prices

The purpose of a group purchasing alliance is to arrange for fuel oil deliveries at prices that are less than “full retail” that would otherwise be charged. Group purchasing alliances functioning in other states (such as Massachusetts and Pennsylvania) have negotiated prices that are a fixed margin over wholesale “rack” prices. The feasibility question presented by this process is whether retail prices in the New York counties are sufficiently high to support this type of negotiation process.

A comparison of retail fuel oil prices to wholesale fuel oil prices allows for conclusions to be drawn about the margin being received by fuel oil and propane dealers in the region to be served by a purchasing alliance. The New York State Energy Research and Development Authority (NYSERDA), under contract to the Energy Information Administration of the U.S. Department of Energy (EIA/DOE), tracks monthly and weekly retail prices by region in New York State. The monthly prices are presented in the table immediately below.

2001 Monthly Fuel Oil by Region (in cents per gallon) (last updated April 26, 2001)		
	Capital District Region /a/	Central Region /b/
September	140.3	135.0
October	145.8	144.7
November	150.1	149.8
December	152.2	153.1
January	151.3	153.9
February	147.7	150.9
March	140.1	142.8
April	133.3	136.4
NOTES:		
/a/ Capital District region includes Albany, Rennselaer, Saratoga and Schenectady counties from REACH counties.		
/b/ Central Region includes Oneida and Onondaga counties from REACH counties.		
SOURCE:		
Monthly Home Heating Oil Prices, http://www.nyserd.org (last updated April 26, 2001).		

To compare the prices at which a purchasing alliance would deliver fuel oil to full retail prices, a designated margin was added to rack prices posted at three terminals serving the Capital District Region, the Central Region, and the North Country Region. The three terminals selected include Albany, Syracuse and Utica. Albany rack prices were compared to full retail prices in the Capital District Region. Syracuse and Utica rack prices were compared to full retail prices in the Central Region. Syracuse rack prices were compared to full retail prices in the North Country Region. Weekly retail prices were obtained for each region from NYSERDA. Weekly rack prices were obtained for each terminal from the Oil Price Information Service (OPIS). Prices were compared from September 2000 through April 2001. A margin of \$0.25 per gallon was added to rack prices to generate purchasing alliance prices.

Assuming winter fuel oil purchases of a magnitude and timing calculated in the analysis of financial viability (relating fuel oil consumption and purchases to weekly heating degree days), a purchasing alliance would generate dramatic price and bill savings for its membership. The *lowest* calculated annual bill savings was \$198 off a bill that would otherwise be \$1,177 (\$1,177 vs. \$979). The highest annual savings was \$209 off of a bill that would otherwise be \$1,166 (\$1,166 vs. \$957).

A comparison of; (1) the average retail price, (2) average prices given a \$0.25 over rack, (3) average savings per gallon, and (4) average annual bill savings for each region is presented

below. As can be seen, the average price savings per gallon ranges from \$0.25 (Syracuse: Central and North Country regions) to \$0.26 (Albany: Capital District; and Utica: Central Region) per gallon. The average bill savings ranges from \$198 to \$209 assuming an annual consumption of 800 gallons. Higher consumption would generate higher bill savings while lower consumption would generate lesser savings.

Purchasing Alliance Prices and Bills vs. Full Retail Rates Capital District/Central Region/North Country Region (Rack Prices: Albany, Syracuse, Utica Terminals)				
	Capital District	Central 1 /b/	Central 2 /c/	North Country
Average retail price	\$1.46	\$1.47	\$1.47	\$1.47
Average NYCEA price /d/	\$1.20	\$1.22	\$1.22	\$1.22
Average price savings per gallon	\$0.26	\$0.25	\$0.26	\$0.25
Average bill savings per year /a/	\$209	\$199	\$205	\$198
NOTES:				
/a/ Assumes annual consumption of 800 gallons per year.				
/b/ Central 1 uses Syracuse rack prices.				
/c/ Central 2 uses Utica rack prices.				
/d/Prices assumed to be \$0.25 over rack.				

A NEW YORK CONSUMER ENERGY ALLIANCE (NYCEA)

Based on all of the above, the recommendation is that NYSCAA pursue the development of a fuel oil group purchasing alliance. For purposes of the recommendations below, this group purchasing alliance will be referred to as the New York Consumer Energy Alliance (NYCEA).

Relationship to NYSCAA

At least during its start-up years, NYCEA will be an independent project of NYSCAA. In this fashion, NYCEA will have access to basic organizational resources, such as office space, materials procurement, photocopying, fiscal staff, administrative staff, and the like. By having NYSCAA provide the basic organizational support functions, NYCEA staff can focus on the organization and operation of a purchasing alliance, rather than on tax status applications, articles of incorporation, and other similar start-up issues for a new nonprofit.

Under this approach, NYCEA should have its own staff; have its own telephone lines; have its own letterhead; and have its own “presence.” It should simply be identified as an independent project of NYSCAA. It will not have an independent Board of Directors. NYSCAA’s Board will be the governing body (and NYSCAA’s Executive Director will be the administrative link between the Board and NYCEA). It will not file its own tax returns. NYSCAA’s fiscal staff will perform all fiscal functions.

While ultimately, NYCEA should become an independent non-profit organization, during the start-up years, the benefits of being part of an established organization such as NYSCAA will be substantial.

Staff Structure

NYCEA should begin with two dedicated fulltime and one part-time staff. From its inception, NYCEA requires a fulltime Fuel Oil Director and a fulltime Membership Director.

- The Fuel Oil Director should focus on the operation of the project. He or she would work with vendors, track prices, enlist organizations to enroll low-income members, monitor income and expenses, and otherwise work to “create” the NYCEA organization and network.
- The Membership Director should focus exclusively on enrollment and customer service. The Membership Director would recruit members, assign members to vendors, trouble-shoot customer service problems, and otherwise be the point of contact between the membership and the organization.

The need for a part-time support staff is anticipated as well, to ensure that the Fuel Oil Director and Membership Director do not spend their time answering telephones and doing support work.

Beginning in the second or third year, NYCEA should expect to hire a fulltime field staffperson as well. This person would be a circuit rider within the expanded NYCEA service territory to work with local organizations on everything from recruitment, to organizational training, to field-related customer service work. The field staff would be intended to ensure that NYCEA has a regular, stable in-person presence in each of the counties within NYCEA’s service territory.

Geographic Focus

NYCEA should begin operations in the Albany-Troy-Schenectady metropolitan region. In short order (Year 2 or Year 3), it should be possible (and necessary) to expand the organization’s service area to the Syracuse and Utica metropolitan areas.

Income Statements/Cash Flow Projections

Three financial projections were developed for a possible group purchasing alliance. The base case scenario assumes 4,000 new members per year, with an 80% membership retention rate from year to year. An optimistic projection was developed using an assumption of 5,000 new members per year. A pessimistic projection was developed using an assumption of 2,000 new members per year. Each is explained below.

The financial analyses which assume a source of outside start-up support incorporate a revenue sharing mechanism. This mechanism provides that NYCEA would share an increasing proportion of its annual revenue with the entity providing start-up support over a three year period. The revenue sharing percentage would be as follows:

Year 1	Year 2	Year 3
30%	60%	90%

What this involves is a sharing of internally generated revenue with the entity providing start-up funds up to a maximum of the amount of start-up funds provided. Internally-generated funds will arise from a combination of membership fees and commissions. In Year 1, therefore, NYCEA is assumed to pay 30% of its internally-generated revenue to the entity providing start-up support. In Year 3, NYCEA is assumed share 90% of its internally-generated revenue with that entity.

The various scenarios below do not vary staff based on the number of NYCEA members. A NYCEA membership of 12,000 would be managed with the same staff of a NYCEA membership of 4,000. To the extent that staffing is a variable cost, actual financial statements may somewhat vary from those provided below.

In addition, other major costs are not assumed to vary based on the number of members. The only major expense that directly varies based on number of members is "member education." Finally, consulting services and revenue sharing are both assumed to end at the end of Year 3.

Base Case Scenario

A base case financial analysis of a group purchasing alliance indicates that it would be a financially viable proposition over a three year period with outside start-up support. The base case analysis assumes an enrollment of 4,000 new members per year and an 80% membership retention rate each year. Members are assumed to join the organization at a constant rate over each 12 month period. All members who leave the organization are assumed to leave the organization at the end of the 12 month period. Under

this set of circumstances, at the end of three years, NYCEA would have 9,760 members.

The financial analysis shows the following:

- A Year 1 deficit of nearly \$180,000 would occur in the absence of financial start-up support from some outside organization. Total expenses of \$309,678 would be offset by total revenue of \$132,667.
- With outside start-up support, the group purchasing alliance would be able to generate a surplus of income over expenses in Year 1 of its operations under the base case scenario. A Year 1 surplus of \$23,189 would be followed by surpluses of roughly \$50,000 per year in Years 2 and 3, even with an increasing revenue sharing program. The annual surplus in Year 4, the year after the outside start-up support ends, would be in excess of \$190,000.
- There is an increasing cash surplus at the end of each year through the first four years. In Year 2, the year-end cash balance is \$73,000. By Year 4, the year-end balance is \$315,000.
- This cash surplus would appear to allow NYCEA to support the provision of supplemental services to its membership, including, for example, any one or a combination of energy efficiency investments, budget counseling, or a low-income fuel fund.

Optimistic Scenario

A second set of financial statements were prepared assuming a more optimistic set of enrollment figures. These financial projects involve an annual enrollment of 5,000 members per year, with an 80% annual retention rate. At the end of a three year period under such assumptions, NYCEA would have a total of 12,200 members.

The financial analysis shows the following:

- A Year 1 deficit of roughly \$150,000 would occur in the absence of financial start-up support from some outside organization. Total expenses of \$311,804 would be offset by total revenue of \$145,971.
- With outside start-up support, the group purchasing alliance would be able to generate a \$44,279 surplus of income over expenses in Year 1 of its operations.
- Under the optimistic scenario, the Year 2 and Year 3 surplus would be identical to the surplus generated under circumstances involving no outside support. The outside entity is assumed to provide \$240,000 in support, but the revenue sharing mechanism would repay those funds in the year they were provided. In these circumstances, the

outside support would be a safety net rather than an outside source of subsidy.

- Under the optimistic scenario, NYCEA would generate an annual surplus of \$323,272.
- Under the optimistic scenario, NYCEA would have a growing cash balance. In Year 2, the year-end cash balance would stand at \$145,921. By Year 4, the year-end cash balance would stand at \$623,172.

Pessimistic Scenario

A third set of financial statements were prepared assuming a more pessimistic set of enrollment figures. These financial projects involve an annual enrollment of 2,000 members per year, with an 80% annual retention rate. At the end of a three year period under such assumptions, NYCEA would have a total of 4,880 members.

The financial analysis shows the following:

- A Year 1 deficit of roughly \$240,000 would occur in the absence of financial start-up support from some outside organization. Total expenses of \$305,426 would be offset by total revenue of \$66,333.
- Even with outside start-up support, the organization would continue to incur deficits through Year 4. In Year 2, total expenses of \$325,326 would be offset by total income of \$306,333. In Year 4, the first year after outside support ends, the annual deficit would be roughly \$70,000. The accumulated four-year deficit would be nearly \$220,000.
- The accumulated deficit of \$220,000 does not mean that the annual external support provided is placed entirely at risk. In each year of operation, there is a revenue sharing arrangement with the source of start-up support. In year 3, while NYCEA would operate at a deficit (\$119,191), an entity providing \$240,000 in support would have received a return of \$199,668 of that revenue.
- Clearly, an annual growth of 2,000 members (with an 80% retention rate) would not allow the sustainable operation of NYCEA at the operation levels presented in these financial statements.

Break-Even Scenario

A final set of financial statements were prepared in an effort to obtain some insights into what the breakeven scenario would be involving an annual enrollment ramp-up of more than 2,000 members but less than 4,000 members. These financial projects involve an annual enrollment of 3,000 members per year, with an 80% annual retention rate. At the end of a three year period under such assumptions, NYCEA would have a total of 8,856 members.

The financial analysis shows the following:

- A Year 1 deficit of roughly \$210,000 would occur in the absence of financial start-up support from some outside organization. Total expenses of \$307,552 would be offset by total revenue of \$99,500.
- With outside start-up support, NYCEA would operate at a break-even point in Year 1. The organization is projected to have a surplus of \$2,098, with \$337,402 in expenses being offset by \$339,500 in revenue. In Year 4, the year after revenue sharing ends, the organization is projected to have an annual surplus of \$61,979.
- In Year 3, operation of the revenue sharing mechanism would place the organization in a temporary negative cash flow position (-\$33,419). This negative cash flow will fully utilize any surplus generated during the first two years of operation. The negative cash flow position would be erased by the annual surplus generated in Year 4 operations.

Summary

The attached financial analyses would appear to counsel that a minimum membership growth of 3,000 members per year for the first four years of operation is necessary for the financial viability of the organization (given the assumptions stated above, including an 80% membership retention ratio and a constant enrollment over the course of the year). An accelerated membership enrollment, involving more members enrolled earlier in the year, would generate increased revenue as additional commissions are earned on fuel oil purchased during the course of the winter heating season. In contrast, a higher churn rate, or a slower enrollment, would adversely affect the financial projections presented. In addition, a slow-down in the enrollment over the years -if new Year 4 enrollment does not equal Year 1 and Year 2 enrollment-- would adversely affect the financial position presented in these statements.

SUMMARY AND CONCLUSIONS

The discussion, data and analysis presented above leads to the following conclusions:

- Under the stated assumptions, a fuel oil purchasing alliance would appear to be financially feasible with a net enrollment of 3,000 new members per year over a three-year start-up period.
- A sufficient number of fuel oil customers exist in the study region to support a fuel oil purchasing alliance. The same cannot be said for propane customers.

- A sufficient number of vendors exist in the study region to support a multi-vendor approach to a fuel oil purchasing alliance.
- Wholesale rack prices are sufficient to support a purchasing alliance price of \$0.25 over rack.
- Retail prices are such that an alliance price of \$0.25 over rack would provide substantial annual consumer savings, while at the same time supporting sufficient commissions to sustain the alliance.
- Substantive risks are presented by the presence of consumer churn and the existence of the considerable consumer shopping inertia that would need to be overcome to attract members to the purchasing alliance.
- The active enrollment of low-income alliance members in the federal fuel assistance program would more than mitigate any potential bill payment problems by those customers.
- An alliance initially operated as an independent project of NYSCAA would be the preferred start-up administrative structure for the purchasing alliance.
- An initial geographic focus on operating in the Albany-Troy-Schenectady metropolitan region, followed by a quick ramp-up in the Utica and Syracuse regions, would be the preferred ramp-up scenario.
- A three-year source of external support, offset by a mechanism providing for an increasing sharing of externally generated revenue, would be necessary to the successful start-up of the purchasing alliance.

In sum, Fisher Sheehan & Colton find that a group purchasing alliance in the form of NYCEA, as evaluated above, is a feasible and desirable initiative for the New York State Community Action Association to pursue under the circumstances and conditions outlined above.

FINANCIAL STATEMENTS

The financial statements have been omitted from this document.