REPORT

Market Potential

For

Composite Propane Cylinders:

Report and Survey Results

Compiled By

Good Company Associates

For

Propane Education &

Research Council

Washington, DC 20006

Battelle

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This report was prepared for the Battelle Institute and the Propane Education and Research Council (PERC) by Good Company Associates Inc. of Austin, Texas. Principal researcher and writer was Paul Wattles. In addition to broad experience with projects relating to markets for propane and alternative fuels products, Good Company provides policy analysis and business development services for a client base of companies and organizations with interests in clean energy, utility policy, and health and human services. Questions about this report can be addressed to:

Good Company Associates, Inc.
816 Congress Avenue, Suite 1100
Austin, TX 78701
(512) 480-2220
(512) 480-2227 FAX

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Executive Summary

Composite propane cylinders (also known as canisters or tanks) offer a modern, high-technology alternative to a product that has remained essentially unchanged for at least six decades. For customers who are willing to spend more for convenience, composite cylinders offer an attractive alternative to the standard steel design for a niche market. For the propane industry, composites have the potential not only to capture some market share from steel, but also to expand the overall sales of propane to existing and new customers.

With an estimated 80 million units in active use, the standard 20-lb. steel cylinder remains a bulwark of the propane industry—durable, safe, inexpensive, with a uniform size and shape that enables exchangeability and efficiency of distribution. At the same time, for some end-use customers, steel cylinders can be heavy, bulky, challenging to transport, prone to rust, and even unattractive. In addition, steel cylinders lack a fuel gauge, forcing their owners to buy spare cylinders or play a guessing game on when to take them in for refill or exchange. In the absence of an accurate gauge or view window, many customers end up refilling or exchanging their cylinders prematurely, and thus paying for fuel not used. Others report having backyard barbeques end in disaster when the fuel runs out unexpectedly.

All of these concerns can be addressed through the technology of composites. Dealers, exchange center managers, and existing and prospective end-use customers surveyed by Good Company Associates for this report were overwhelmingly positive in their assessment of various potential features of composite cylinders. Among the many notable findings:

- Nine of 10 current users of standard cylinders said they would consider purchasing a composite cylinder with the described features.

- One-third of those who are not currently using propane cylinders said that the availability of composite cylinder features would cause them to consider moving to propane;

- A fifth of current users said the improved features of composites could motivate them to increase their propane use;

- A majority of current users indicated a willingness to pay a higher price for the improved design features of composite cylinders.

Regarding the critical issue of retail price, the $50 level appears to be to be a threshold of some significance, if not a ceiling. Notably, the opinions expressed in this survey were formed in the absence of an actual prototype cylinder which would have permitted the customers to see, handle and test the product, and potentially could have provided more justification for a higher retail cost. Nonetheless, consumers were consistently cautionary in their approach to price, and this conservatism was supported by the prevailing attitudes among key personnel at propane dealerships and exchange centers. This indicates that consumers do not assign a high level of importance to their propane cylinders, and that the challenges associated with handling and refilling them are occasional and relatively minor in the scheme of things. While the advanced features may be highly desirable, the cylinders in themselves may not be an important enough part of many peoples' lives to warrant a significant additional expenditure. Even with a significant marketing campaign to tout the new features, a stand-alone composite cylinder may be challenged to achieve significant market penetration if the retail cost of the product exceeds the $50 level. Initially at least, cost will likely restrict composites' ability to gain market share, limiting them to a niche of customers who are willing to pay extra for added convenience.

However, a significant short-term market entry opportunity may exist even if initial retail market prices for stand-alone cylinders must exceed the $50 level due to ramp-up manufacturing and materials costs. A substantial percentage of new cylinders entering the market are acquired as a standard feature with the purchase of a barbeque

grill. Several major retailers report selling more grills with cylinders than cylinders separately. Some report almost inconsequential stand-alone cylinder sales, even as their propane grill business thrives. These retailers, which in many cases also operate propane exchange stations through wholesalers such as Blue Rhino and AmeriGas, are also the primary market channel for new cylinders.

At the same time, a significant percentage of customers already pay extra for convenience by acquiring their propane from these exchange centers. Typically located at major retail stores, exchange centers—where fuel costs can be at least double that of other sources—are the most accessible and prevalent sources of propane fuel, especially for urban and suburban customers. The constituency for exchange centers will likely be quite similar to the constituency for composite cylinders: customers leading busy lives who are willing to spend more on alternatives that offer convenience.

Good Company recommends that the initial marketing strategy for composite propane cylinders should focus on market entry through the major barbeque grill manufacturers, rather than on trying to introduce stand-alone products at the consumer retail level. Grill manufacturing companies should be persuaded to view the positive attributes of composites as adding enough meaningful value to their products to consider absorbing or passing on the increased costs. Importantly, this strategy should be developed in close consultation with the leading exchange cylinder distributors and retailers, as they will likely be the primary source of fuel for composite cylinder customers. If grill sales are successful in creating an immediate market footprint for composite cylinders, cylinder exchange distributors and retailers would be influenced to add the composite products to their offerings. This concentrated strategy offers the composite cylinder industry the most lucrative opportunity to acquire meaningful market share in the short term, while simplifying somewhat the initial distribution challenges and still building momentum toward eventual market transformation.

Background & Objectives

For at least 60 years, the portable propane cylinder in the United States has remained virtually unchanged. The dominant model of steel cylinder on the market is manufactured in a uniform rounded cylindrical shape—approximately 13 inches in diameter and 18 inches high, with an 8-inch diameter steel bottom ring that serves as a stand. Cylinders weigh approximately 20 pounds empty, a number that roughly doubles when filled with LPG fuel (propane). The cylinders are generally painted a light color (to reflect heat), and are subject to rust, especially on the bottom ring.

Steel propane cylinders are available in other sizes, including a 30-lb. model, a 40-lb. model, and a 100-lb. model. However, the estimated combined market share of these alternate size cylinders is well below 10 percent. The larger-size cylinders are typically used to provide fuel for recreational vehicle and camper appliances, small camping gear such as lanterns and cook-stoves and, especially in the case of the largest model, space heaters at worksites and other off-grid locations. Aluminum cylinders have acquired a limited amount of market share in these larger models, but in the smaller standard size the metal's attributes (lighter weight, non-corrosive) are outweighed by the drawback of substantially higher cost. This report is primarily focused on the market potential for the 20-lb. steel model, which is referred to hereafter as the "standard" or "standard steel" cylinder.

By far the most popular use for portable propane cylinders in the United States is as a fuel source for backyard barbeque grills. Grills almost exclusively use the standard cylinder, and most grills have a cylinder rack or platform built in to their design. Gas grills have enjoyed a surge in sales over the past 15 years, with numerous factors contributing to their popularity:

- Gas grills' versatility, convenience and ease of cleanup;

- Sleeker grill designs and advancements in technologies including more realistic simulated coals;

- An increase in the awareness of grilling as a healthy alternative to frying or broiling;

- An increase in health concerns related to the effect of charcoal smoke on cooking meat;

- The air quality implications of charcoal smoke and lighter fluid fumes, especially in Clean Air Act non-attainment areas.

Propane has taken the lion's share of this new gas grill market, as it is the safest and most economical gas grill fuel available for customers who do not have natural gas service. Indeed, even many customers who do have home natural gas service prefer propane, as many gas homes lack a backyard grill connection, and propane cylinders allow grills to be mobile.

Because the propane cylinder market is so closely linked to the gas grill market, this report concentrates on consumers who purchase propane in cylinders primarily for use in grills, and on their suppliers. Manufacturing processes involving the use of advanced composites—specifically including an internal vessel made from filament-wound glass fibers—can produce a replacement for the standard cylinder weighing 30 to 50 percent less than steel. Composite cylinders would also be rustproof and could be manufactured a wide variety of shapes, colors and designs. Perhaps most importantly, composite cylinders can be translucent, allowing the user to view the remaining level of liquid fuel.

Composite propane cylinders with some or all of these features are already enjoying market success in several European nations, where consumers and distributors alike praise them for their various advantages over the standard steel cylinder. In these

countries, composite cylinders have passed safety tests and gained regulatory approval, and are earning significant market share.

The process of securing federal regulatory approval for composite cylinders in the United States is well underway, and may enable market entry for composites within the next 6-24 months. This study is intended to assist manufacturers and marketers in developing strategies to achieve success with the new product introductions. The objectives of the study are as follows:

- Identify in detail the principal complaints of consumers and suppliers about limitations of the existing standard steel cylinders.

- Describe several potential composite cylinder design advancements to consumers and suppliers, gauge and measure their reactions, and prioritize the results.

- Determine from these consumers and suppliers whether the advantages of composite cylinders will outweigh the additional costs, and quantify the additional costs that consumers would be likely to pay for these design improvements.

- Provide recommendations or suggestions for U.S. marketing strategies as appropriate.

Methodologies

To gauge the market's readiness for this new technology, Good Company Associates developed questionnaires and interview outlines based on information provided by Battelle and other industry leaders. These questionnaires and outlines served as the foundation for detailed research with multiple market participants, including:

1. Propane Dealers and Refill Stations. Especially in suburban and rural areas, dealers and refill stations are a popular and inexpensive source of propane. Customers bring in their empty cylinders which are refilled while they wait. Good Company conducted detailed interviews with proprietors of numerous central Texas suppliers, with questions based on a prepared interview outline.

2. Propane Exchange Centers. These include several well-known national retail chains which offer the ability to bring in an empty cylinder and exchange it for a full one. The price of propane fuel from an exchange center is typically 50 to 100 percent higher than from a dealer or refill station, indicating that this distribution channel is driven largely by convenience. Exchange centers are popular with urban and suburban customers who tend to shop at these stores regularly for other items, and who may have less access to propane dealers which are frequently more rural. Exchange centers also are the acknowledged leading source for the purchase of new cylinders.

3. Current users of propane barbeque grills. These are the end-use customers who are using propane and handling cylinders on a regular basis. Our customer response portion of this study involved contacting several dozen of these customers with a prepared survey (questionnaire). The survey gauges their satisfaction level with steel cylinders, quantifies their perceived value of the composite cylinder features, and extracts estimates of how much they would be willing to spend to acquire a new cylinder with those features.

4. Non-users. This survey asked whether the consumer had ever previously used a gas grill, and if so, why they have curtailed use. It followed up by gauging their response to the composite cylinder features (essentially by asking the same questions posed to current users); asking whether such features would prompt them to begin using or return to using a propane grill; and asking the price question as well.

Both end-user consumer questionnaires sought to determine the following:

- to identify certain use habits of the respondents;
- to elicit unprompted opinions about current standard cylinders;
- to elicit opinions of possible composite cylinder features based on verbal descriptions, and rate them on a numerical scale (Note: actual composite cylinder samples were not available for purposes of this survey);
- to attempt to learn whether the added convenience of composite cylinders might increase the respondents' use of propane;
- to elicit a maximum price respondents would be willing to pay for a cylinder with the stated convenience features;
- in all cases, to encourage the respondents to express other opinions or provide comments.

End-user surveys were distributed to a random, geographically varied and economically diverse group. A copy of each end use survey (for Current Users and Non-Users) was provided to each prospect. A qualifying question was asked initially to enable the respondent to determine which survey to complete. The majority of the surveys were completed and returned via e-mail. Others were mailed, faxed or hand-delivered.

In a conscious attempt to encourage comments and opinions, research with propane dealership and exchange center personnel was conducted more informally through individual interviews. Some of these interviews were conducted in person, some by telephone. The interview outlines developed for these respondents were used mainly as guidelines, and were not shown to the respondents.

Good Company also contacted other industry experts, based on information provided by Battelle. Input from these sources, and from the discussions at the Jan. 22 Composite Propane Tank Working Group meeting in Washington, has been documented and is used throughout this report.

Copies of all questionnaires and interview outlines, and spreadsheets expressing the compiled data, are attached to this report (Addendum A).

Findings

With survey questions focusing on the standard 20-lb. propane cylinder in the barbeque grill market, strong, clear opinion trends emerged from respondents in all categories. The conclusion can be clearly drawn that consumers consider the design of the standard cylinder to be imperfect and antiquated, with substantial room for improvement. Numerous customers and suppliers identified, without prompting, complaints with various design features and other characteristics of the cylinder. With prompting, additional complaints were almost always identified.

The most common complaint identified by far was the lack of an accurate way to gauge a steel cylinder's remaining fuel level. For most customers, the variation between a cylinder's full weight of 40 pounds and its empty weight of 20 pounds is the sole indication they have of how full a cylinder is at any given time. Some modern barbeque grills include a simulated fuel gauge—typically a spring-loaded cylinder mounting mechanism—that strives to assist the customer in estimating the remaining fuel in the cylinder. However, the accuracy of these mechanisms is typically imprecise. To avoid running out of propane during a cookout, some grill owners report buying a spare cylinder, which allows the empty cylinder to be taken in for refill or exchange and then to be held in standby reserve.

Other complaints about the standard steel cylinders include their weight and bulk, their tendency to rust, their difficulty in transport and, to a much lesser extent, their unattractiveness.

This section describes the survey and interview results in detail, and in order of priority based on the project objectives and the strength of the opinions received.

CONSUMERS

Among the surveys returned and completed, Current Users outnumbered Non-Users by nearly 2 to 1.

Current Users

This group consists of consumers who identified themselves as current users of propane-fueled barbeque grills. It is the better informed of the two end-user groups, and represents the most immediate target market for composite propane cylinders.

1. Current Use. While all respondents in this group confirmed current use of propane as a barbeque grill fuel, 32 percent also indicated using propane for other purposes. These applications include:

    a. Space heating;

    b. RV, camper, and camp fuel (lighting, grills);

    c. Turkey fryers;

    d. Plumbing torches.

2. Complaints and Feature Ratings. Following, in priority order, are the combined results of responses related to current complaints and favorability ratings of proposed composite cylinder features. Complaints were identified by checking off boxes in a list. Favorability ratings were obtained by asking respondents to rank the importance of feature on a scale of 1 to 5, with 1 being "Unimportant" and 5 being "Very valuable." Combined calculations of these

feature ratings are represented here as percentages of the total possible points available (the maximum for each feature would be 5 points times the total number of respondents).

a. Fuel Level Window: A total of 88 percent of respondents identified "Can't tell fuel level" as a complaint or concern about their steel propane cylinders. Asked later in the survey to rate the importance of various possible features of composite cylinders, this group awarded "View window for fuel level" a full 94 percent of the total possible points.

b. Weight/Bulkiness. The second-most frequently identified complaint or concern was "Heavy/bulky," named by 59 percent of respondents. Respondents were advised that composite cylinders would weigh approximately half that of steel.

c. Cylinder shape: The third most frequently identified current complaint was "Rolls around during transport," which was identified by 47 percent of the group. However, respondents awarded 84 percent of the total possible points to the prospective feature "Box shape (won't tip over, stackable)." On a related note, one respondent voluntarily listed "sharp edges" as a complaint about current cylinders.

d. Wheels/Retractable Handle: A theoretical design feature identified by Good Company and Battelle prior to the surveys, this feature received 72 percent of the total possible points awarded to prospective composite cylinder features.

e. Rust. Only 32 percent of respondents identified "Rust" as a complaint. They were advised separately that composite cylinders would be rustproof.

f. Appearance: Only 15 percent identified "Unattractive" as a complaint about current cylinders. Appearance also ranked lowest among prospective composite features, as the "Designer colors" option received only 32 percent of the available points.

3. Overall desirability: Asked if they would consider purchasing a composite cylinder with the listed features, 94 percent of respondents indicated "yes."

4. Increased use: Twenty-one percent of respondents indicated that a fully featured composite cylinder would be likely to stimulate an increase in their use of propane.

5. Price: The questionnaire attempted to quantify the perceived value of composite cylinders by asking respondents to identify a price range, representing the maximum they would be willing to pay for an empty composite cylinder with the improved features. Current cylinder prices were identified in conversations with retailers as "up to $35". The results are as follows:

a. Same (up to $35)	47 percent
b. $35 - $50	41 percent
c. $50 - $70	12 percent
d. Over $70	None

A majority of current consumers (53 percent) thus indicated a willingness to pay more for an improved composite cylinder product.

Non-Users

Consumer respondents who indicated they are not current users of propane grills were asked to complete a separate survey. Following is a summary of these results:

1. Previous Use. Sixty-one percent of these non-users reported having previously used an appliance such as a grill that required a portable propane cylinder for fuel.

2. Reasons for non-use: Respondents were asked to list the reasons why they do not use a propane grill today. These results are listed in order from most common to least common:

   a. Prefer charcoal: 44 percent

   b. Cost of grill: 33 percent

   c. Cylinder inconvenience: 22 percent

   d. Don't BBQ at all: 17 percent

   e. Cost of propane: 6 percent

   f. Use natural gas: None

   Other reasons cited voluntarily include: condominium or apartment restrictions; prefer cooking with wood; don't BBQ enough to justify acquisition.

3. Composite cylinder feature ratings: Respondents were informed of the same prospective composite cylinder design features described to current users. Their responses follow, in order of popularity:

a. Fuel level view window 86 percent of total possible

b. Box shape/stackable 64 percent of total possible

c. Wheels/retractable handle 54 percent of total possible

d. Designer colors 24 percent of total possible

4. Willingness to move to propane: Asked if the prospective composite features would prompt them to consider acquiring (or re-acquiring) a propane-fueled grill, 33 percent of respondents said yes.

5. Price: Of those respondents who indicated that they would consider moving to a propane-fueled grill with a composite cylinder, 83 percent indicated they would not be willing to pay more than the current price (up to $35) for a new (empty) cylinder. Seventeen percent indicated they would be willing to pay up to $50 for the cylinder. None of the respondents indicated a willingness to pay more than $50.

PROPANE SUPPLIERS

Exchange Centers (Retail Stores)

For urban and suburban customers, propane exchange centers—typically a feature of such retail outlets as grocery stores and home improvement superstores—are often more convenient than propane dealerships (refill stations). Customers bring empty cylinders in and exchange them for full cylinders, which are typically provided by third-party propane wholesalers such as Blue Rhino or AmeriGas. In our consumer surveys, 42 percent of current users of propane cylinders indicated that they purchase their

propane from exchange centers. (Exchange centers' estimated share of the standard cylinder market nationally is 30 percent, although this number is increasing rapidly and is projected to reach 35 percent by the end of 2003.) Good Company conducted in-depth interviews with propane managers at several central Texas retail stores where propane cylinders are exchanged. Key findings are summarized here:

- Propane cylinder exchange operations are conducted outdoors for safety reasons, typically from a metal or wire storage cabinet that must be unlocked by a store employee. These storage cabinets are designed specifically to accommodate existing, uniform-sized standard steel cylinders. Thus, any dramatic change in the size or shape of the cylinders could require a change in distribution method, over and above the decision by the retailer to expand its number of stock-keeping units.

- Propane fuel from an exchange center is more expensive than propane from a refill station (typically by 50 to 75 percent) and especially than propane from a dealership (usually by at least 100 percent). The price for fuel, to exchange an empty cylinder for a full one, can run as high as $18.

- New cylinders can be purchased empty from a retail store (exchange center) for an average of about $23.

- A wide range of estimates were provided by exchange center managers relating to what percentage of their cylinder sales business is stand-alone as opposed to being part of a grill package. One store manager stated that the "vast majority" of cylinders were sold with grills; his counterpart at another store indicated that a majority were sold individually; and personnel at other outlets estimated approximately equal shares.

- Propane managers at exchange centers report the following feedback from their customers:

- The ability to view fuel level was cited overwhelmingly as the most desirable prospective feature for composite cylinders. Managers cited the lack of a fuel gauge as the most common customer complaint about current cylinders.

- Other complaints were less consistently voiced. Some managers discounted concerns about rust or unattractiveness, while some passively indicated that they may be helpful sales features. The suggestion for a retractable handle and wheels was well-received by most respondents.

- The store personnel indicated that the majority of their chains' purchasing decisions are made centrally, but that each store manager has some leeway in ordering locally popular products. All were at least somewhat interested in the idea of carrying a composite cylinder option, although their price concerns tended to echo those of end-use customers. The average ceiling price cited by these retail personnel for an empty cylinder was about $35.

Dealerships and Refill Stations

Propane dealers' primary revenue is through bulk delivery of propane to homes, typically in rural areas not served by natural gas suppliers. Dealerships' locations thus tend to cater to customers who live beyond the natural gas delivery grid. Cylinder sales, and even small cylinder refills, are generally considered a sideline business offered mainly as a convenience to customers, and these businesses report selling substantially fewer new cylinders than retail store exchange centers. Dealerships are by far the most economical source of propane fuel for cylinders, however, with refill prices typically less than $10 per cylinder and dipping as low as $7. Propane dealerships carry extremely limited selections, if any, of consumer products such as barbeque grills.

Dealerships also have wholesale customers—typically such businesses as smaller, independent hardware stores and truck rental outlets—that offer consumers refill services for standard cylinders. Refill stations typically charge in the $10 to $12 range, which is higher than the dealer-direct cost but still less expensive than an exchange center. Because propane is a sideline business for refill stations, they sell few if any cylinders and seldom offer any propane-related products or accessories.

Key findings from our detailed conversations with several central Texas propane dealers are listed here.

- Echoing the results from end users, all dealership personnel, unprompted, cited the lack of fuel level visibility as the primary complaint received from their customers.

- Other complaints cited included the steel cylinders' heaviness and bulkiness, and their tendency to rust. None of the dealers considered "unattractiveness" to be a major issue.

- New steel cylinders are more expensive when purchased from a dealer, as opposed to a retail store (exchange center). Empty cylinder prices at dealerships averaged around $30 but went as high as $35.

- Dealership personnel were generally positive about the prospects for composite cylinders, again citing the fuel level view window as the most promising feature. Attractiveness again ranked lowest among the various concerns, although one dealer predicted that designer colors could prove popular among residents of a nearby country club.

- Each dealership indicated that actual cylinder sales were a small portion of their overall business. Dealers unanimously deferred the question of whether they would consider adding a composite option to their cylinder sales until final features were determined and pricing established.

- Dealers expressed skepticism that customers would pay a lot more for the cylinders, generally indicating a ceiling price of around $50.

- Dealers also expressed skepticism about the issues of designer colors. Dealers stated that cylinders are painted light colors in order to reflect heat and help keep the LPG at a safe temperature, indicating that dark color options could pose safety concerns, especially in hot climates such as Texas.

- Dealers were similarly skeptical about the prospect of expanding propane use to indoor settings, citing the relief valve on the cylinders as a necessary safety feature that would be incompatible with indoor use.

Market Opportunities & Strategy

The multiple convenience features of composite cylinders appear to have strong appeal to a segment of propane customers in the U.S. market. An intelligent marketing strategy offers the prospect of an initial niche market presence for composites, and over time, the potential to transform an overall market that has changed very little in several decades.

Based on our research and analysis, we find that the opportunity for propane containers would be most successful using the following approach as part of the marketing plan for composite cylinders:

1. In developing prototype products and marketing plans, the most important feature to include and emphasize is fuel level visibility.

2. Also important is to design a prototype in a shape that is demonstrably stable in transport. A box or cube-shaped cylinder would also bring the benefits of stackability for convenience in storage and improved warehousing operations

3. If a model can be developed with a retractable handle and wheels, this feature could have the potential to expand acceptance of propane cylinders. Such a combination of features has completely transformed the luggage industry in approximately one decade.

4. Initial marketing efforts should focus on introducing composite cylinders to the market via the barbeque grill industry. A significant percentage of new cylinders are sold as an inclusion with a new barbeque grill. Grill manufacturers stand to see the added convenience of the composite cylinders as a substantial enhancement to their product line.

5. At the same time, initial strategy should pay close attention to the requirements and limitations of propane exchange centers. Exchange center customer characteristics closely resemble those of prospective composite cylinder customers, in that they are most willing and likely to pay extra for convenience. These centers will be required to carry inventory of any style of cylinders that are likely to be brought in for fuel exchange or replacement sale, so their storage and distribution needs must be accommodated. Accordingly, it is highly likely that only a small number of models—perhaps even a single model initially—can be expected to gain market acceptance.

6. A separate, simultaneous marketing campaign should be launched to build public awareness of the new products. The underlying intent of this campaign would be twofold: to convert existing grill users to the new cylinders, and to attract some of the 33 percent of non-propane grillers who said that the composite cylinder features would encourage them to reconsider propane. A shared, or cooperative, advertising campaign in conjunction with grill manufacturers could mitigate the costs of this awareness initiative.

7. Establishing optimum retail price points during market introduction will be critical. This survey indicates that customers will be reluctant to spend dramatically more than they are currently spending for propane cylinders. However, it should also be noted that at least 30 percent of all customers (based on national data) have already demonstrated a willingness to pay extra for convenience—as demonstrated by their purchasing propane fuel from exchange centers where it is most expensive. This could thus be an indicator of a willingness of this market to accept higher priced cylinders, or higher priced grills if they are sold with the convenient cylinders.

Next Steps: Recommendations

The preceding survey identifies both the primary limitations of existing steel cylinders and the most promising features of new composite cylinders. It also lays the foundation for an initial marketing strategy for composites. The development and refinement of that strategy should begin as soon as possible in order to ensure coordination with the parallel effort to obtain regulatory approval for composite cylinders.

The Composite Propane Tank Working Group, organized by Battelle, is pursuing an aggressive schedule for regulatory approval of composite cylinders in the U.S. market. At its Jan. 22 meeting, the Working Group set a rough deadline for development of a "blanket request for exemption" to be submitted to the U.S. Department of Transportation by midsummer of 2003. The blanket request process, which would allow cylinders built to the approved specifications to be manufactured and sold by multiple entities, entails detailed examination and testing by USDOT of working prototypes for each specific product seeking approval. Thus, for optimum success in this compressed time frame, the industry would be well advised to settle on a small number of products, and to quickly develop prototypes for submission.

The process of identifying the best initial prototypes should be undertaken as a concentrated joint effort involving, at a minimum, representatives of the following entities:

- Cylinder manufacturers;
- Barbeque grill manufacturers;
- Propane cylinder exchange providers;
- Retailers offering cylinder exchange services.

This process could be accommodated by creating a separate Marketing Committee of the Composite Propane Tank Working Group, which could meet in conjunction with the meetings of the members who are working toward regulatory approval (i.e., the Regulatory Committee). The Marketing Committee should have an explicit set of goals aimed at enabling the availability of optimum prototypes in time for submission to USDOT with the request for exemption.