

LIQUIFIED PETROLEUM GAS INDUSTRY GROWS TO PROMINENCE IN BRIEF SPAN

Green's Fuel is a trade name for liquefied petroleum gas, otherwise termed as compressed gas, natural gas, LP-gas, bottled gas or tank gas. By whatever name it is called, liquefied petroleum gas has been one of the fastest growing industries in the United States.

Production of this gas for homes and industry has grown like ragweed... it is still growing. The principal reason for its growth is that it provides entirely satisfactory, highly modern, cooking, water heating, refrigeration and general heating service to millions of American families residing throughout the 48 states.

Industry Expands

Back in the early 20's, liquefied petroleum gas was a waste product that was flared or weathered off at refineries and gasoline plants. As recently as 1927 there were only 1 million gallons of liquefied petroleum gas marketed in an entire year. What might be called an industry was hardly noticeable until the middle 30's when (1936) there was reported a sales volume of 106,662,000 gallons of liquefied petroleum gas which sold for about 48 million dollars. Ten years later: 1.7 billion, worth about 380 million dollars and in 1949, 2,725,000,000 gallons of liquefied petroleum gas were marketed. To emphasize the magnitude of volume sold in 1949, it represents about 20 gallons for every man, woman and child in the United States.

Industrial plants use liquefied petroleum gas for economy because it is a clear fuel; it has a constant BTU content; it is dependable and in its application, it has the utmost flexibility. This is also true with the application of liquefied petroleum gas for domestic use; between high and low flame, there is an infinity of adjustments. The instantaneous reaction of heat permits reaching peak performance immediately. It is estimated that 78 million individual meals per day are cooked on liquefied petroleum gas.

Used On Farms Too

On the farm, liquefied petroleum gas is used for household purposes, for heating brooders and stock water tanks, supplying the heat for milk can sterilization, for heating requirements in any of the farm buildings and as a fuel for tractors and other internal combustion engines used for power on the farm such as pumping water for irrigation purposes.

There are about 28 million homes in the United States that use gas of which it is said about 25 per cent are users of liquefied petroleum gas.

This industry has developed from practically nothing to the position of prominence where it stands today. Its retail distribution is amounting to more than a half billion dollar business annually and it is increasing its importance due to the many new uses and the many new customers which it is adding to its services each day.

The extent of this rapid growth and

the strong continued market acceptance supports the belief shared by those within this industry that liquefied petroleum gas has earned recognition as an essential service in this nation's industries, utilities, homes and farms and that it has become an important part of our total economy.

New Uses Found

A few of the newer uses for the application of this gas are as follows:

- Green houses.
- Poultry preparation for market.
- Dehydration.
- Tobacco curing.
- Brazing and carburizing.
- Flame cutting and welding.
- Heat treating and annealing.
- Ceramic equipment.
- Enameling furnaces.
- Laundry and dry cleaning equipment.
- Textile equipment.

Many times the question is asked, just what is liquefied petroleum gas? Liquefied petroleum gas comes out of the ground in three ways: (1) in wet natural gas (wet because it is rich in liquefied petroleum gas); (2) in casing-head gas, an extremely wet gas that comes out of oil wells; and (3) in crude oil. From wet and casing-head gases, liquefied petroleum gas is extracted at natural gasoline plants and cycling plants. A gasoline plant, for example, by absorption or compression, separating off the usable fractions. The first to come off are methane and ethane (pipeline natural gas). The next to separate off are propane and butane which, unlike methane and ethane, can be kept in liquid form under moderate pressures. Most of the remainder is a combination of fractions, natural gasoline, which stays as a liquid under little pressure and is used in the manufacture of motor fuel. From crude oil, the extraction of liquefied petroleum gas occurs in refineries where distillation, thermal and catalytic cracking processes give off light hydrocarbon gases in which it is present. These are then processed in the same way as at gasoline plants.

The job of delivering the liquefied gas from the producers to the different distributors in the field has resolved itself, mainly, to three different forms of transportation; (1) special railway tank cars of which there are thousands in movement daily; these tank cars are heavily built, insulated cars, designed especially for moving liquefied petroleum gas and hold, each, a little over 10,000 gallons; (2) specially designed transport tank trucks, carrying up to 5,000 gallons; (3) ocean going tankers built for the transporting of Liquefied Petroleum Gas.

Huge Carriers

The Natalie O. Warren built by Warren Petroleum Corporation is in daily use and carries 1,300,000 gallons. Standard Oil Company (N. J.) use two ocean going liquefied petroleum gas carriers to transport the gas to

Brazil where it is very attractive not only to the owners of lush Rio apartments but to inhabitants of jungle as well.

All gas delivered to the bulk storage plants of the Green's Fuel organization comes by tank cars. In Polk county, for example, there is 150,000 gallons bulk storage; this is ample to take care of the requirements for this area under all circumstances. Trucks are filled at these storage plants and deliver gas to the container located on customer premises quickly and efficiently and without any interruption of continuous service. All containers carry the underwriters' label or are stamped with ICC for public protection.

Door To Door Gas Peddlers Disappear

Green's Fuel—handled by the Western Gas Service in Edenton—is a liquefied petroleum gas. Green's Fuel is a trade name for this gas in the same manner that "Standard," "Sinclair," "Gulf," or "Shell" are trade names for gasoline.

There are several different formulas of liquefied petroleum gas. Green's Fuel with its own formula has been marketed for the past 18 years.

It was a small business back in the 1920's, but liquefied petroleum gas has 500 producers, 2,500 distributors, 27,000 dealers and 17,000 gas appliance outlets. It is an important business and very large in dollar volume of sales. It has not been and is not being subsidized by the government. It has stood and is ably standing on its own feet.

The industry started as a surge of thousands of rugged little entrepreneurs with a truck and a few hundred dollars in the bank, peddling gas and appliances from door to door. As far as gas was concerned it was a "salvage" operation. It was a big business to the little operators, but just a by-product to the big operators and not very exciting. That has all changed. The industry has grown 2,000 per cent since 1936.

Competitively the industry is fortunate. The only other to offer comparable service is the electric power industry.

Green's Fuel Used For Plane Flight

A recent illustration on the cover of the magazine Flying-A shows the refueling of a Hughes Carburetor Company's airplane by a Green's Fuel gas truck just prior to the aircraft's flight back to Oklahoma from Sarasota.

The Hughes company, which manufactures carburetors that are particularly adapted for all types of internal combustion engines, has pioneered in the development of aircraft transportation with butane and propane gas.

The aircraft flew to Sarasota for the purpose of demonstrating the

feasibility and the more favorable characteristics of hydro-carbon gases as fuel for internal combustion engines. This demonstration was given at the recent Green's Fuel service school which is held each year for the purpose of training service and technical employees from the four southeastern states served by that company.

This type of fuel, handled in bulk as a liquid, has a high inherent octane rating normally 100, but capable of reaching 125 through blending with other gases of the same group. Due to the high octane rating and slow expansion, compression ratios as high as 12 to one are feasible and tests have shown considerable increase in power over gasoline when higher compression ratios are used on the same engine.

Contrary to common belief, raising the compression ratio of an engine

does not increase the bearing load. Actually, the average bearing load can be materially diminished by an increase in compression ratio. This is due to the fact that inertia forces in engines are almost invariably larger than those due to gas pressure.

Butane and propane are ideal for high compression work not only because of high octane rating, but also because of the absence of carbon and gum deposits, engineers say.

GAS WIDELY AHEAD

Today liquefied petroleum gas is used to heat about two million American homes. Until two or three years ago it would have been safe to bet that 80 per cent of those homes were below the Mason-Dixon Line. Today, northern operators are whittling down that percentage fast.

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