

MARKETER MATH

IN THE NUMBERS WITH ELECTRICITY AND PROPANE

PROPANE education & research COUNCIL

ENERGY FOR EVERYONE

propane

Select any topic from the Table of Contents and be taken directly to it. Select the **Home** button at the top of each page to return here.

HOW DO I USE THIS? →

WHERE DO I START? →

MEASURING UNITS →

ENERGY CONTENT EQUIVALENCY →

COST COMPARISON →

THE PROPANE ADVANTAGE →

MORE BENEFITS →

CONCLUSION →

INTRODUCTION

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Building and maintaining strong relationships with your customers (and future customers) is critical to success in the propane industry. Part of developing and strengthening customer relationships means managing the level of trust they have in you as an energy professional, not just a sales person.

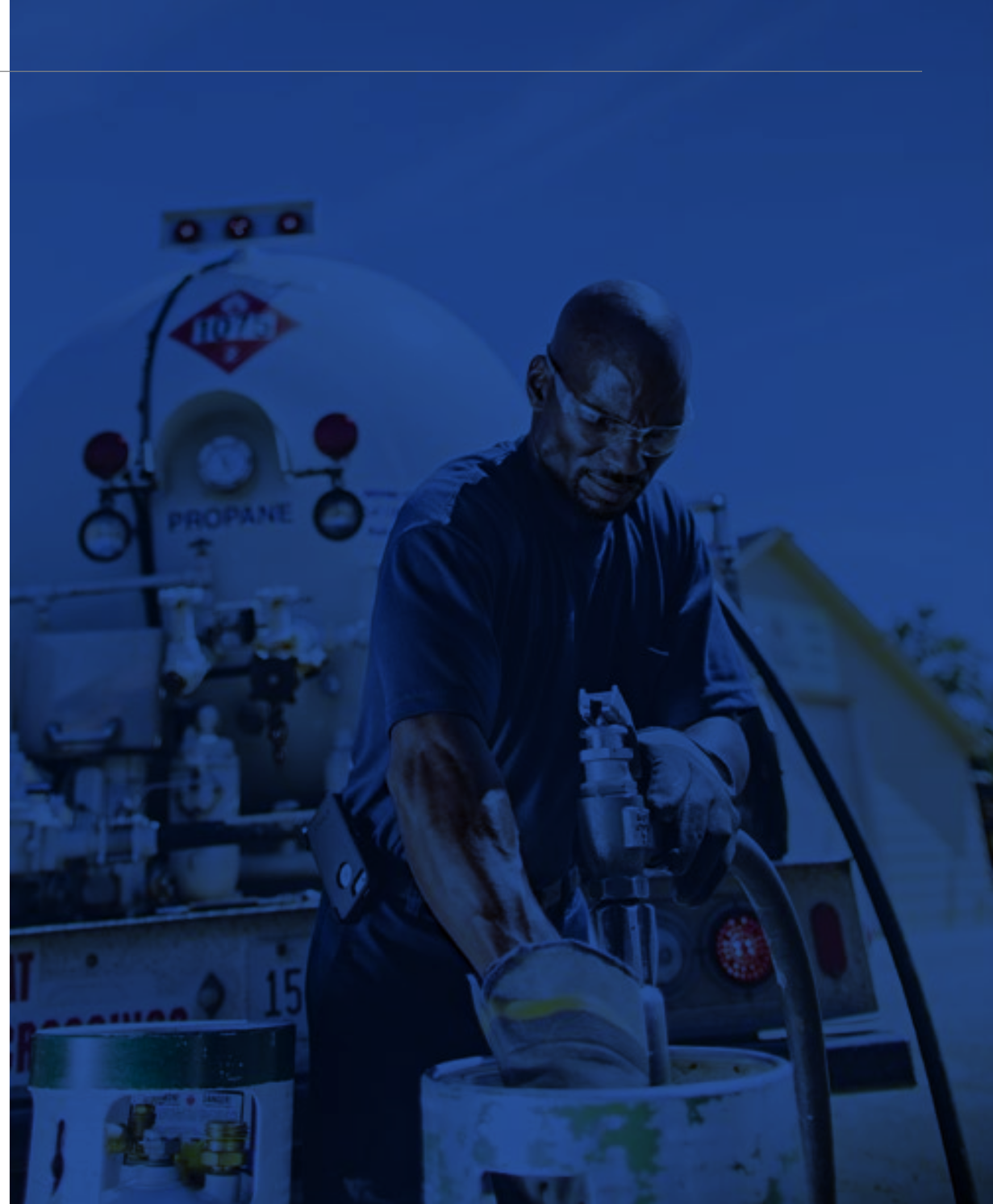
To help you establish and maintain your credibility as their go-to expert, it's important to be able to discuss efficiency and cost differences between propane and competing energy sources such as natural gas and electricity.



HOW DO I USE THIS?

This guide focuses on how to calculate the cost difference between electricity and propane and prepare for conversations with customers and partners. Use this guide to help you:

- Provide valuable information to and strengthen your relationship with customers and partners.
- Establish your consultative expertise in the fuel/energy industry.
- Promote benefits of propane when compared to electricity.



WHERE DO I START?

When customers ask about the cost difference between electricity and propane, explain that in many cases, propane is less expensive than electricity for the same amount of energy, meaning they often get more energy for their dollar with propane.

Providing an accurate difference can be challenging, however. Calculating the cost of using one energy source over the other can involve many factors such as region-specific costs and how the energy source is being used (residential or industrial). There is a way to simplify the comparison and quantify the difference in general.

Part of the complexity of calculating the cost difference between electricity and propane is that each uses its own unit of measure.

In order to compare the two, then, first identify the equivalency between the two different units used to measure electricity versus propane.



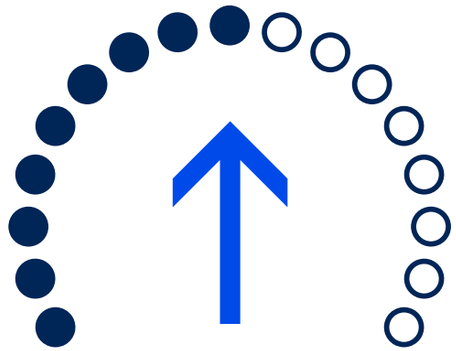
MEASURING UNITS

Propane is measured in gallons, pounds, and cubic feet. However, the usable energy of propane is measured in British Thermal Units (BTUs). A fuel's usable energy denotes the energy content of a single unit and that translates into its efficiency and total cost to the customer.

Electricity is measured in kilowatts, not BTUs.

The efficiency ratings displayed on appliances, whether electric or propane fueled, measure energy consumption per hour.

A propane appliance's efficiency is listed as BTU/hr rating, while the efficiency of an electric version of the same appliance is listed as Kilowatt Hours (kWh). To better understand how these compare, consider the equivalency of propane's energy content to that of electricity.





ENERGY CONTENT EQUIVALENCY

To give a sense of the **difference in energy content** between the two sources, explain this general equivalency: 1 gallon of propane is equal to 27 Kilowatt Hours. 1 kWh is approximately 3,412 BTUs. Bringing this equivalency into units of measure, 27 kWh is equivalent to about 92,000 BTUs (27 x 3,412). (Note: The exact amount is 92,128 BTUs.)

Talking to customers about **conversion rates** and BTUs and Kilowatt Hours can have a **numbing effect** because most **customers just want to know the bottom line,** regardless of the complexity of calculating that number.

To **simplify** the comparison and get a general sense of the cost difference, use the general equivalency and the going rate of each energy source's unit of measure.

1 gallon = **27** kWh

1 kWh **approx** **3,412** BTUs

27 kWh = **92,128** BTUs



COST COMPARISON

To calculate the general cost difference between electricity and propane, you will need to know 3 things:

1. Electricity price per Kilowatt Hour
2. Energy content conversion rate
3. Propane price per gallon

Once you know the price of propane per gallon and the price per kWh, it's a matter of plugging numbers in to an equation.

Price per kWh x 27 (based on general equivalency) = X. Then compare X to the going price per propane gallon.

Note: This cost comparison equation is simplified by assumptions to account for ideal conditions (same efficiency or energy factor between appliances), but since this is rarely the case, consider it a good launching point to discuss the better efficiency of certain propane appliances. Move on to the next pages to read about propane's many advantages.

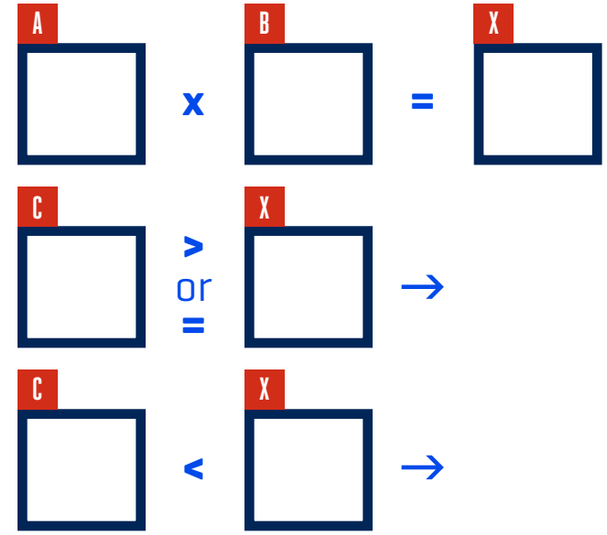
Click each button to learn more about this calculation.

A **ELECTRICITY PRICE PER KWH** →

B **ENERGY CONTENT CONVERSION RATE** →

C **PROPANE PRICE PER GALLON** →

X **ELECTRICITY PRICE PER EQUIVALENT UNIT** →



Click here to find out the correct answer. →

THE PROPANE ADVANTAGE

When customers are asking you about comparing the cost of propane to electricity, they expect a level of expertise from you, their energy professional. There are a couple of challenges to consider, however, when it comes to holding this type of conversation. Be prepared to have this conversation by working the numbers beforehand. Doing so gives you time to prepare and manage some major challenges.

- Jargon and scientific terms (These can deflate your customer's attention and create more confusion).
- Cost difference that benefits electricity.
- When an electric appliance and a propane appliance do not share the same efficiency or energy factor.

Part of being an energy professional is knowing how to drill down to value points that resonate with customers, even when the cost comparison favors electricity, or the calculation isn't so simple due to different efficiency factors. Cost difference or price is important, but in context, it's just one factor of many that customers consider before making a purchase.



To help you visualize how to manage this conversation, imagine that the decision to specify one energy source over the other is like a see-saw. If electricity tips the see-saw its way on price, add more factors to the propane side to provide the big picture to the customer.

Here are a couple of key points you can add to the discussion to tip the see-saw toward propane:

1. When comparing passenger vehicle applications, propane produces about half as many greenhouse gas emissions when compared to an equivalent amount of electricity generated from the U.S. grid.
2. Propane emits about 40% less carbon dioxide than coal. (Remind customers of the coal connection to generating electricity.)

MORE BENEFITS

When you factor in superior comfort, reliability, and energy efficiency, clean propane systems deliver the preferred home energy solution. Depending on whether you're speaking to a homeowner or partner like a construction professional in the region, be sure to express the added benefits of propane.

Select each icon below to learn more.

HOMEOWNER



HOME HEATING



WATER HEATERS



OUTDOOR LIVING

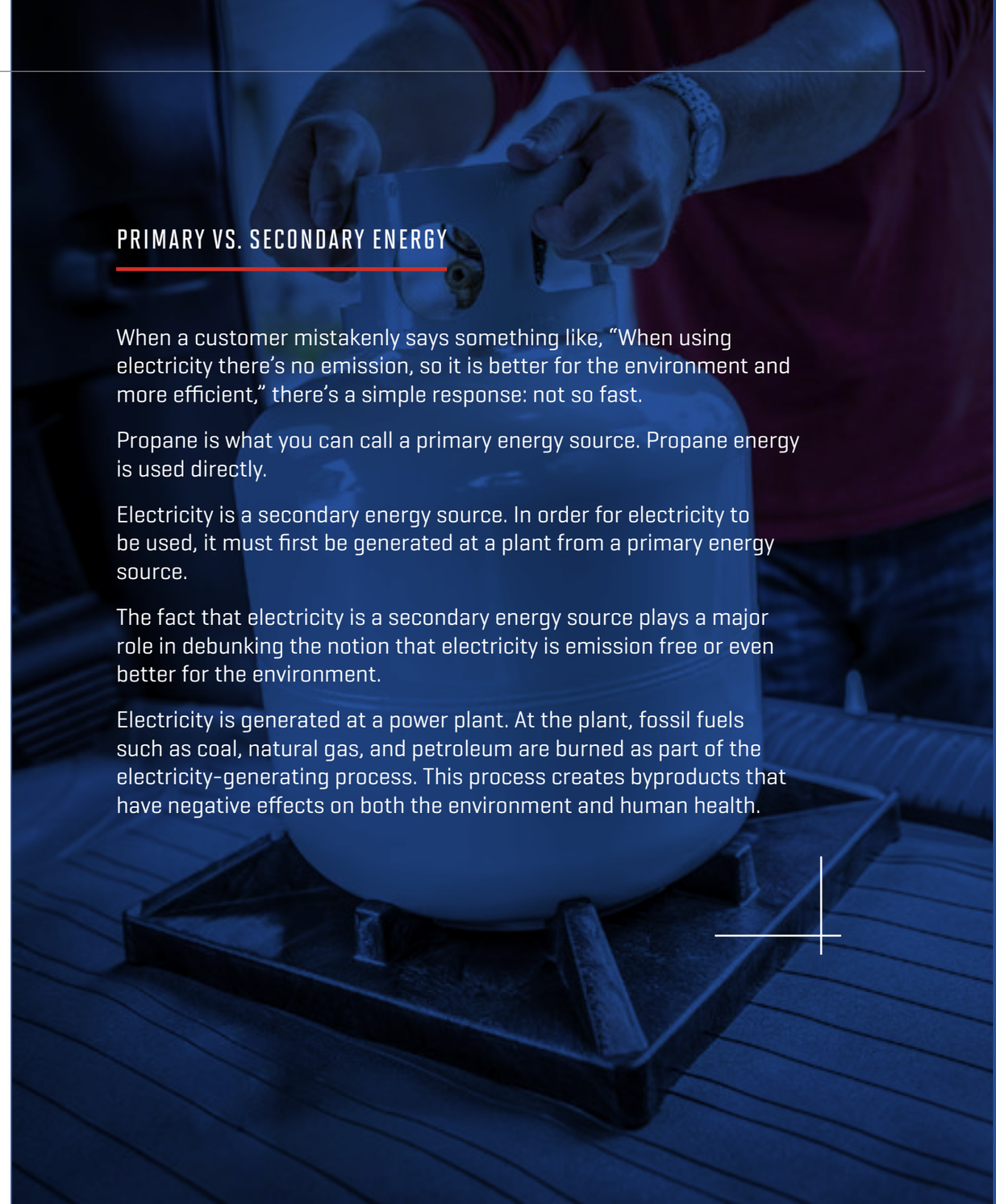


GENERATORS

CONSTRUCTION PROS

MORE BENEFITS, CONTINUED

Be sure to be persistent when promoting your messages to win and keep customers who often don't have all the facts. Find ways to weave messaging about propane's benefits over electricity when reaching out to customers.



PRIMARY VS. SECONDARY ENERGY

When a customer mistakenly says something like, "When using electricity there's no emission, so it is better for the environment and more efficient," there's a simple response: not so fast.

Propane is what you can call a primary energy source. Propane energy is used directly.

Electricity is a secondary energy source. In order for electricity to be used, it must first be generated at a plant from a primary energy source.

The fact that electricity is a secondary energy source plays a major role in debunking the notion that electricity is emission free or even better for the environment.

Electricity is generated at a power plant. At the plant, fossil fuels such as coal, natural gas, and petroleum are burned as part of the electricity-generating process. This process creates byproducts that have negative effects on both the environment and human health.

CONCLUSION

Getting into the numbers with electricity and propane starts with knowing the ins and outs of the different units used to measure each energy source, as well as the energy content equivalency of the two sources. When comparing appliances that have the same efficiency, one gallon of high heating value propane is equal to 27 Kilowatt Hours and 1 kWh is approximately 3,412 BTUs. When calculating the cost difference, apply that equivalency, and then compare the answer to the cost of a gallon of propane.

Avoid commodity type sales conversation based on cost or price. Cost is just one factor. Instead, use a good sales process to manage needs-based sales conversation that underscore your professionalism and expertise in the industry. If the cost of electricity is less than propane, even the playing field with all of propane's benefits—one of which is a trusted advisor who provides usable guidance. That level of service can easily make up the any cost difference.

