



STEEL FABRICATOR BUILDS A BRIDGE TO SAVINGS

**INSTALLING HIGH-EFFICIENCY WELDERS PROVES TO BE EASY
AND COST-EFFECTIVE FOR FOUGHT & COMPANY, INC.**

Welding equipment is the backbone of Fought & Company, Inc., a Tigard custom steel fabricator that has constructed high-profile projects such as the retractable roof at Safeco field in Seattle, Washington, and the structural canopy at Portland International Airport. With the company's welding equipment approaching 30 years old, Steve Fugate, quality assurance manager at Fought, knew it was time to investigate replacement welders. But his time and company capital were at a premium, and Fugate needed help sorting through the options and bringing the project to fruition.

Making the investment

Fought turned to Energy Trust of Oregon, which connected them with their local program delivery contractor, Portland General Electric Customer Technical Services. To help Fought evaluate their options, these engineers provided a comprehensive energy assessment of existing and replacement welders. Energy Trust also helped pay for the new equipment by providing a cash incentive equal to 60 percent of the cost. With estimated annual energy savings of \$29,000, the simple payback for the project is just 2.8 years after the Energy Trust cash incentive. Fought has applied for a 35 percent Business Energy Tax Credit from Oregon Department of Energy that will offset even more of the project cost.

The new welders cut energy use by at least 25 percent during welding and by more than 94 percent during idle time, which can be significant in a company that runs two shifts a day, Monday through Friday. Fans on the new welders operate considerably less, making the plant a quieter place to work. Fought also gained about eight square feet of floor space for each of the 24 stick welders installed.



We couldn't have made this investment without the help of Energy Trust. We had a lot of welders and vendor data to sort through, and they offered a clear analysis of the options and paybacks. This gave us confidence in the numbers, making it easy for management to make an informed decision.



Steve Fugate, quality assurance manager, Fought & Company, Inc.

Fought donated its used welding equipment to local community colleges that didn't have access to the submerged arc welders used in fabricating bridges and large buildings. "This will help build skills in the local work force," added Fugate, "and will make it easier for us to recruit trained employees."

Strategies

In the role as Program Delivery Contractor for Energy Trust, PGE Customer Technical Services is responsible for project scoping and management, which included an energy analysis of existing welding equipment and monitoring a variety of Fought's flux-core and stick welders for several days. They compared the resulting average welding and idle power to that of new models that Fought was considering and calculated the estimated annual energy savings for each option. Fought made the final selection of new equipment, factoring in the manufacturer's performance record and technical support. The table below compares existing and new idle power for both types of welders.

Comparison of average power requirements for existing and new welders

	Existing flux-core	New flux-core	Percent reduction
Idle power (kW)	0.56	0.012	97.9%
Welding power (kW)	20.2	15.1	25.2%

	Existing stick	New stick	Percent reduction
Idle power (kW)	1.35	0.07	94.8%
Welding power (kW)	6.79	4.3	36.7%

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PROJECT-AT-A-GLANCE

GOALS

- Reduce energy use
- Replace 30-year-old equipment

PROJECT BENEFITS

- Reduced energy costs
- Increased use of floor space
- More mobile equipment; greater flexibility
- Decreased noise
- Improved competitiveness
- Trained future work force

EQUIPMENT INSTALLED

- 24 energy-efficient flux-core (wire-feed) welders
- 24 energy-efficient wall-mounted stick welders

ESTIMATED ENERGY SAVINGS

- 417,328 kilowatt hours annually
- 35.4 percent reduction

FINANCIAL ANALYSIS

- \$175,034 project cost
- \$105,000 cash incentive from Energy Trust
- 35 percent Business Energy Tax Credit from Oregon Department of Energy
- \$29,000 estimated annual energy cost savings

PROJECT TEAM

Fought & Company, Inc.
 Energy Trust of Oregon
 PGE Customer Technical Services
 Oregon Department of Energy

UTILITIES

Portland General Electric