

CASE STUDY

AK Steel

West Chester Township, OH



\$1.2M

Investment

The Client

AK Steel produces high-strength steel for a variety of markets. Covering 2,791 acres, their Middletown Steel Works facility in southwest Ohio is a large-scale productive integrated steel operation. The work that is done there includes carbon steel melting, casting, hot and cold rolling, and finishing operations.

The Challenge

The existing pressure reducing valve (PRV) in the number Two Boiler House was needed to lower the pressure of steam to feed the low-pressure steam loop feeding important processes. The PRV did its job but wasted steam energy by the nature of its design.

Our Solution

Plug Smart designed and installed a steam turbine to replace the existing pressure reducing valve. The steam driven turbine generates electricity and drops the steam pressure to the appropriate level needed in the plant. The electrical energy generated was previously “wasted” as steam released to atmosphere via the PRV valve.

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\$388K

Total Annual
Energy Savings

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\$1.3M

In Utility Rider
Exemption secured
by Plug Smart.

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< 1 YR

Financial
Payback Period

Plug Smart offered technical, construction, and governmental administrative assistance to getting our projects completed. Plug Smart and AK steel worked collaboratively to shape the design to meet our needs. This helped to ensure that we had a better project that would generate savings for the long term.”

—Larry Schutte,
AK Steel

Corporate Manager of Energy Optimization