For forge furnaces that operate with high exhaust gas temperatures are not energy efficient. Incorporating a regenerative heat recovery system can substantially improve the thermal efficiency of the furnace. Plants typically reduce gas consumption by more than 40%, while simultaneously obtaining improved heating using Fives North American’s regenerative systems. CO₂ emissions are also reduced by 40%, lowering the furnace’s carbon footprint.

**Furnace Case Study**

- Furnace capacity: 135 metric tonne (149 US tons)
- Original combustion system type: Cold air fired
- Original combustion system power: 6.3 MW (24 mmBtu/hr)
- Conversion combustion type: Two Pairs of TwinBed® II Burners
- Conversion combustion system power: 4.0 MW (15 mmBtu/hr)
- Pre-conversion specific gas energy consumption: 815 kWh/metric tonne (2.8 mmBtu/ton)
- Post-conversion specific gas energy consumption: 465 kWh/metric tonne (1.6 mmBtu/ton)

→ Consistently faster heating cycles with tighter uniformity across the work zone.
→ Smaller temperature differential within the forging pieces.