Four Affco sites save $26,745 annually with regular boiler tuning

Affco tuned their boilers recently at four sites, reducing fuel use by 730,000 kWh per year, saving $26,745 per year

The Opportunity

More than half of Affco's energy is used in boilers. Even a 1% saving in boiler efficiency equates to $52,000 savings per year across the group. Often, sites complete a quarterly safety check on their boilers. However a comprehensive boiler tune is not completed unless specifically asked for.

A boiler tuning programme completed by EECA in 2011 demonstrated savings up to 10% can be achieved.

The Solution

As part of Affco's group energy management programme, four sites (Horotiu, Landmeats, Napier and Moerewa) arranged a boiler tune. The tune met some of the requirements in EECA's guide on boiler system tuning. It includes measuring and reporting boiler efficiency before a boiler tune and after a boiler tune.

Some boiler service businesses report boiler efficiency either before or after a boiler service; however often not both. It is essential to report both, as well as efficiencies across a range of firing loads.

This information is needed to calculate how much fuel is saved and to calculate the necessary boiler tuning frequency.

The Results

Boiler efficiency improvements ranged from 0% for one site up to 2.3%. The four sites are saving $26,745 a year. Cost of the boiler tunes ranged between $600 and $1,500. Note, comprehensive boiler tunes on large boilers can range up to $12,000.

Tuners involved Solid Energy, Advance Boiler Services (ABS), Eastern Boiler Services (EBS) and Steam & Machinery.

EECA offer a discounted programme to tune boilers every six months for two years, using approved tuners, such as ABS, EBS, RCR Energy and EPS.

→ *Four sites tuned boilers*
→ *730,000 kWh saved every year!*
→ *$26,745 annual energy savings*

From Horotiu report by ABS:

> Affco Horotiu should retune its boiler in six months time in order to maintain efficiency gains found during this report.

Firing Rate	After 100%	Before 100%	After 75%	Before 75%	After 50%	Before 50%	After 25%	Before 25%
CO [ppm]	33	30	33	24		28	40	29
O_2 [%]	3.1	4.5	3.2	3.7		3.4	2.6	3.2
Flue Gas Temperature [°C]	319	309	304	300		280	246	240
Combustion Efficiency [%]	90	88	90	89		90	92	92