

**Steven Roeder**

---

**From:** John Kerchinski [JJKerchinski@pcl.com]  
**Sent:** Tuesday, March 16, 2010 11:55 AM  
**To:** Steven Roeder  
**Subject:** RE: Steam Generators

The majority of steam generators built prior to 2002 are remnants of oil fired days. These units typically have very inefficient convection sections to keep the exhaust temperatures above sulfur dew points. As most steam generators are now gas fired, acid dew points are not a concern and convections have been designed to increase thermal efficiency. Pre 2002 units are in the 80% range and our newest designs are in the 90 – 91% range.

Hope this helps

John Kerchinski

---

**From:** Steven Roeder [mailto:Steve.Roeder@valleyair.org]  
**Sent:** Monday, March 15, 2010 4:16 PM  
**To:** John Kerchinski  
**Subject:** Steam Generators

Hi John.

I'm Steve Roeder with the San Joaquin Valley Air Pollution Control District.

As you may know, we are attempting to quantify CO2 emissions from oilfield steam generators.

Could you tell me the overall thermal efficiency of a typical oilfield steam generator that was in operation in 2002-2004 and what the thermal efficiency may be in one of your newest designs?

Any help would be greatly appreciated.

Thank you.

Steve Roeder

Steve Roeder  
SJVAPCD  
34946 Flyover Court  
Bakersfield, CA 93308  
(661) 392-5615

