U.S. DEPARTMENT OF ENERGY | Energy Efficiency & Renewable Energy

INDUSTRIAL TECHNOLOGIES PROGRAM

The Steam System Tool Suite

Diagnose the energy use of your industrial steam system and identify ways to improve its energy efficiency

Discover Your Facility's Energy-Savings Potential with ITP Software Tools

Energy Efficiency Software Tools

http://www.eere.energy.gov/industry/bestpractices/software.html

Save ENERGY Now®

The Steam System Tool Suite

The Steam System Tool Suite is an excellent resource for energy coordinators, facility managers, and plant electricians to diagnose the steam system performance at their plants and identify and evaluate energy- and cost-savings opportunities. The tool suite, developed by the U.S. Department of Energy's Industrial Technologies Program (ITP), includes a scoping tool, a system assessment tool, and an insulation optimization tool that can perform diagnostics on specific areas within a facility.

The tool suite outputs energy profiles that identify areas of a plant's steam system operations in need of improvement. Additionally, it allows analysts to quantify the extent of energy and cost savings if potential improvement opportunities were pursued. Each of the tools include a user manual or step-by-step guide that allows users to quickly identify opportunities. Overall, the tool suite provides fast and easy ways to identify the largest steam system energy-savings opportunities within any facility.

How Does the Steam System Tool Suite Work?

The Steam System Tool Suite consists of the following three tools:

- Steam System Scoping Tool
- Steam System Assessment Tool
- 3E Plus®

The Steam System Scoping Tool

The Steam System Scoping Tool (SSST) helps users perform initial self-assessments of their steam systems. The tool poses 26 questions about different areas of your steam system, including system profiling, steam system operating practices, boiler plant operating practices, and distribution and recovery operation practices. Based on your responses, SSST provides a score indicating opportunities for improvement.

SUMMARY OF STEAM SCOPING TOOL RESULTS

	POSSIBLE SCORE	YOUR SCORE
STEAM SYSTEM PROFILING	90	54
STEAM SYSTEM OPERATING PRACTICES	140	127
BOILER PLANT OPERATING PRACTICES	80	65
DISTRIBUTION, END USE, RECOVERY OP. PRACTICES	30	38
TOTAL SCOPING TOOL QUESTIONAIRE SCORE	340	284
TOTAL SCOPING TOOL QUESTIONAIRE SCORE (%)		83.5%
Date That You Completed This Questionaire		

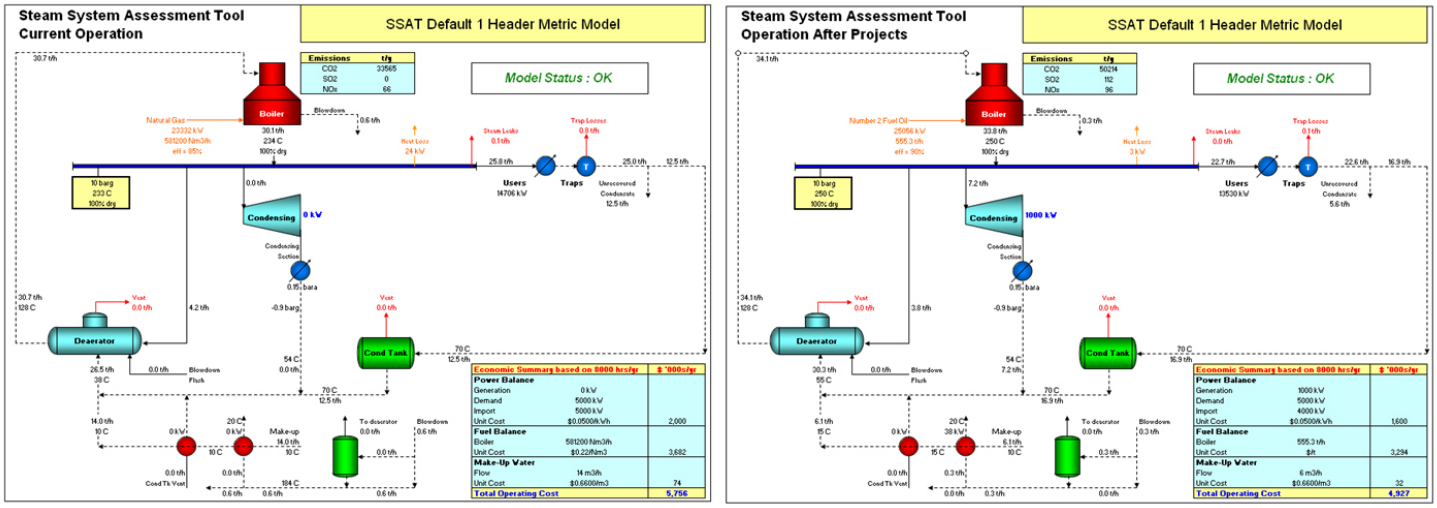
Sample Steam System Summary Report

The tool acts as a scorecard, comparing your system against identified best practices and the self-evaluations of similar facilities. It then suggests a range of ways to save energy and boost productivity.

Steam System Assessment Tool

The Steam System Assessment Tool (SSAT) helps users develop approximate models of real steam systems containing all common steam system components—boilers, backpressure turbines, condensing turbines, deaerators, letdowns, flash vessels, and feedwater heat exchangers.

Using these models, you can apply SSAT to calculate the magnitude—energy, cost, and emissions savings—of potential steam improvement opportunities. The tool also provides energy bill estimates with each improvement scenario.



Steam System Models, Before and After Efficiency Improvements

3E Plus®

The 3E Plus® software tool allows users to calculate how much insulation is needed to cost-effectively conserve energy and avoid the expense of overinsulation, based on user input operating conditions.

What's the Next Step?

The Steam System Tool Suite will guide you to the ITP resources that will help you implement energy improvements at your facility to realize energy and cost savings, including

- Other system-specific software tools to identify targeted savings opportunities
- Consultations with ITP's Qualified Specialists
- Special training sessions for plant-wide and system-specific improvements.

How to Access the Steam System Tool Suite

The Steam System Tool Suite can be ***downloaded for free*** at *http://www1.eere.energy.gov/industry/bestpractices/software_ssat.html.*

To learn more about the Steam System Tool Suite, visit *http://www1.eere.energy.gov/industry/bestpractices/steam.html.*

More ITP Resources

In addition to the Steam System Tool Suite, ITP provides a variety of free software tools to help you identify energy-savings opportunities across your facility. These tools specifically target

- *Motors*
- *Compressed air systems*
- *Fan systems*
- *Process heating systems*
- *Pumping systems*
- *Chilled water systems*
- *Industrial facilities/buildings*
- *Data centers.*

To access these tools, visit ***http://www.eere.energy.gov/industry/bestpractices/software.html***.

To learn about training opportunities on topics related to these systems, visit ***http://www.eere.energy.gov/industry/bestpractices/training.html***.

For more information on ITP, visit ***http://www.eere.energy.gov/industry/***.

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For More Information Contact the EERE Information Center
|-877-EERE-INFO (1-877-337-3463)
or visit ***https://www1.eere.energy.gov/informationcenter/***.