

ABSTRACT

ENERGY SAVINGS AND GLOBAL GAS EMISSIONS MONITORING

Methods and apparatus for enhanced control, monitoring and recording of incoming chemical and power use, and emissions of electronic device manufacturing systems are provided. In some embodiments, integrated sub-fab system systems may monitor the energy usage of the sub-fab equipment. The tool can enter many different depths of energy savings modes such as idle (shallow energy savings where production equipment can recover to normal production with no quality or throughput impact in seconds), sleep (deeper energy savings where production equipment can recover in minutes), or hibernate (where production equipment may require hours to recover not to have impact on quality, or throughput) for the system. In some embodiments, the system may monitor and display all gas emissions in a sub-fab as well as the Semi S23 method reporting of CO₂ equivalent emission. The system may monitor effluent process gases and energy use from the process tool and sub-fab equipment.

Figure 3C