# Intel Energy Conservation Backgrounder

Summary: Intel Corporation has a long history of commitment to the environment, a philosophy that began with our founder Gordon Moore. Today this philosophy guides our product design, our manufacturing operations, our innovative technologies, and our public policies. We have always taken an aggressive stance toward energy efficiency, water recycling, air quality, and materials recycling.

The following are just a few specific examples of energy efficiency and energy conservation in our facilities and operations.

Energy Conservation at Intel:

Intel has a goal of reducing energy consumption in its manufacturing operations by 4 percent per year per unit of production from a 2002 baseline—a goal that it has consistently met or exceeded through a combination of efficiency upgrades in existing buildings and designing the latest, energy-efficient technologies into new facilities and manufacturing equipment.

For many years, Intel has dedicated several million dollars annually to implement conservation projects at facilities worldwide. As a result, the company's energy use per unit of production has been reduced by more than 20 percent since 2002. Over the last 7 years, the company has invested over $20 million in more than 250 energy conservation projects and saved nearly 500 million kilowatt-hours of electricity. That's enough energy to power about 50,000 U.S. homes.

Meanwhile, a new Intel Design Center (IDC9), currently under construction in Haifa, Israel, was designed to achieve silver certification by the Leadership in energy and Environmental Design (LEED) system developed by the U.S. Green Building Council. The building features ultra-efficient air conditioning and electrical systems that both save and recycle energy, sophisticated temperature controls, an irrigation system that will use only recycled water. patio that brings natural light into the center of the floors

Many of the same techniques are being used in the design of Intel's new Fab 68 in China, which will be equipped with highly efficient lighting, transformers, pumps and industrial motors. The fab also will have a heat recovery and reuse system that will dramatically reduce the use of natural gas for heating.

Intel also is working with its suppliers and SEMATECH (a consortium of semiconductor industry companies, suppliers, universities, and government) to develop standards to improve the energy efficiency of manufacturing tools and processes. Intel's latest 45nm Hi-K Metal manufacturing process uses new, high-efficiency vacuum pumps that reduce total fab electricity consumption by 5 percent. This is important, as manufacturing tools account for about 40 percent of the energy used in a fab.

Intel has also implemented a heat recovery system in many of our fabs. This technique uses waste heat from chillers to preheat air in the cleanroom, which can reduce natural gas consumption and corresponding carbon dioxide (CO2) emissions by 30% or more.