

## **Progress on the Road to Semiconductor Manufacturing Sustainability**

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Through its long-term effort to make semiconductor manufacturing sustainable the industry has gained the reputation of being a progressive, “clean” and environmentally friendly industry. As a result the industry has not only in increased company equity values but also in the desire of many communities/regions to attract the industry through large tax concessions. This paper looks at the progress the industry has made in the areas of resource conservation (water and energy), air emissions and waste generation, both hazardous and non-hazardous. It also looks at the underlying changes in fab operations that have resulted in these environmental gains. For example, significant energy reductions have been achieved through HEPA velocity and tool exhaust reductions as well as onsite nitrogen generation and use. In the area of chemical emissions, the industry is working closely with regulatory agencies worldwide to reduce emissions of undesirable chemicals such as perfluorocompounds (PFCs) and perfluorooctane sulfonates (PFOS) and again significant strides are being made to reduce emissions to the environment. The paper touches on on-going ISMI initiatives to continue the drive for even better performance in the future. For example, ISMI has an active program that works with the tool suppliers and the supply chain to encourage them to integrate ESH into the design of new tools and support equipment.