## How can Fabs Reduce Their Water Footprints: From industrial wastewater reuse to atmospheric water harvesting as make-up supplies for ultrapure water

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Modern Fabs use large volumes of tap water purchased from cities. Approximately 2/3 of the incoming tap water usage is for ultrapure make-up water, and the remaining 1/3 for cooling towers, scrubbers and general operations. First, this presentation will discuss challenges and research opportunities for using industrial wastewater from the Fab not only for cooling, scrubbers, etc. but to augment (reduce reliance) on city tap water – using recovered wastewater ultimately to make chips themselves. Second, this presentation examines an emerging new water source for very high quality water – atmospheric water harvesting – as a way to reduce reliance on tap water provided by cities. The economic feasibility and technical challenges will be identified.