



# Dynamic Pump Optimizer

Welcome to the Era of Intelligent Pump Management

Operate pump stations as designed

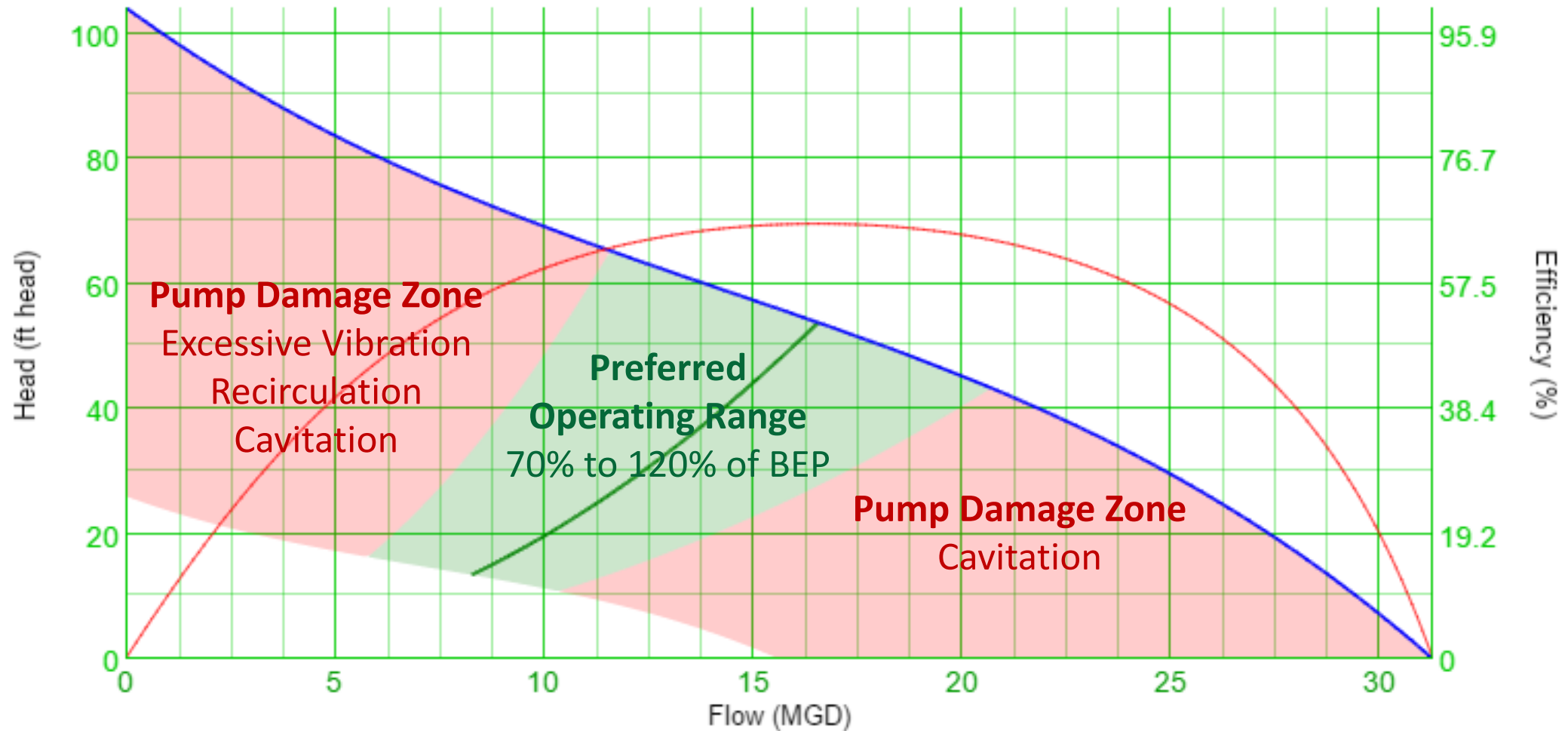
Track changing pump condition

Minimize life cycle costs



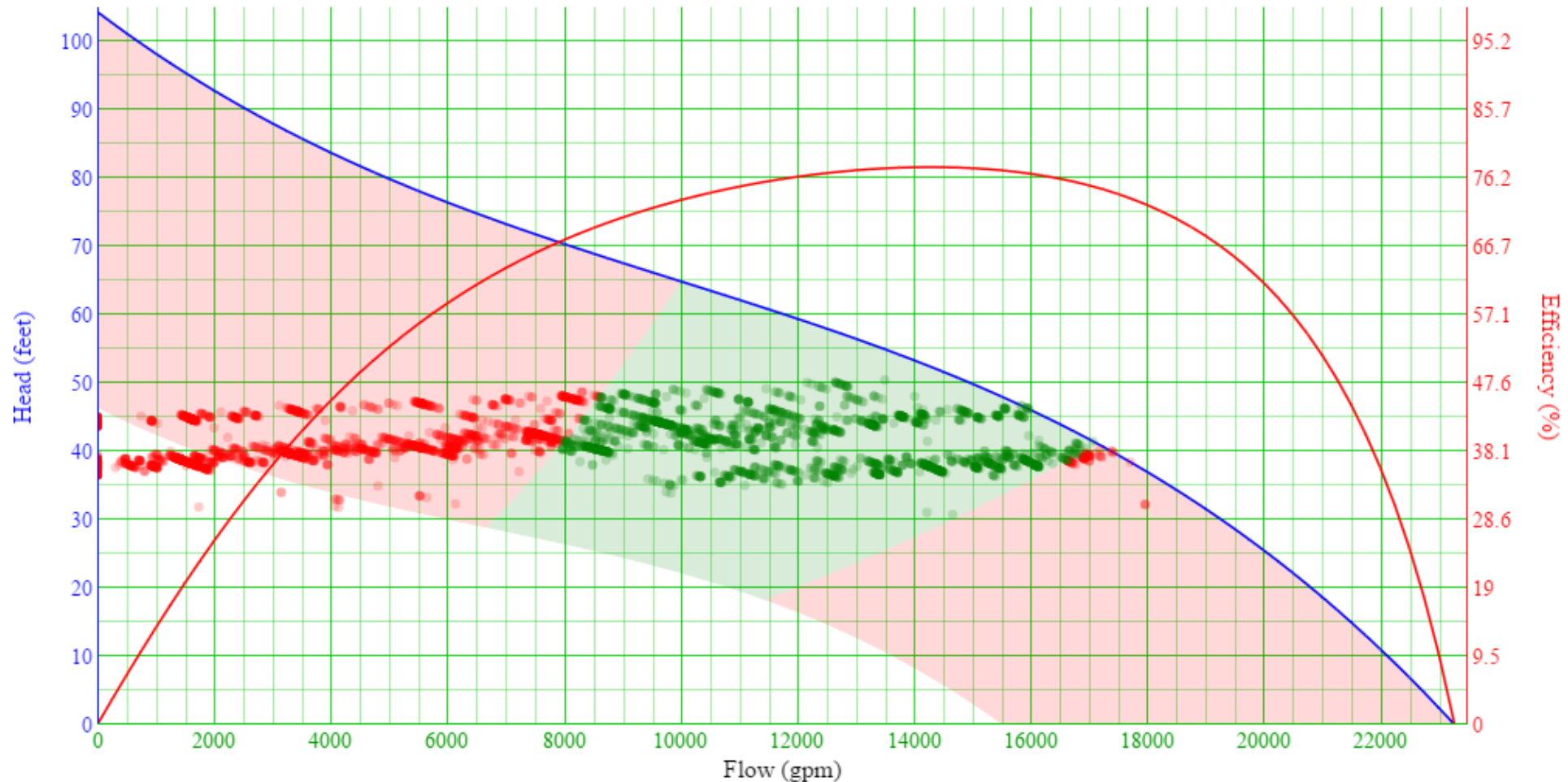


## Preferred Operating Range - Why it Matters

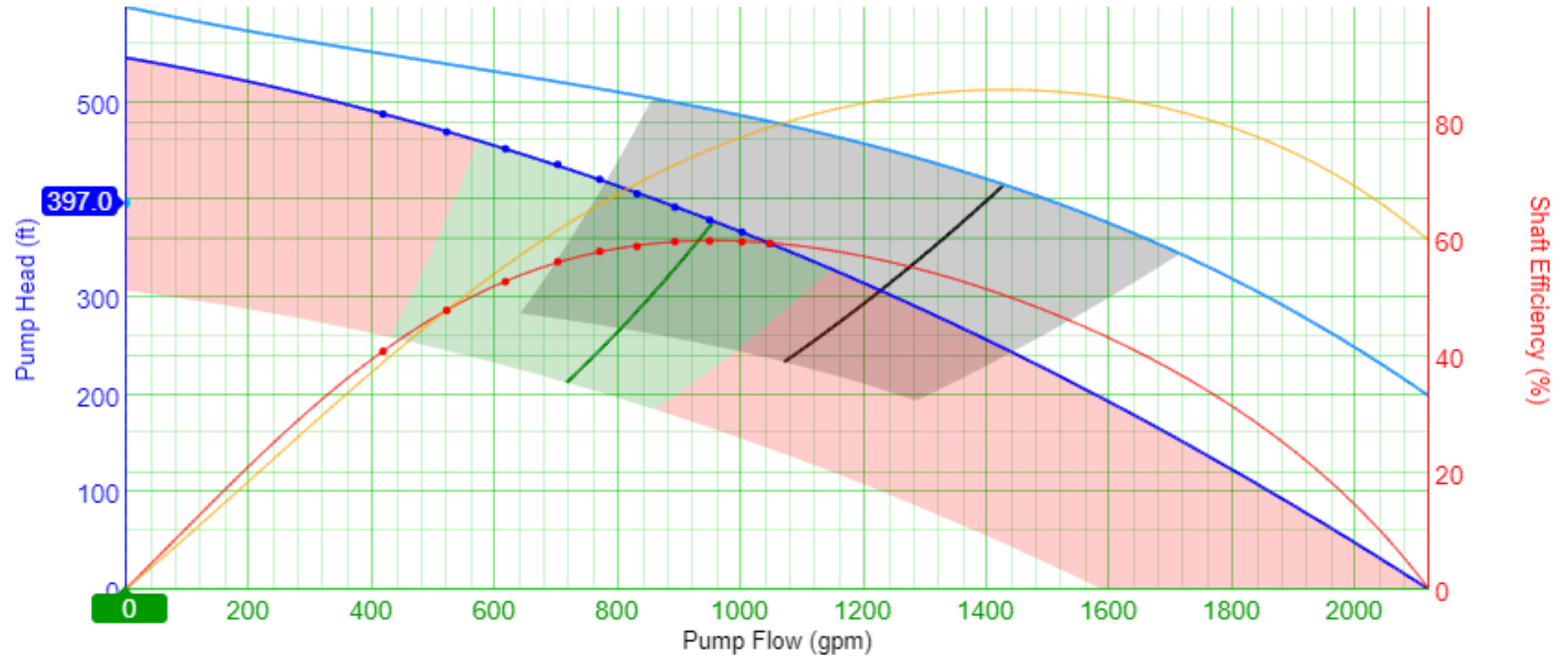


## Preferred Operating Range - Why it Matters

Pump 1 inside POR just 39% of the time.

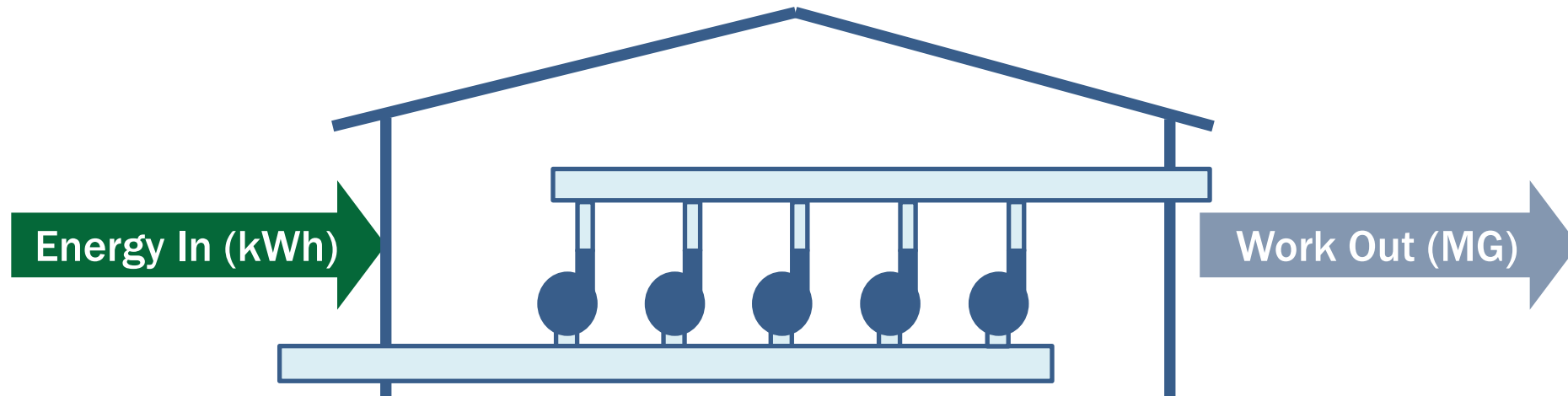


## Preferred Operating Range – A Moving Target



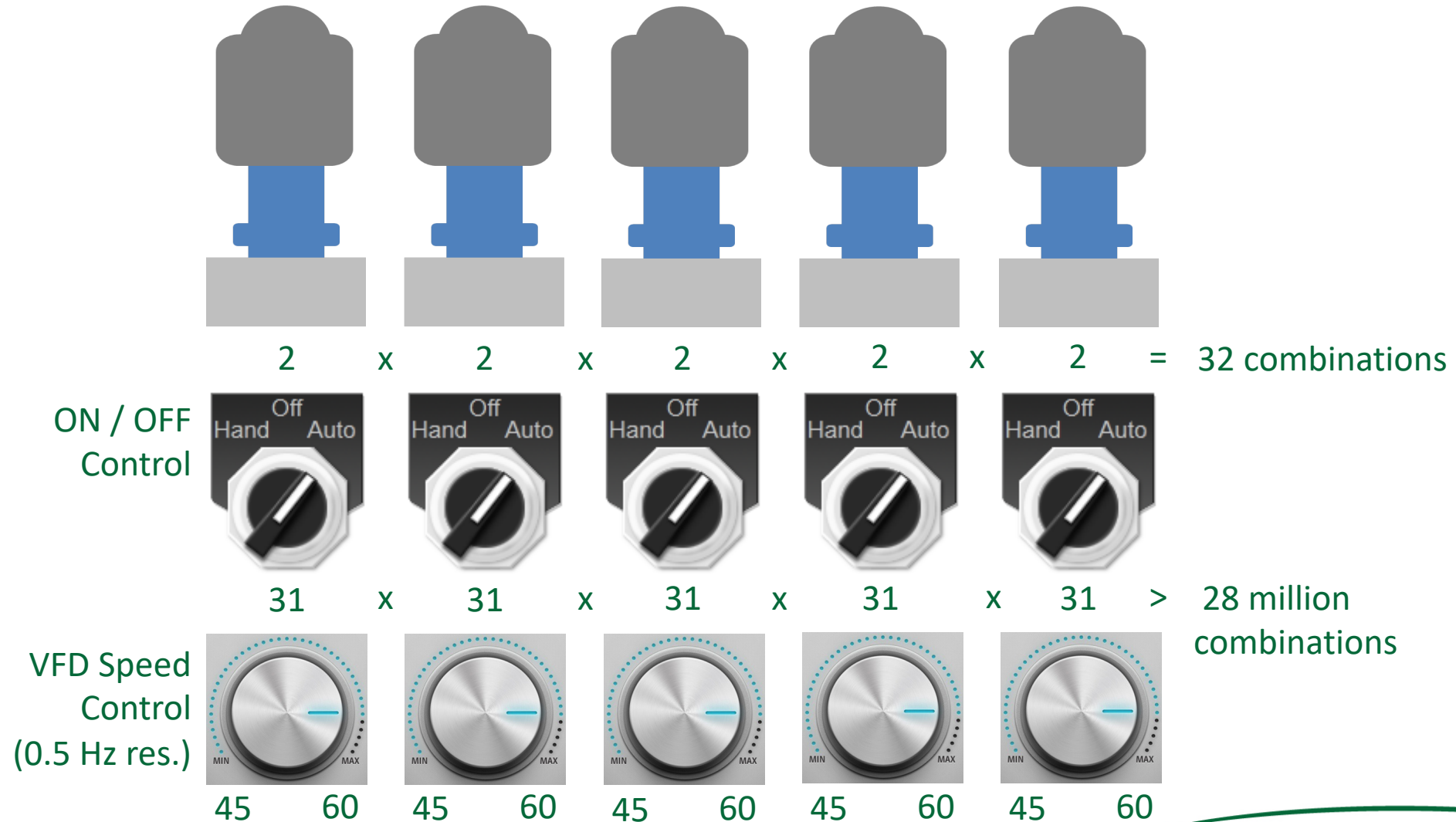
## Specific Energy Defined

Energy consumed per volume pumped

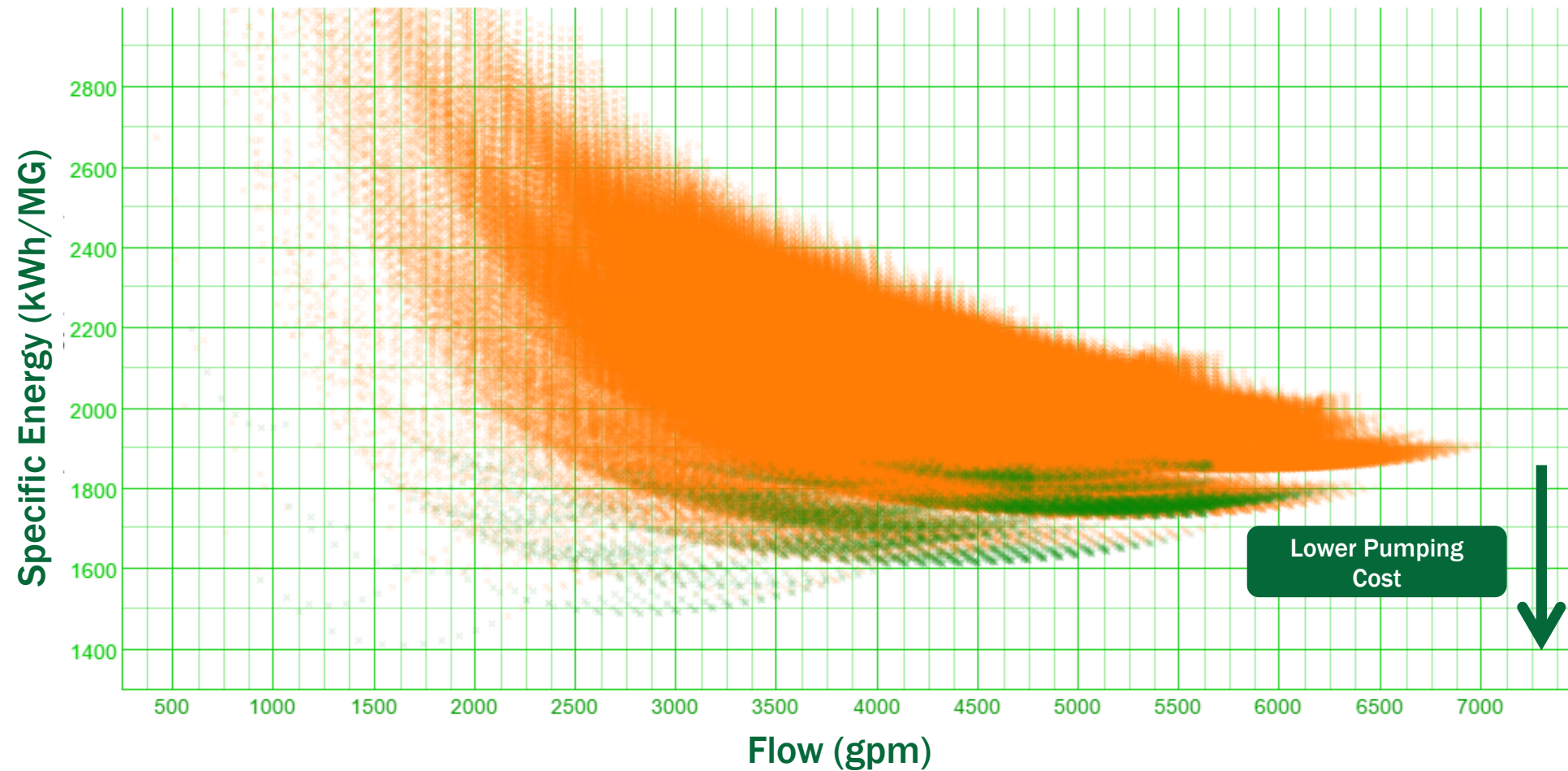


$$\text{Specific Energy} = \frac{\text{Energy [kWh]}}{\text{Volume [MG]}} = \frac{\text{Power [kW]}}{\text{Flow [MG/h]}}$$

## The Operators' Challenge



There are 28 million ways to run this pump station



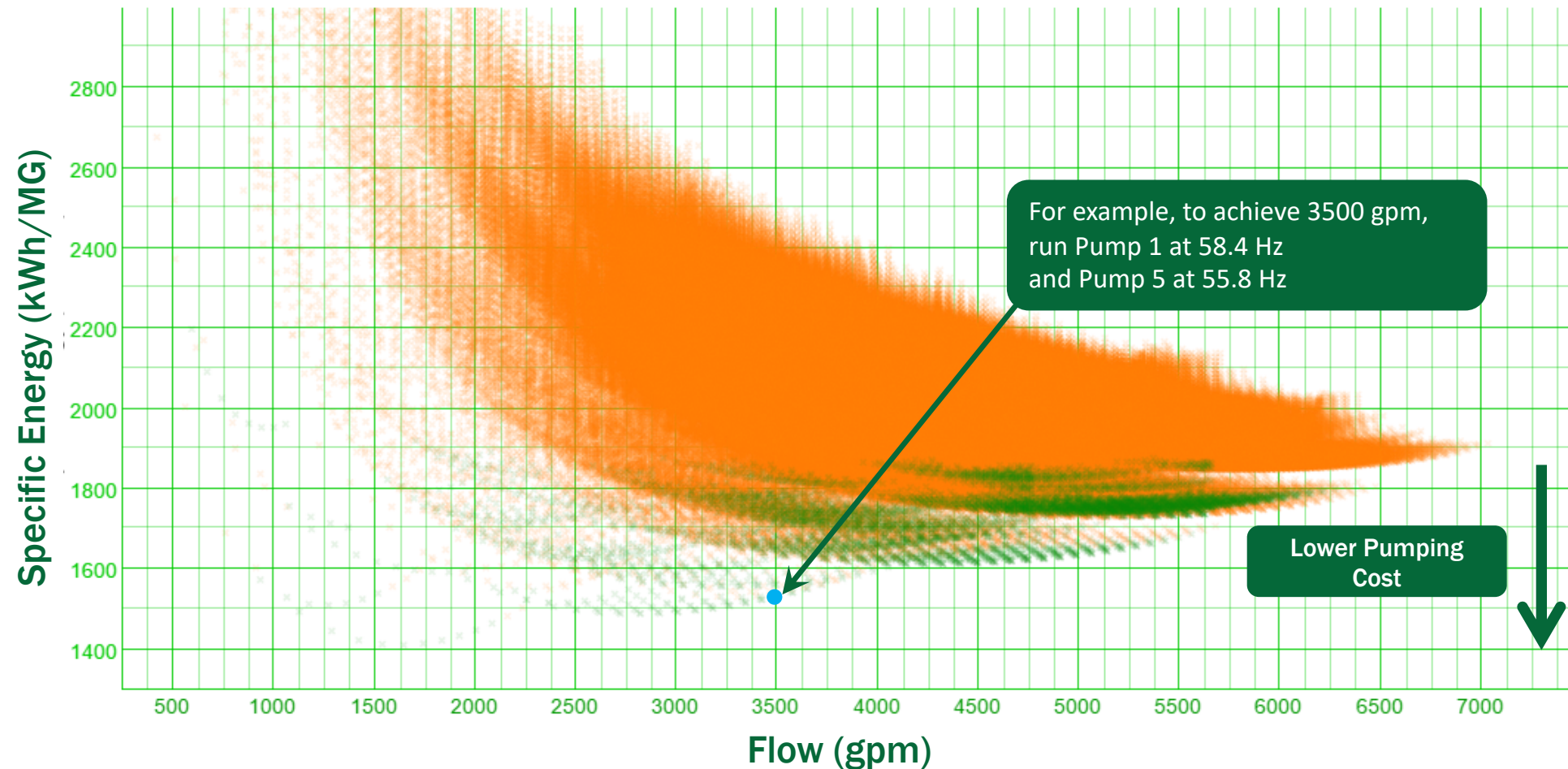
Green: All pumps in POR (1%)

Orange: One or more pumps outside POR (99%)



There are 28 million ways to run this pump station

**Only one optimally satisfies current demand**



Green: All pumps in POR (1%)

Orange: One or more pumps outside POR (99%)

## Specific Energy Contact Information

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