

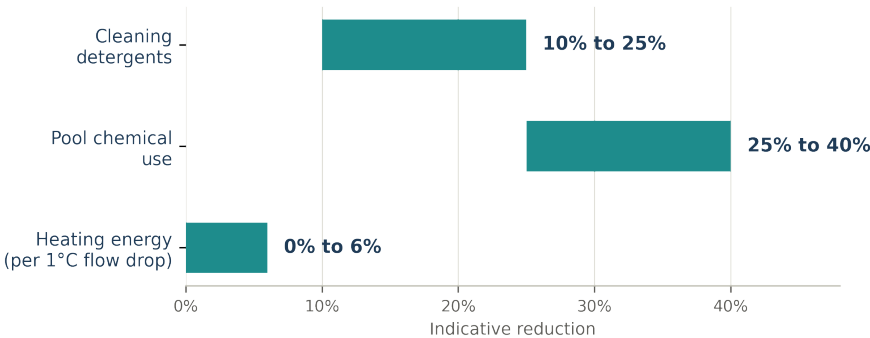
The financial case for the plant room

Indicative savings from documented, independently sourced GRANDER® installations, for financial and facilities directors evaluating capital spend.

1–3 yrs Typical payback period	~80% Heating share of total energy spend	71% Of operators measured a real economic advantage — B.A.U.M. study, 23 businesses	90% Rated overall satisfaction “good” or “very good” — B.A.U.M. study
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Indicative savings by category

Cost category	Indicative saving	Documented at
Heating energy	0% to 6% per 1°C reduction in flow temperature	Standard heating-engineering relationship (CIBSE-consistent); heating is typically ~80% of total energy spend
Pool chemical use	25% to 40%	Hotel Hof Weissbad, Switzerland; Fontanivas open-air pool, Ilanz; Resort Sonnenalp, Germany
Cleaning detergents	10% to 25%	Hotel Hof Weissbad, Switzerland; Resort Sonnenalp, Germany



Scale and biofilm quietly degrade heat transfer and chemical efficiency in any closed circuit that has run for more than a season, often a full millimetre of lime scale adds around 6% to energy use before it is visible on a bill. The GRANDER® Circulation Unit restores the water's self-cleaning capacity, which is what allows flow temperatures, chemical dosing and detergent use to be trimmed without any loss of guest comfort. These figures are an opening reference point, not a guarantee: every estate's water, plant and usage pattern is different, and the underlying case, a low-cost, low-disruption plant room intervention with a payback measured in months to a few years, is what is consistent across every documented installation below.

REFERENCES — INDEPENDENTLY DOCUMENTED, REAL-WORLD INSTALLATIONS

1. Hotel Hof Weissbad, Switzerland: chlorine use down approximately 30%, detergent use down approximately 25%, system paying for itself in roughly three years. Documented hotel spa case study.
2. Fontanivas open-air pool, Ilanz, Switzerland: pool manager reported chemical-additive savings of around 40%, with significantly less spring cleaning and slide maintenance.
3. Resort Sonnenalp, Germany: approximately 650kg less chlorine gas used per year, alongside a 10% cut in dishwashing detergent once dosing was recalibrated. Operator-reported figures.
4. B.A.U.M. (Bundesdeutscher Arbeitskreis für Umweltbewusstes Management) independent study, commissioned by Austria's consumer protection body and examined by Prof. Dr. Manfred Bruck, an expert recognised by the courts as impartial: 23 enterprises across leisure, health, industry and tourism, Germany. 71% of participants reported having actively measured an economic advantage; 90% rated overall satisfaction “very good” or “good”; documented payback periods ranged from 15 months to 4 years.
5. Heating-engineering relationship: each 1°C reduction in flow temperature saves approximately 6% of associated heating energy; heating typically represents around 80% of a property's total energy costs. Standard heating-engineering relationship, consistent with CIBSE benchmarks and GRANDER® source material.