nordnest

Centralized vs Prefab Bathroom vs Ekonod

Side-by-Side Comparison

To fully understand why Ekonod represents a new standard, it helps to compare it directly to the alternatives. At first glance, centralized systems, prefab bathrooms, and Ekonod might all look like different versions of the same idea - but in reality, they address entirely different layers of the problem.

Centralized Systems - the traditional baseline

Centralized systems are what most of Europe still builds. The model is simple: a central plant room generates heat and hot water, which is then distributed through risers and circulation loops across the building. Bathrooms and kitchens are placed wherever the architect or developer finds convenient, and the MEP design team "fits in" the services afterwards.

On paper, it looks neat. In practice, it creates a cascade of inefficiencies and risks:

Energy waste

Hot water loops bleed 20–30% of energy into shafts and ceilings. Oversized central pumps run 24/7.

Program chaos

Trades overlap, wait for each other, or undo each other's work. Pressure drops or mis-connected terminals require costly investigations (50,000–100,000 SEK each).

Single points of failure

One fault in a riser, pump, or manifold can compromise the whole building.

Lifecycle costs

OPEX remains high for decades. As energy prices rise, these costs balloon non-linearly, forcing disruptive retrofits mid-life.

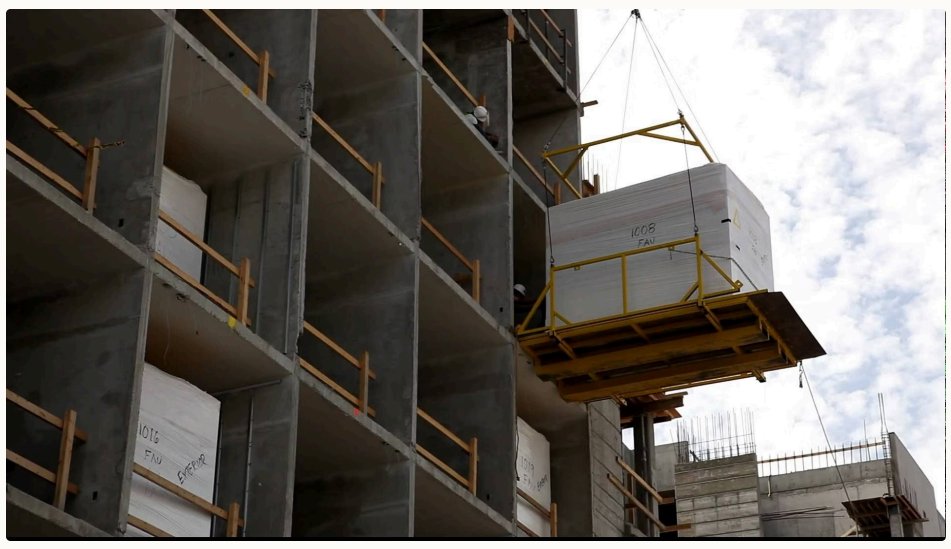
This model dominates not because it works best, but because it has been the "default."

Prefab Bathrooms - an incomplete improvement

Prefab bathrooms emerged as a way to simplify logistics and reduce on-site errors. In this model, the bathroom is built in a factory and delivered as a finished pod, which is then craned into position. On site, trades connect the pod to the central risers.

What Prefab Bathrooms Solve:

- Better logistics: fewer trades crowding into a small bathroom space.
- Fewer site defects: tiling, waterproofing, and finishes are handled in controlled factory conditions.



But prefab bathrooms do **not** solve the systemic inefficiencies of centralized systems. They still rely on long risers, hot water circulation, oversized pumps, and complex balancing. They do not:

- Remove distribution losses.
- Localize failures to one apartment.
- Simplify commissioning across the building.
- Reduce lifecycle OPEX.

In other words, prefab bathrooms save some headaches in site logistics, but they leave the underlying topology — and its inefficiencies — untouched.

Ekonod - a systemic rethinking

Ekonod takes the concept of prefabrication and extends it to the system itself. Instead of treating the bathroom as a finished pod that plugs into a centralized backbone, Ekonod uses it as the **installation hub** for the apartment. Each hub is factory-built, moisture-protected, and fully fitted with plumbing, heating distribution, ventilation connections (FTX), controls, and sensors.

The differences are profound:

Energy

No hot water circulation loops. Losses vanish. Real-world projects (Rosendal) show ~3 kWh/m²/yr hot water demand, with emissions halved (12.5 → 6.0 kg CO_2e/m²).

Program

Early-stage configuration removes uncertainty. Layouts are optimized for light and flow, not riser convenience. Trades no longer collide on site, because much of the work is already done in the factory.

Resilience

Faults are contained to one apartment. Sensors shut off leaks instantly, and modular servicing avoids building-wide shutdowns.

Lifecycle economics

The ≈300k SEK/apartment MEP baseline hides decades of waste. Ekonod tackles the topology itself, so OPEX is structurally lower and lifecycle savings grow every year.

Space & value

Removing risers and plant rooms gives back usable area and ceiling height, translating into higher sales/rental values.

> Ekonod is not "a better prefab bathroom." It is a decentralized installation system that **removes the causes of inefficiency and risk**, not just the symptoms.

Why the comparison matters

When you put these three approaches side by side, the choice becomes clear:

Centralized

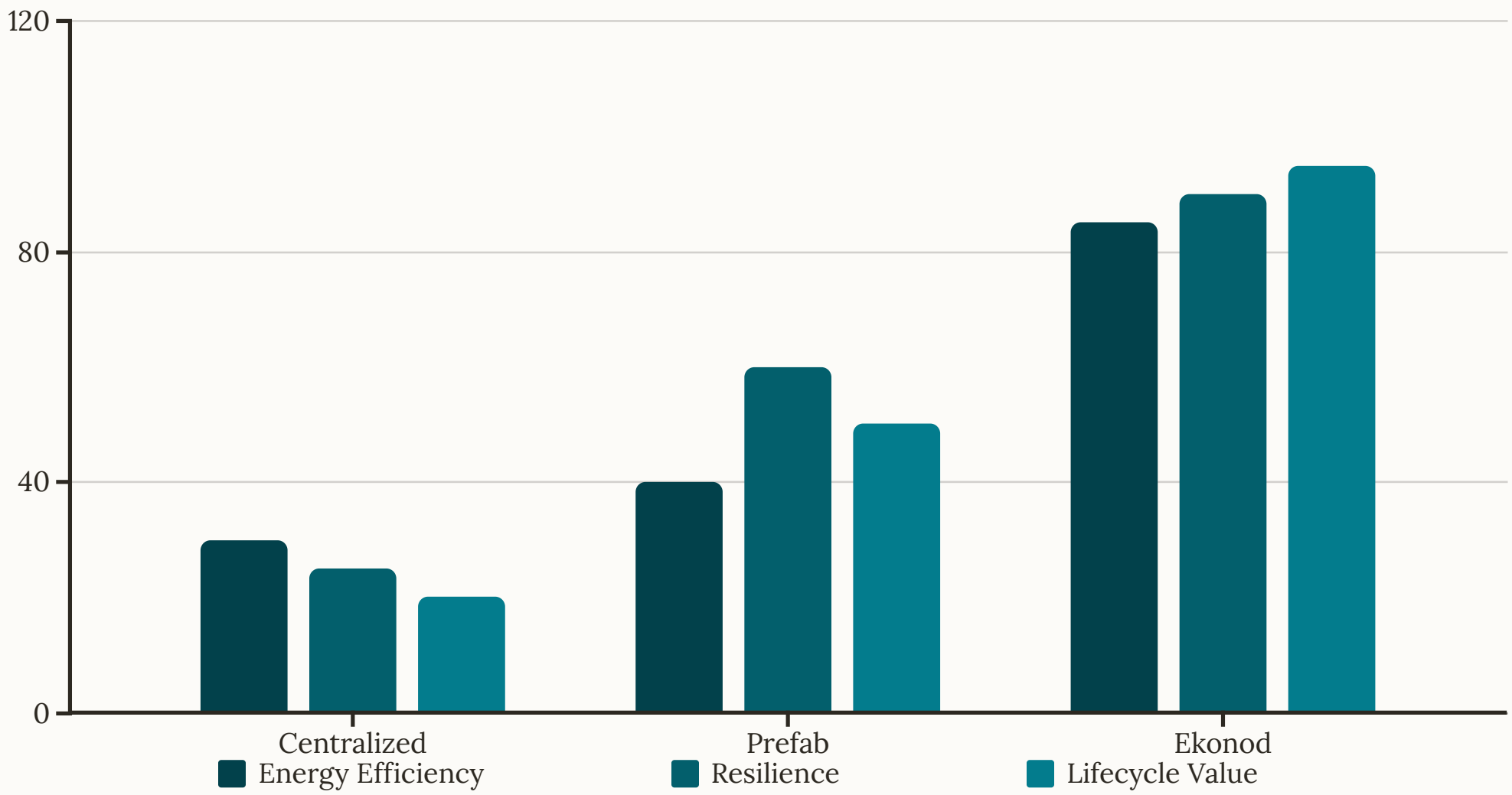
Outdated, energy-wasting, risk-prone.

Prefab bathroom

Helpful for logistics, but doesn't fix the underlying problems.

Ekonod

Eliminates circulation losses, removes single points of failure, and delivers lifecycle value across climate, function, and property economics.



This is why Ekonod should not be thought of as an incremental improvement, but as a **new category.** It takes the efficiency of prefabrication, the resilience of decentralization, and the intelligence of digital readiness - and fuses them into a building system designed for the next 25 years, not the last 50.