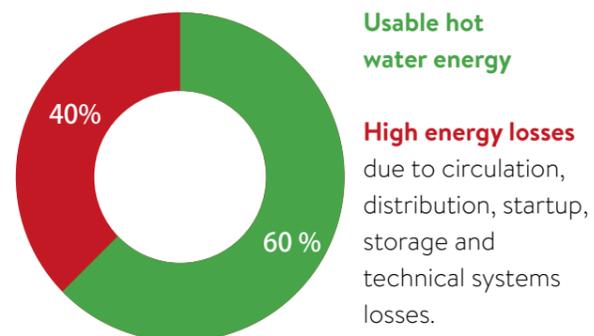
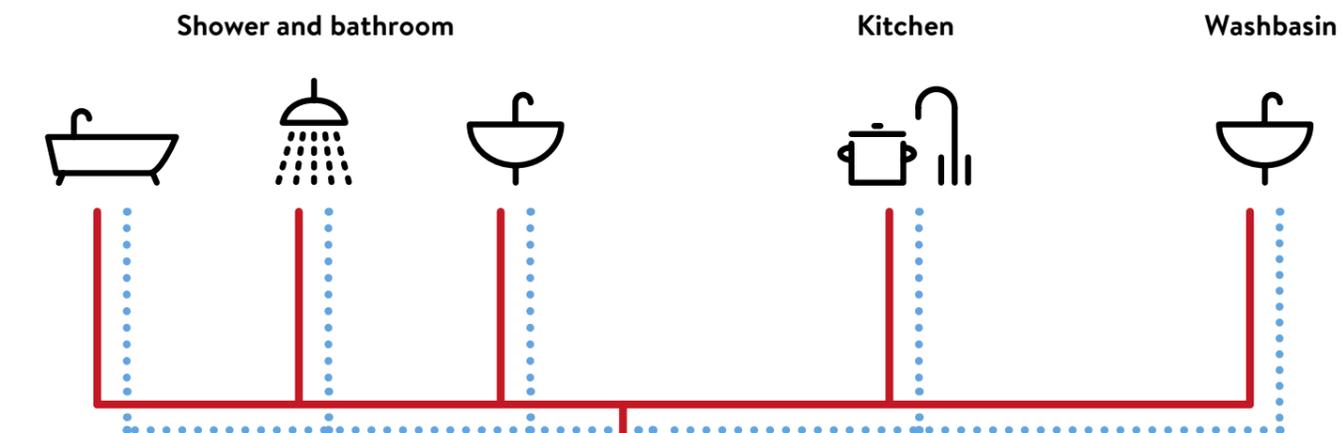


Centralised? Decentralised?

It matters!

Central hot water supply with high energy losses



- Hot water line
- ... Cold water line
- Long water lines**
- + **large water tanks**
- + **excessively high water temperature**
- = **energy and water waste**

Coupling the hot water supply to the central heating system is still very common. Water is heated in a central tank and then transported to the various points-of-use through an additional pipe system. Due to hygienic requirements, the water must be preheated to at least 60°C (140°F) when it must travel through long pipes. The temperature is then reduced by mixing in cold water at the tap. This may make sense in old buildings with a high heating demand but for renovations and new buildings, which use the lower temperature range, providing, storing and transporting of hot water at 60°C (140°F) means high energy losses.

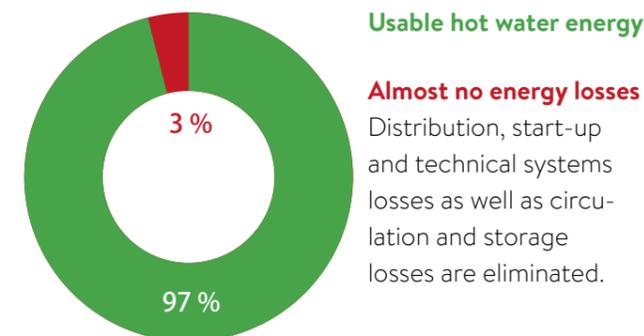
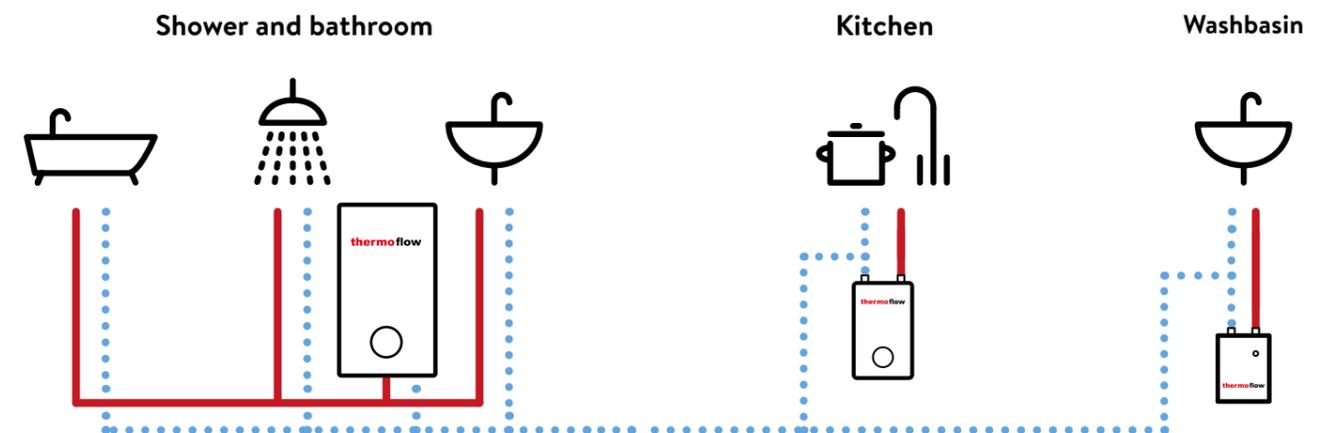
The “Energy Industry Research Association” divides energy losses in centralised hot water preparation into circulation, distribution, start-up and storage losses. In a one-family home, these losses add up to at least 40 % of the entire energy requirements. Add to that the higher investment costs compared to the decentralised solution.

Energy quantities for centralised hot water preparation with intelligent circulation on work days (example).

	1-family home	3-family home	12-family home
Useful hot water energy [Wh/d]:	4,280	8,500	34,000
Circulation losses [Wh/d]:	570	3,000	12,000
Distribution losses [Wh/d]:	27	50	180
Start-up losses [Wh/d]:	110	160	730
Storage losses [Wh/d]:	1,300	2,100	4,000
Technical systems losses [Wh/d]:	890	2,200	10,500
Total hot water requirements [Wh/d]:	7,177	16,010	61,410

Source: Final report of the Energy Industry Research Association mbH in collaboration with TU Munich.

Decentralised hot water supply is energy-efficient



- Hot water line
- ... Cold water line
- Short water lines**
- + **correct water amount**
- + **correct water temperature**
- = **energy-efficient, based on demand, modern**

In decentralised systems, the hot water supply is separated from the heating system. Electric instant water heaters meet the specific requirements for each application if installed directly at the various points-of-use. The hot water is available without any lead times. Only the required amount of water is heated. Additional pipe systems are not necessary. There is also no need for circulation pumps and hot water tanks, which saves installation and operation costs. The small units allow for a “hidden” installation in wall nooks or behind panelling. The central heating system can now be adjusted precisely to the requirements of the building and be turned off completely during the summer.

Circulation and storage losses are eliminated, since water is not preheated and stored in large quantities. The distribution, start-up and systems losses only amount to 3 % of the energy requirements. According to the latest findings of the “Energy Industry Research Association”, decentralised hot water supply with electric instant water heaters is a highly efficient energy-saving system.

Energy quantities for decentralised hot water preparation on work days (example).

	1-family home	3-family home	12-family home
Useful hot water energy [Wh/d]:	4,280	8,500	34,000
Distribution losses [Wh/d]:	20	45	170
Start-up losses [Wh/d]:	35	70	380
Technical systems losses [Wh/d]:	70	210	580
Total hot water requirements [Wh/d]:	4,405	8,825	35,130
Savings vs. centralised hot water preparation [Wh/d]:	2,772	7,185	26,280

Source: Final report of the Energy Industry Research Association mbH in collaboration with TU Munich.

That's how you make friends!



Instantly hot water

As soon as you open the tap, the water flows with your desired temperature. The water is only heated in the amount and for the time you actually need it. Due to short water lines and modern technology.



Saving energy

No more long water lines and circulation losses because the units are installed directly at the point of use. The water is no longer preheated and stored in large amounts. That saves energy. And it saves investment costs: Long waterlines, circulation pumps and hot water tanks are no longer necessary.

thermo flow



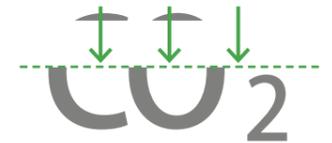
Protecting the environment

The process from design to the finished product is very sustainable and is continuously put to the test. We work according to the environmental management standard ISO 14001. Users conserve water and energy with electric instant water heaters.



Lowering costs

Electronic instant water heater use up to 85% less energy than conventional storage heaters.



CO₂ down

The amount of renewable energy in the electricity mix is growing as CO₂ emissions which are generated by burning fossil fuels are reduced. Compared to centralised gas or oil heating systems, decentralised hot water supply can lower CO₂ emission up to 35 %.



Short water lines

Electric instant water heaters are installed directly at the point of use. Long water lines are avoided. Water is heated more quickly and there is barely any heat loss.

Convenience Efficiency



Ideal temperature

On many units, each user can set his or her individual temperature preference precisely directly at the unit.



Conserving water

That's pretty cool, right? No wasted water. Hot water is immediately available with electric instant water heaters. It is not necessary to run water for a long time to obtain the desired temperature. In centralised systems with 15 metres long water lines, for example, about 5L (1.5 Gals) of water are wasted.

CLEAN



More hygiene

Electric instant water heaters heat up the cold water to the perfect temperature within seconds, directly at the tap, as it flows through the unit. The heated water is used immediately and unused water is avoided in the water line systems. That's why testing for Legionella bacteria becomes unnecessary. This is what makes decentralised water heating more hygienic and efficient.