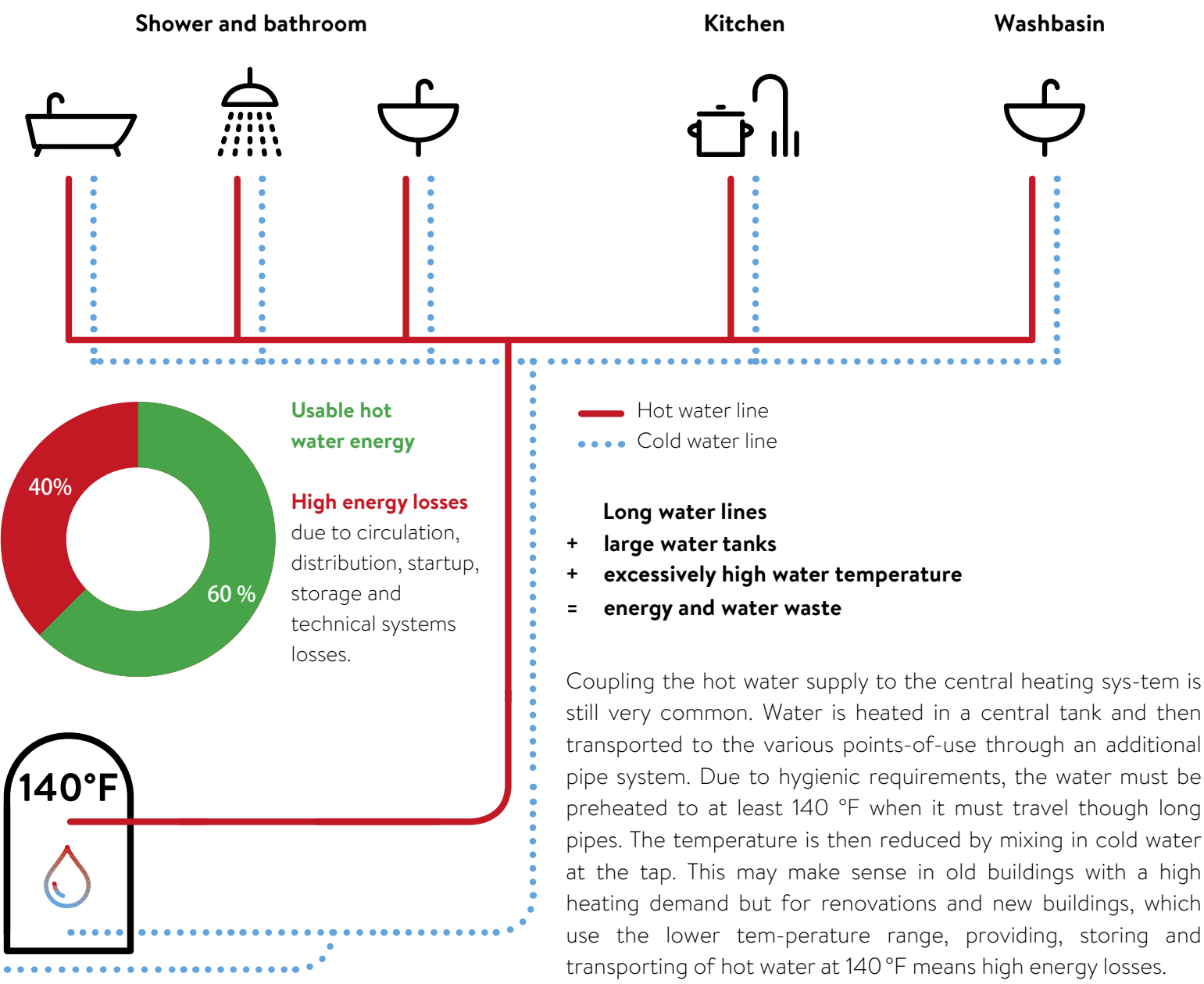


# Centralised? Decentralised?

## It matters!

### Central hot water supply with high energy losses

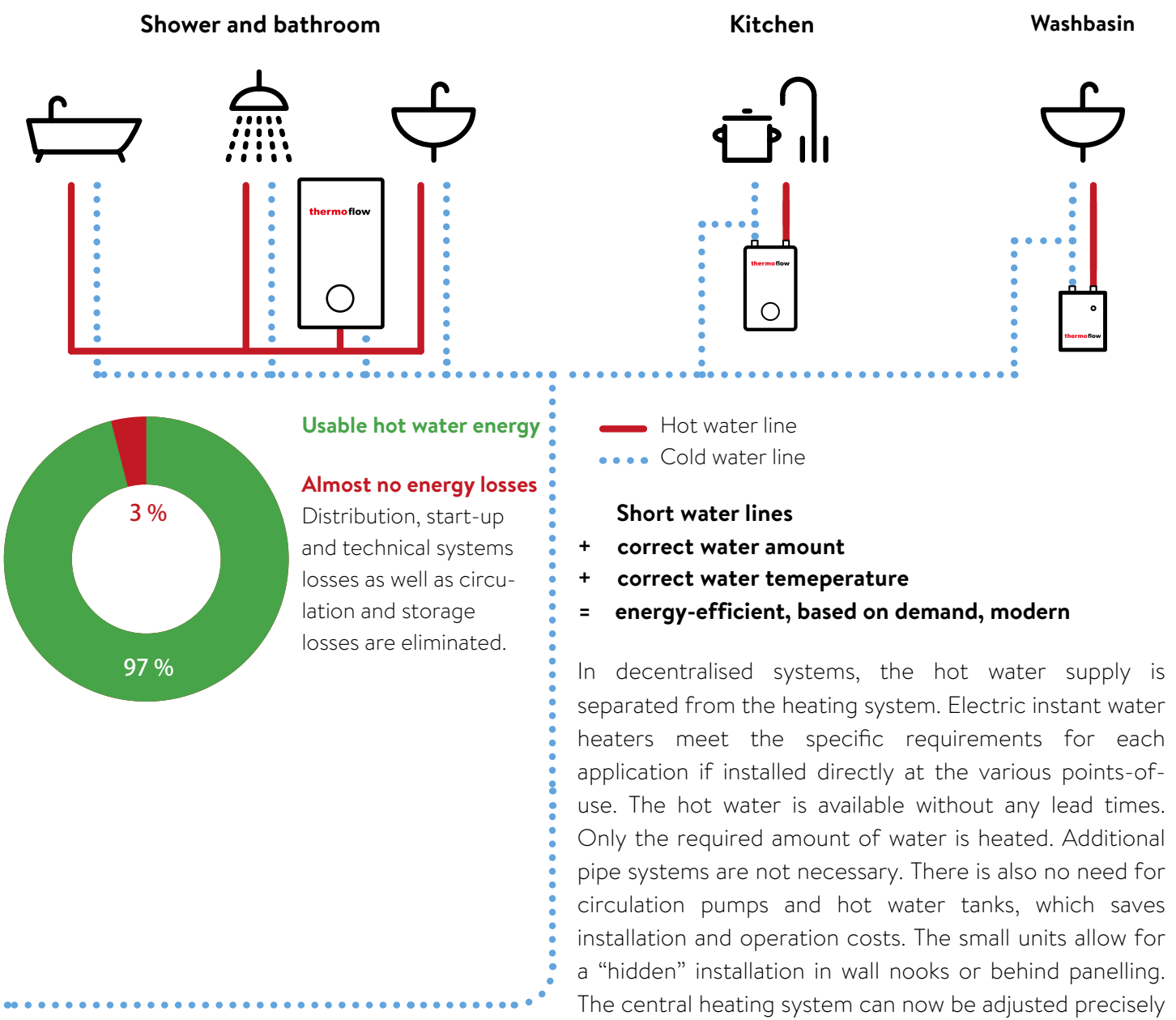


Energy quantities for centralised hot water preparation with intelligent circulation on work days (example).

|                                             | 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         |
| <b>Total hot water requirements [Wh/d]:</b> | <b>7,177</b>  | <b>16,010</b> | <b>61,410</b>  |

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

### Decentralised hot water supply is energy-efficient



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            |
| <b>Total hot water requirements [Wh/d]:</b>           | <b>4,405</b>  | <b>8,825</b>  | <b>35,130</b>  |
| 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.

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.

# 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.

## Efficient

## 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



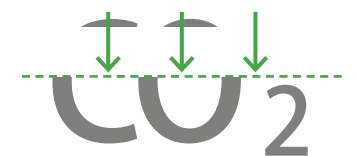
## Protecting the environment

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.



## CO<sub>2</sub> down

The amount of renewable energy in the electricity mix is growing as CO<sub>2</sub> emissions which are generated by burning fossil fuels are reduced. Compared to centralised gas or oil heating systems, decentralised hot water supply can lower CO<sub>2</sub> emission up to 35 %.

## COOL!

## 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 1.5 Gals of water are wasted.



## Ideal temperature

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

## SHORT & SWEET

## 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

## 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.