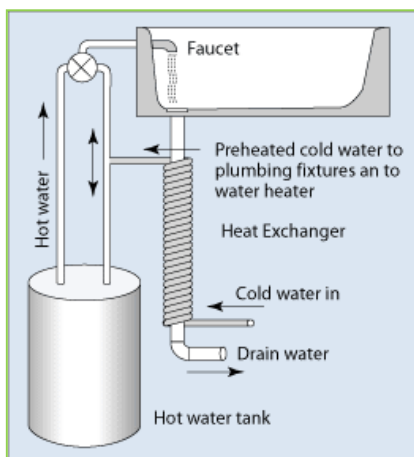


Energy Efficiency is a key tool to reduce emissions and to improve the environment. EPEE members are actively seeking to increase the energy efficiency of their appliances. Enhance energy efficiency by recovering waste heat and to use this energy for space heating, sanitary hot water or floor heating. This technology is called heat reclaim or heat recovery. Below several ways to recover heat are explained.

Heat reclaim via the refrigeration system

- Heat reclaim in stores (like supermarkets) via the refrigeration system that combines refrigeration with an integrated heat pump function.
- Thanks to this heat reclaim technology the store requires neither a conventional boiler nor a separate refrigeration system room conditioning. Such a compound system enables annual gas consumption to be cut by making traditional heating superfluous.
- This technology efficiently uses natural resources and uses less refrigerants. In this way, heat reclaim contributes to reducing emissions and helps improving the environment.



heated drain water, like while showering. With storage capacity recovered heat can be recovered for later use.

Heat recovery via drain water

- All hot water used in households that goes down the drain automatically carries away energy with it.
- Drain-water heat recovery systems capture this energy to preheat cold water entering the water heater or going to other water points. This technology works well for all types of water heaters.
- Drain-water heat exchangers can recover heat from the hot water used in showers, bathtubs, sinks, dishwashers, and clothes washers.
- This technology works either with or without storage capacity. Without storage capacity, there will only be useful energy during the simultaneous flow of cold water and

Heat recovery from exhaust air ventilation:

- Heat recovery from exhaust air ventilation can be particularly meaningful in the construction sector. With the current construction trends, more and more attention is paid to building air tightness levels and to improved insulation standards. In relation to these developments, ventilation is crucial as to ensure an adequate indoor air quality level.
- Normally air is heated and stale expelled, wasting the heating energy.
- But a large part of this heating energy can be recovered via the use of a balanced heat recovery ventilation system; with supply and exhaust air ducts intertwining to form a heat exchanger.

Heat recovery and free cooling:



- There are times of the year when a system can use outdoor air conditions to cool the building. It can also utilize the process using the standard cooling components to distribute its cooling effect.
- The most prevalent technique is an air economizer. When the temperature, or enthalpy, of the outdoor air is low, cooler outdoor air is used to reduce the temperature (or enthalpy) of air entering the cooling coil. This can reduce or eliminate mechanical cooling for part of the year in certain climatic regions like e.g. in the middle and northern part of Europe.
- “Dry coolers” can reject parts of or even all of the heat generated in a building or in a process, without utilizing a compressor driven refrigeration system. Depending on the climate and how oversized the dry cooler system is, there could be many hours during which free cooling could save substantial energy.

EPEE - The Voice of the Heating, Cooling and Refrigeration Industry in Europe

The European Partnership for Energy and the Environment (EPEE) is made up of members who produce, design and install heating, cooling and refrigeration technologies.

EPEE's mission is to promote a better understanding of our industry in the EU and to contribute to the development of effective European policies to reduce the environmental impact of our products.