ASETEK

Improving the prospects for Heat Recovery from Data Centers

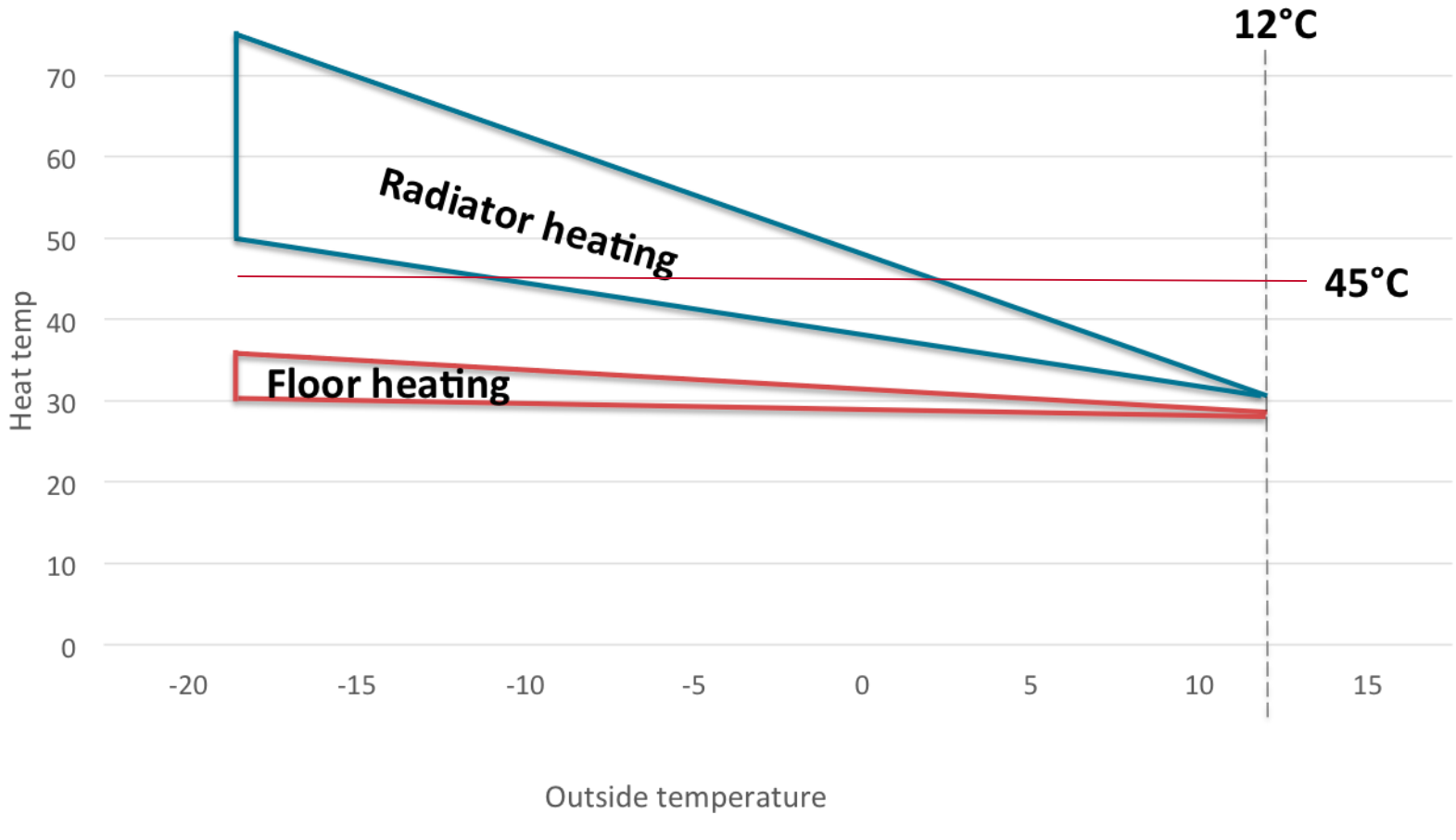
1. -What is role of innovation, pricing and regulation for heat recovery from data centers?
   - ✓ There must be an economic benefit for the data centers to make heat recovery
   - ✓ RackCDU easily recover 65+% of the heat from the Datacenter, we just need to find a way to use the heat
   - ✓ We need to make regulation for reuse of heat.

2. -What can be done to mitigate the factors preventing heat recovery from data centers?
   - ✓ Eliminate or low taxes so it is profitable
   - ✓ Make it profitable to sell the heat back to district heating

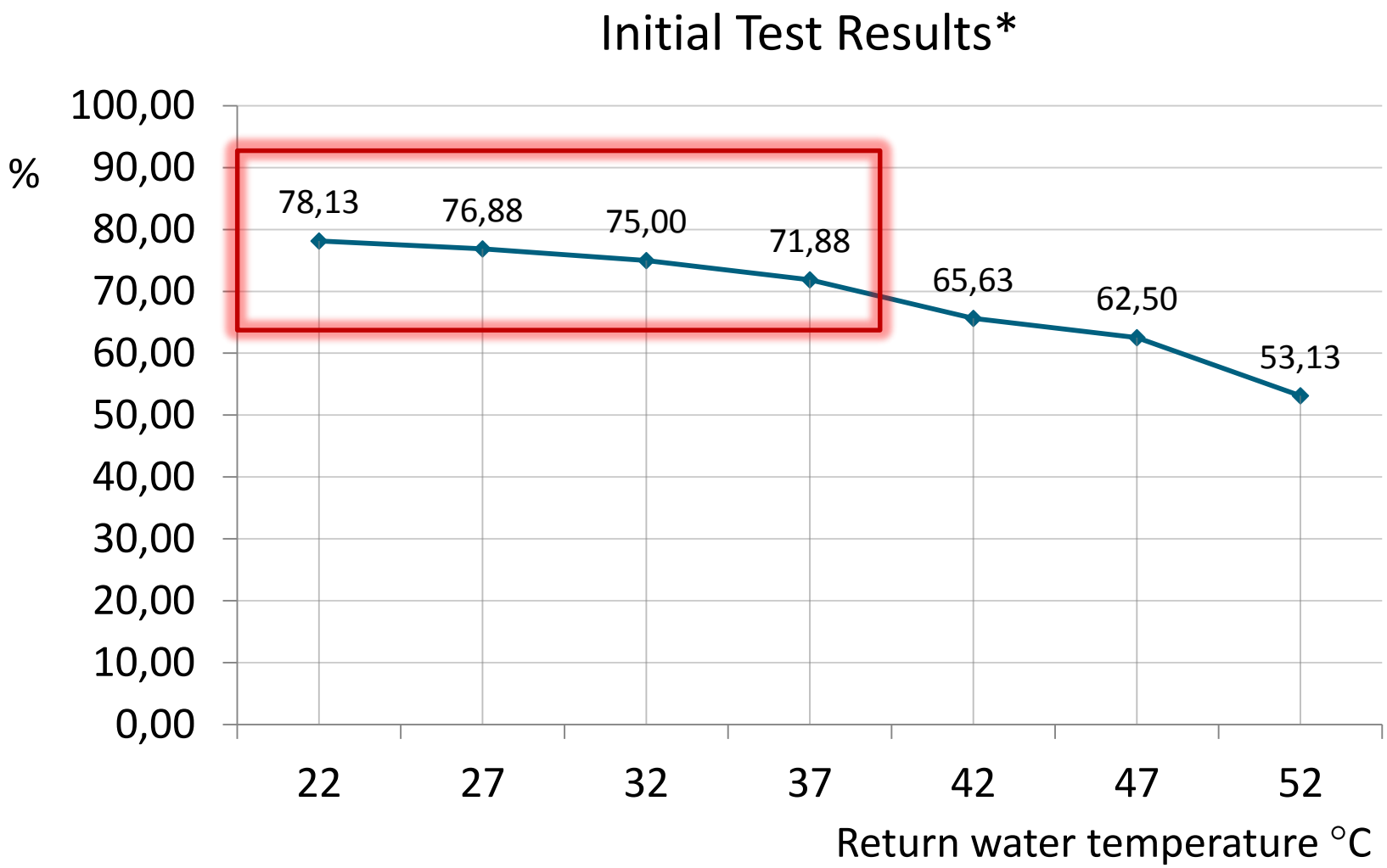
3. -How can heating systems and markets be adapted and developed to increase the value of heat recovery from data centers?
   - ✓ IT and building departments must work together
   - ✓ Make district heating system in the cities so that they can benefit from the recovered heat
   - ✓ Makes it possible to sell the recovered heat

Building heat

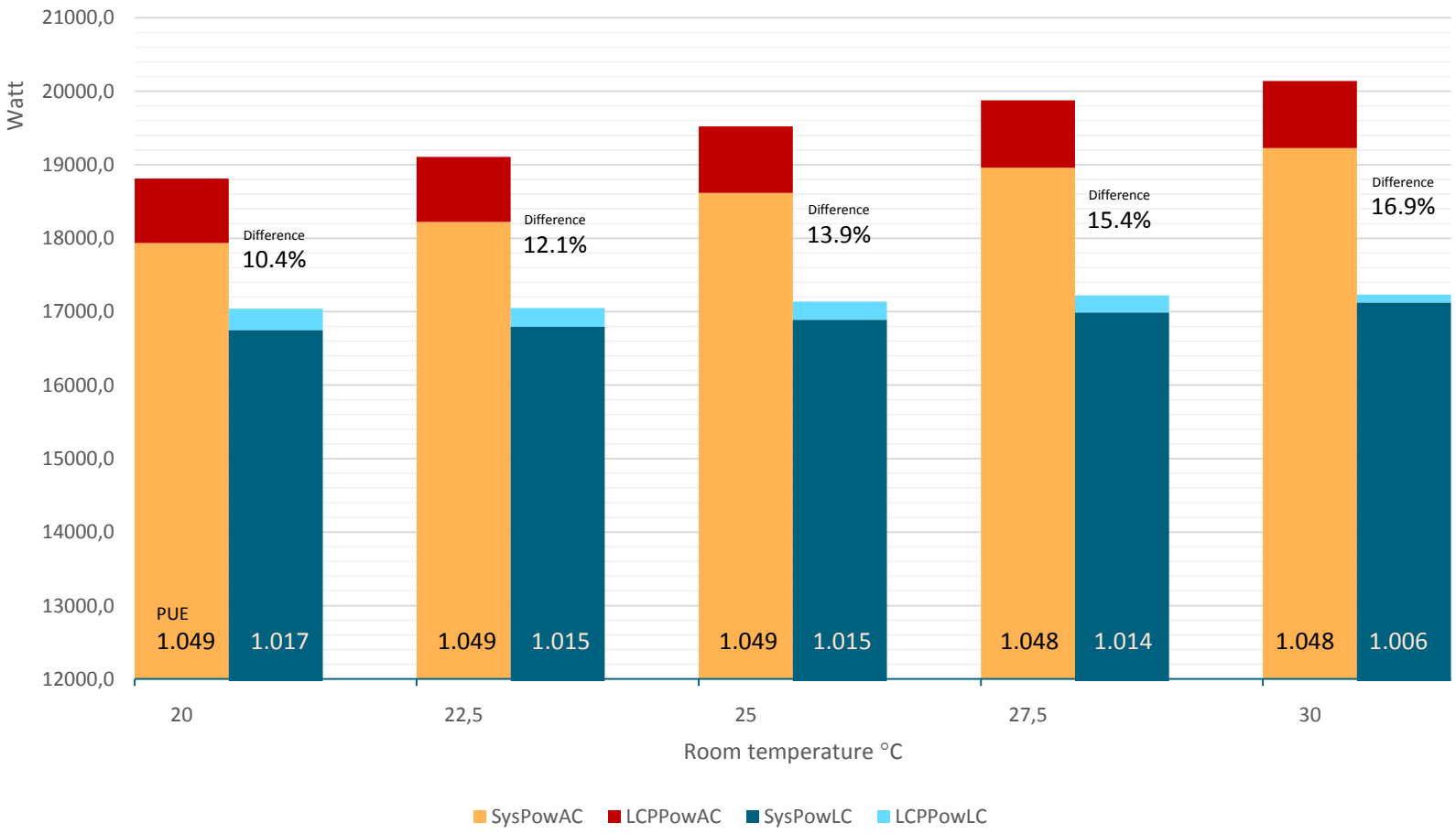
- **Outside temp < 12°C -> need building heat**



RackCDU Heat Capture



* Benchmark (HPL) run on 1 rack of 48 HP SL230 g8 servers with dual 10 core 2.8 GHz Ivy Bridge, upgraded with Asetek RackCDU water-cooling. Rack load was ~16 kW. Supply temp at 12°C and Room temp at 20°C

System and LCP Power

Air Cooled versus Liquid Cooled Power Consumption