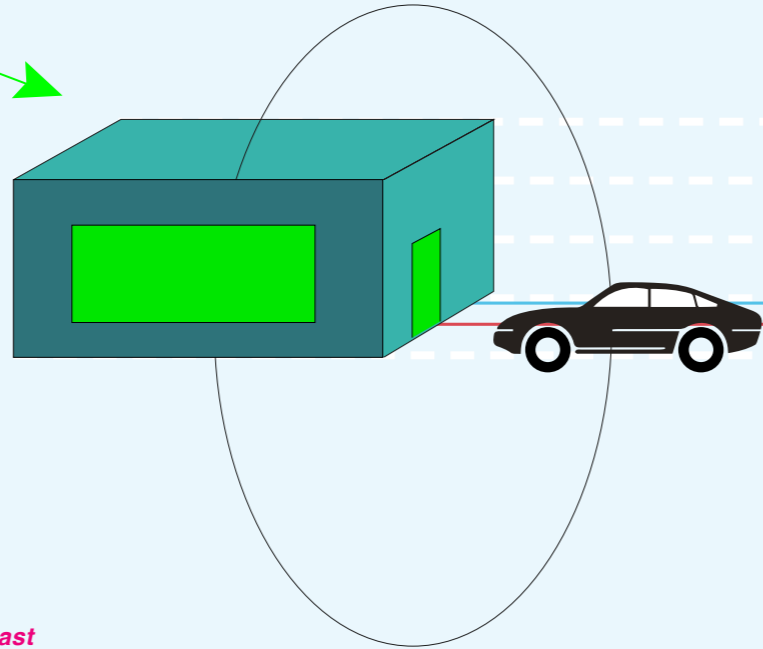


Combat the Low Differential

COOLING PLANT



Omnia Halawani - 2016
Climate Control - Middle East

GRFN's Say:

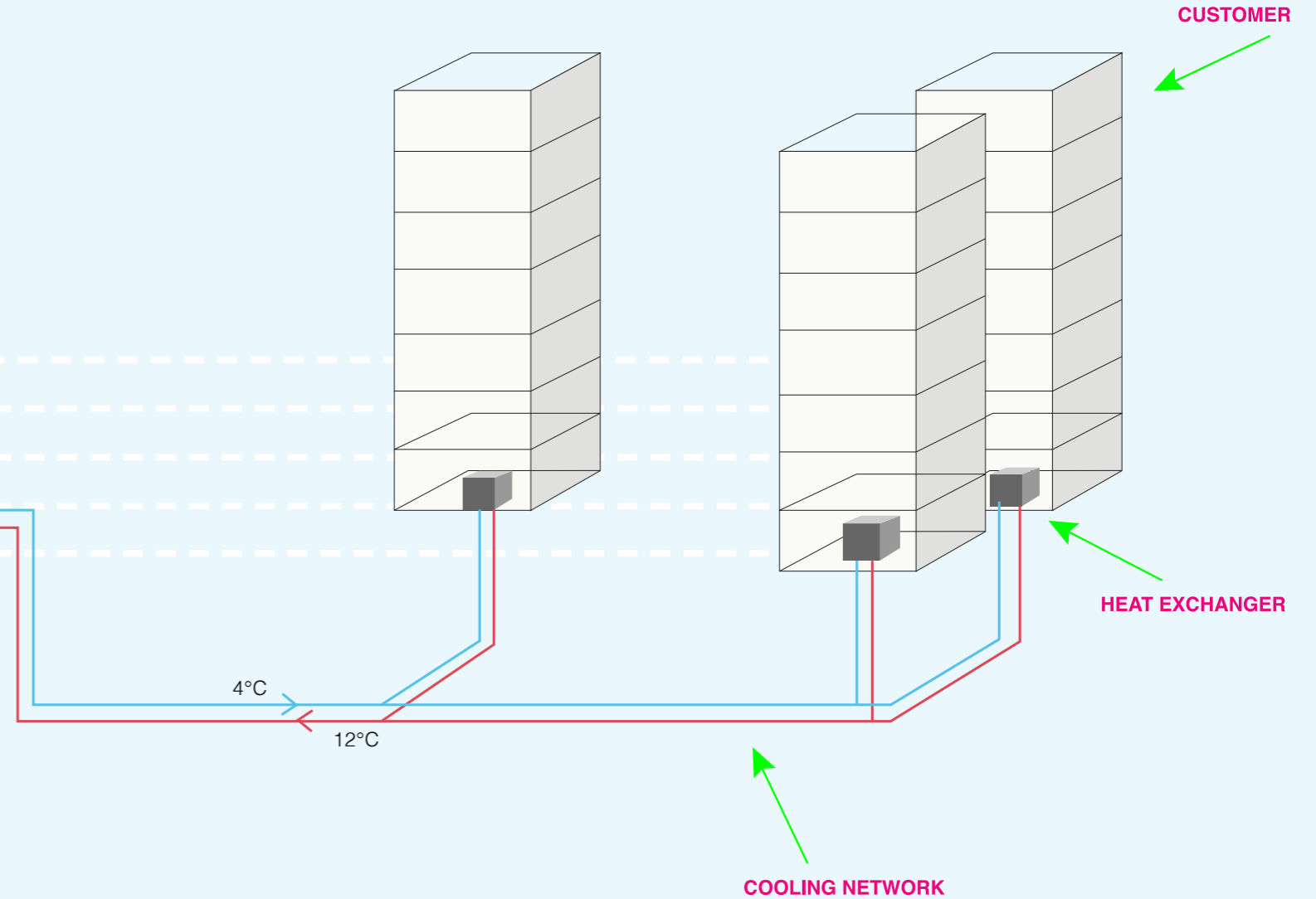
Even as the debate on the benefits and effectiveness of District Cooling, as against conventional cooling systems, rages on, Omnia Halawani, Co-Founder and Director of GRFN, highlights the most pressing issue that District Cooling providers and end-users are facing at present – the low chilled water temperature differential (low ΔT), or low ΔT syndrome.

Explaining that having a low ΔT has an effect on lost cooling capacities, increased energy consumption, increase in costs and system complexities, Halawani identifies three issues as the most common regionally — selection of building cooling coils, the performance of control valves and oversizing of buildings' cooling load requirements — as root causes of the problem.

As these are issues that can be avoided/addressed during the design stages of a building, Halawani emphasises on the need for all stakeholders to get together at the design stages to develop a “sound engineering design” and adopt “integrated design strategies”.

Suggesting a solution to the oversizing of buildings' cooling capacity problem, Halawani says, “If building owners were more conscious in this aspect, requiring their consultants to ditch the unrealistic safety factors, which I like to call “ignorance” factors, when calculating cooling loads, they can save thousands in District Cooling capacity charges.”

Lastly, she says that having a “more transparent District Cooling industry with published actual peak loads would aid the drive towards a more sustainable construction industry as a whole”. ■



$$\text{COOLING} = \Delta T \times \text{FLOW}$$

Delta T is the difference in the Chilled Supply Temperature & the Chilled Water Return Temperature

A “Low Delta T Syndrome” occurs when the delta T is consistently lower than design conditions.