Jaime Comella works for Cloud&Heat Technologies since more than 6 years, active in the fields of data center engineering, project management and technical consultancy.

He studied industrial/electrical engineering in Madrid and Dresden (Germany), where he ended up living for 7 years. Now relocated in Madrid, he lives with his wife and two cats.

He is a passionate defender of a holistic vision for data centers, advocating for the need for highly sustainable digital infrastructures.

Member of the OCP for 1,5 years, since Jan 2022 has been co-chairing the heat reuse incubation group

Cosimo Pecchioli has been working for Alfa Laval for 18 years covering different roles. Originally from Italy, has been living in the California area for 15+ year. He holds a Master Degree in Science&Technology. For the last 5 years he has overseen the Data Center Heat Management team in the US. A member of the OCP for 2 years, since Jan 2022 has been co-chairing the heat reuse incubation group

- Wiki: <u>https://www.opencompute.org/wiki/Data_Center_Facility/Heat_Reuse#Documents</u>
- Calendar: <u>https://docs.google.com/spreadsheets/d/1XJSZyONA3FZtDtCHIL85R6H3w9-jJvDVlfu3aRYKAJw/edit?usp=sharing</u>
- Email: <u>heatreuseleads@ocproject.net</u>
- Project lead: Cosimo Pecchioli (Alfa Laval) Jaime Comella (Cloud&Heat)

collaborate. contribute.





Heat Reuse Workgroup



WHY DOING HEAT REUSE?

- Because investing energy in removing energy seems nonsense
- To avoid a waste, recycle
- To reduce operative costs
- To generate social impact



WHY HEAT REUSE WORKGROUP?

- gather data center waste heat reuse use cases with or without happy endings
- suggest solutions for implementing technologies to capture the waste heat, gather reference designs
- study the different ways of using the waste heat and their particularities
- highlight challenges and opportunities
- define new metrics and/or promote the use of old ones
- generate outcomes as guidelines/whitepapers









OPEN Compute Project®

Sustainability & Regulatory Aspects







contribute

	Industrial	Agriculture	Costal (Sea) Costal (lake and rivers) High Density Urba		High Density Urban	Intermediate Density Urban	Low Density Populated Areas
Industry General							
Chemical Industry							
Paper Industry							
Metallurgy							
Machinery							
Plastic Industry							
Textile Industry							
Wood Industry							
Industrial Laundries							
Waste Water							
Food & Drug Industry							
Green Houses							
Fish Farming							
Biomass Drying							
District Energy							
Swimming Pools							
Hospitals/Hotels							
Desalination							
Heat Storage in aquifer							



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USE CASE CALCULATION 1 MW DATA CENTER HEAT REUSE



contribute





Abstract

Data Centers Heat Reuse

Heat reuse in data centers is an ideal opportunity to increase your sustainability, become carbon and water neutral, and, in general, make a positive impact on society and communities.

However, there are three levels of challenges to be considered:

- <u>Technical aspects</u>: how to capture, handle, deliver and measure the heat
- <u>Regulatory aspects</u>: are there financial incentives? Are there regulations that facilitate/mandate heat reuse?
- <u>Practical aspects</u>: who are the stakeholders? Are the goals aligned?

The OCP heat reuse work group facilitates discussions on how define those challenges and works hard to discover the best possible solutions.



collaborate. contribute.