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Sai Guna Ranjan Emani

National College of Ireland, Ireland

Co-Author

Niveditha kakinada

National College of Ireland, Ireland

Bringing algae to data centers

The main problem faced by both modern and traditional data centers is carbon usage effectiveness (CUE) and power usage effectiveness (PUE). As per a report, over 10 years, data centers will waste over £0.5M in power charges and emit 80% of CO₂ but the chances of increasing the percentage in coming years are more. Thus, creating data center a 'Villain- Destroyer of Earth'. This paper illustrates and explains about the new algae concept for carbon usage efficiency and power usage efficiency. Algae a unicellular microorganism is a billionnaire solution for all the current data centers. It can absorb tons of carbon dioxide in few minutes whereas a single tree can't even do in its life time. Algae undergo photosynthetic reaction and gives biogas and biofuel as a by-product. Thus, turning CO₂ into valuable products lead to significant changes in data centers, this new CO₂ controlling technique to save the environment with the help of algae panels can give us the most profitable business. By moving to algae centered power plant (ACPP) model, we can achieve the sustainability, energy efficiency and global conservation. Data center operators are no longer a pure consumer, but also, they have become a producing consumer- a "Prosumer". The opportunities to change a data center from the consumer to prosumer are more diverse here. This technology is a pioneer in green algae power and carbon neutrality. Using this algae technology, data center can change its image from "CO₂ villain to an environment savior".

Biography

Sai Guna Ranjan Emani has completed his Post-graduate Diploma in Cloud Computing - Infrastructure in National College of Ireland, Dublin, Ireland. He has passion towards research and currently working on power usage effectiveness, networking, cloud, and carbon usage effectiveness of data centers and other industries.

ranjan.emani59@gmail.com

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