



Measure

Optimization of Energy Consumption in the Cloud Infrastructure

ECO₂Clouds develops key metrics to express energy consumption and CO₂ footprint of Cloud Facilities and Cloud Applications for quantification of their environmental impact.

Validate effectiveness

Test on FIRE

BonFIRE

Validate the effectiveness of optimization and adaptation processes through application in FIRE

Create

Create optimization and deployment models to generate configurations which reduce the environmental.

Propose and design innovative application deployment strategies for sustainable federated Cloud sourcing with support for adaptation mechanisms to running applications.

Strategies for Energy Efficient and CO₂ Aware Cloud Applications

Expected outcomes:

- Eco-metrics to expose the energy consumption and CO₂ footprint of applications and Cloud infrastructure at site, host and VM level
- Quantification of energy consumption at application and different levels of Cloud infrastructure
- Intelligent Scheduling techniques for CO₂ aware application deployment in a multi-site Cloud environment.
- Optimization techniques for energy efficient resource utilization in a multi-site Cloud environment
- Runtime adaptation techniques to ensure efficient resource utilization and minimum CO₂

