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Sustainability in Scientific Infrastructures

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Large scientific infrastructures must integrate sustainability into their strategies, therefore including detailed plans to reduce their environmental impact.

Reducing the environmental impact generated by research is an aim already reflected as main objective of major current scientific projects. Scientific infrastructures have to deal with the following challenges related with sustainability and life cycle evaluation: minimizing the environmental impact; pursuing actions and technologies aimed at saving energy and its reuse and identifying and developing technologies that can contribute to mitigate society's impact on the environment, among others.

The reduction of environmental impact and the promotion of sustainable development are two of the key factors that are considered in the evaluation process for future infrastructures and research projects. For years, the term environment was associated only with nature and preservation of ecosystems. However, this definition has recently been expanded to encompass urban landscapes and socio-economic aspects accompanying them. It is mandatory that the scientific community take a more global approach when planning the future of research.

When planning and operating a scientific-technical facility, it is critical to consider a sustainable design in accordance with regulatory compliance and international standards, the management of resource consumption, the minimization of impacts, define a sustainable operation, assess its contribution to the environmental conservation, promote the participation of the community, guarantee transparency and consider climate change adaptation measures. The integration of these aspects not only reduces the environmental impact of the facilities but also reinforces their reputation as responsible and sustainable projects.

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