Entering the Solar Century
The role of thermodynamics to keep the energy debate clean

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In this Lecture, accessible to the general public, Prof. D’Aguanno will give an overview of the existing renewable energies based on the Sun and will contrast those with the non-renewable sources, using thermodynamics as a powerful tool of analysis. Thermodynamics is a descriptive science, which allows a qualitative and quantitative description of our planet. Sustainability is, instead, a normative issue, and it belongs to the dimension of desirability (what kind of world do we want to live in today and in the future?). Thermodynamics is an essential tool in evaluating which resources to use, and to analyze the complex equilibrium between these resources and the waste materials produced. Therefore, thermodynamics contributes to clarify the natural constraints within which to move, before a choice about our future is made on the basis of some normative criteria.