

02

JULY

2012

Sardegna
Ricerche

3 p.m.

Conference
Room

Building 2

R

A

N

I

M

E

S

Sustainable Energy Development: The Present Situation and Possible Paths to the Future

Speaker

Noam Lior

Professor of Mechanical Engineering and Applied Mechanics

Department of Mechanical Engineering and Applied Mechanics

University of Pennsylvania, lior@seas.upenn.edu

Abstract

Recent estimates and forecasts of the conventional fossil fuel resources and their reserve/production ratio, nuclear power, and renewable energy potential, and energy uses are surveyed. A brief discussion of the status, sustainability (economic, environmental and social impact), and prospects of fossil, nuclear and renewable energy use, and of power generation is presented.

Beyond the general review, the seminar focuses on some of the many important areas that deserve more attention: (1) the recently emerging game-changing developments of postponement of “peak oil”, nuclear power future following the disaster in Japan, and effects of the recent global economy downturn of global sustainability, (2) the potential and impacts of electric cars (3) the often neglected energy status and promising potential of Africa.

Some ways to resolve the problem of the availability, cost, and sustainability of energy resources alongside the rapidly rising demand are discussed.

The author’s view of the promising energy R&D areas, their potential, foreseen improvements and their time scale, and last year’s trends in government funding are presented.

Prof. Na Zhang from the Chinese Academy of Science will also take part to the seminar.

Contacts: Ernesto Bonomi, e-mail: ernesto@crs4.it