Organizzazione

BIOMASS RESEARCH CENTRE, CIRIAF INTERUNIVERSITY RESEARCH CENTRE ON POLLUTION AND ENVIRONMENT “MAURO FELLI”, UNIVERSITY OF PERUGIA

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TITOLO DEL SIDE EVENT

High albedo solutions for global warming mitigation, water saving and energy efficiency

AGENDA FINALE

The event is organized as a conference with 6 talks.

The topic is the implementation of high albedo solutions (HAS) as a strategy to tackle the multiple effects of climate change on the environment and population, with particular attention to the most vulnerable areas of the planet.

HAS are natural or artificial surfaces and materials that reflect more sunlight and absorb less heat, such as particular arboreal cultivations, highly reflective paints, coatings, roofing materials and, in agriculture, mulches.

HAS mitigate global warming, since they produce a reduction on global temperature which is the same as if a corresponding amount of CO_2 would be taken off from the atmosphere, thus resulting in a CO_2 compensation. In this regard, the event will present and discuss the development of a precise and reliable methodology for the assessment of the CO_2 compensated by a HAS, called “RF-meter” with the purpose of introducing the CO_2 offset by HAS in the ETS mechanism for the trading of emission credits. This novel approach is based on both ground and satellite measurements. Satellite remote sensing for albedo quantification, without any geographical constraint, is a topic of great scientific and societal relevance and will be addressed in detail.

The implementation of HAS in innovative models of sustainable agriculture have gained the interest of the United Nations, so that the project “Albedo for Africa” has been included among the UN SDG Actions for its potential impact on the livelihoods of millions of people in Africa, which is a continent extremely strained by climate change. The idea is to implement HAS, together with water-saving techniques, in agriculture with the effect of reducing water loss, increasing crop yields and energy efficiency of villages. In addition, the introduction of CO_2 offset by HAS in the ETS market, could offer additional social and economic resources for building and maintaining infrastructures, schools, hospitals. During the event, the project “Albedo for Africa” and the ongoing activities will be illustrated.

Finally, another important topic that will be addressed is the application of HAS in the renewable energy sector, for the improvement of photovoltaic systems’ performance. The cooperation between research institutions and industry in the development of bifacial PV systems integrated with HAS will be presented and discussed.

Hereunder the agenda:

15.30 Conference Opening

CIRIAF, Università degli Studi di Perugia

15.40 Session

- *Franco Cotana, CEO of RSE SpA*
  UN SDG Action "Albedo for Africa" for climate change mitigation and food security by albedo
- *Federico Rossi, CIRIAF, University of Perugia*
  Further development of the "RF-meter" methodology for CO_2 compensation by albedo
- *Francesco Favarò, Watergy International Group, Abu Dhabi UAE*
  Civil and Industrial Applications of Albedo Management Technology
- *Barbara Marchetti, University e-campus*
  Exploitation of Albedo solutions for energy transition
- *Beatrice Castellani, CIRIAF, University of Perugia*
  High albedo solutions for transition to renewable energy: materials and experimental results
- *Mourad Maroc, Institute of Architecture and Urbanism, University of Blida 01*
  Architecture and Water in the desert; Strategies of preserving in the Saharan Territory: case of South of Algeria

16.50 Conclusions

17.00 Conference closing

FOCUS TEMATICO

Application of high albedo solutions in strategic sectors for sustainability (environment, agriculture, energy) with beneficial effects of CO_2 compensation, water saving and renewable energy increase

DESCRIZIONE

The event focuses on the significant impact of high albedo solutions on global warming mitigation, their use in agriculture for water saving and food security and their integration with bifacial PV panels for efficient renewable energy production. The UN action "Albedo for Africa" will be presented.

ALTRE INFORMAZIONI UTILI:

The project "Albedo for Africa" promoted and developed by the organizer CRB-CIRIAF, has been included among the United Nation SDG Actions (#SDGAction50779). The project will implement high albedo solutions and water-saving techniques in agriculture to sustain African farmers and communities. More info at: https://sdgs.un.org/partnerships/albedo-africa-0