BIONATURE 2012

Foreword

The Third International Conference on Bioenvironment, Biodiversity and Renewable Energies (BIONATURE 2012), held between March 25-30, 2012 - St. Maarten, Netherlands Antilles, covered these three main areas: environment, biodiversity and invasion, and renewable and sustainable energies.

Environmental change awareness is a key state of spirit and legislation for preventing, protecting, and ultimately saving the planet biodiversity. Technical and practical methods for applying bio-agriculture for the public's health and safety are primary targets. The goal is the use of ecological economic stimuli in tandem with social and governmental actions preventing deforestation, pollution, and global warming. To cope with the climate and landscape changes advanced technical inventory of tools and statistics on lessons learned are needed to derive appropriate measure and plan accordingly.

The biologic equilibrium on its vast immensity is a challenge for both knowledge gathering and its understanding. Preserving the existing species under rapid economy, one the one side, and using the diversity of environmental species for industrial purposes is a very week balance. There is a risk of forever damaging the existence of thousands of species, or miss the opportunity of using them for the benefit of humanity. Therefore, measuring and interpreting the impact of human actions on the diversity on marine and oceanic life, on Arctic and Antarctic bio-climate, or on forest ecosystems represent one way to prevent ecological disasters and predict possible environmental changes. The event deals with such ecosystem diversity, and the use of their existence for humanity in terms of industrial products, drug production, but also in terms of studying and modeling the ecological degradation, such loss of Poles' ice, food-chain dependency survival, wildlife endurance, or ozone holes. It also bring to the stage different disruption side-effect of the landscape changes, detection and warning systems, invasion of alien species, and the need for public awareness and education.

Replacing the classical energy with alternative renewable energy (green energy), such as bioenergy, eolian energy, or solar energy is an ecological and economic trend that suggests important socio-economic advantages: using native renewable resources, increasing of self-sufficiency rate of energy and promoting use of clean energy, and that way, polluting emissions to the air will be reduced. Bioenergy is renewable energy derived from biological sources, to be used for heat, electricity, or vehicle fuel. Biofuel derived from plant materials is among the most rapidly growing renewable energy technologies. In several countries corn-based ethanol is currently the largest source of biofuel as a gasoline substitute or additive. Recent energy legislation mandates further growth of both corn-based and advanced biofuels from other sources. Growing biofuel demand has implications for U.S. and world agriculture. Eolian energy is currently used throughout the world on a large scale. In the past decade, its evolution shows its acceptance as a source of generation, with expressive growth trends in the energy matrices in the countries where this source is used Eolian energy is renewable and has very low environmental impact. To generate it, there are no gas emissions, no effluent refuse, and no other natural resources, such as water, are consumed. Photovoltaic technology makes use of the energy in the sun, and it has little impact on the environment. Photovoltaics can be used in a wide range of products, from small consumer items to large commercial solar electric systems. The event brought together the challenging technical and regulation aspects for supporting and producing renewable energy with less or no impact

on the ecosystems. There are several technical integration barriers and steps for social adoption and governmental legislation to favor and encourage this kind of energy.

We welcomed technical papers presenting research and practical results, position papers addressing the pros and cons of specific proposals, such as those being discussed in the standard forums or in industry consortia, survey papers addressing the key problems and solutions on any of the above topics short papers on work in progress, and panel proposals.

We take here the opportunity to warmly thank all the members of the BIONATURE 2012 technical program committee as well as the numerous reviewers. The creation of such a broad and high quality conference program would not have been possible without their involvement. We also kindly thank all the authors that dedicated much of their time and efforts to contribute to BIONATURE 2012. We truly believe that, thanks to all these efforts, the final conference program consisted of top quality contributions.

We hope that BIONATURE 2012 was a successful international forum for the exchange of ideas and results between academia and industry and to promote further progress in bioenvironment, biodiversity, and renewable energies.

We are certain that the participants found the event useful and communications very open. The beautiful places of St. Maarten surely provided a pleasant environment during the conference and we hope you had a chance to visit the surroundings.

BIONATURE 2012 Chairs

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