



Webinar on Bioenergy Global Sustainable Water and Energy Solutions Network

Summary 8 June 2021

1. The Global Network on Sustainable Water and Energy Solutions held a virtual seminar on bioenergy for sustainable development on 8 June 2021. Integrated approaches to bioenergy must be based in the need for sustainable water management for the sake of food security and other practices. Sustainable production and use of bioenergy consider social, economic, and environmental aspects of development. Bioenergy could be one of the key options supporting the achievement of the SDGs in regard to climate change and energy. Its various uses include transportation, heating, and electricity. Feedstock for heating systems, furnaces and stoves can be created using bioenergy, as well as liquid and gas biofuel and other alternatives for fossil fuels. It provides a balance between seasonal energy sources such as solar and wind power. The objective of this event was to provide a space to exchange knowledge and experiences related to bioenergy. The projected result is to educate audiences on sustainable bioenergy systems. Attendees also had the opportunity to learn and discuss integrated approaches to bioenergy implementation.
2. **Mr. Jinlei Feng, Programme Officer, IRENA**, acting as moderator of this virtual event welcomed everyone to this virtual event and introduced all the panelists.

Opening Remarks

3. **Mr. Ivan Vera, Senior Advisor at UNDESA**, introduced the event. This is the second in a series of virtual seminars held by the Global Sustainable Water and Energy Solutions Network. The focus of this seminar are SDG 6 and SDG 7 on Clean Water and Sanitation and Affordable and Clean Energy, respectively. As water and energy are highly interdependent, integrated solutions for both are a necessary response for a more sustainable future. Mr. Vera then went on to introduce the Sustainable Water & Energy Solution network and directed viewers to the website where they can read relevant case studies.

Panel Session

4. **Mr. Marcos Penido, Secretary, Infrastructure & Environment, Sao Paulo State Government, Brazil**, presented the bioenergy and sustainable development projects of the Sao Paulo State Government. The Sao Paulo Government is fully committed to develop one of the most sustainable energy matrices in the world. One of the strategies that they have implemented is the generation of clean energy by hydroelectric power and with the use of sugar biomass. To generate opportunities by reusing the waste of the Sao Paulo State, research has been the key. The alliance between the universities and the private sector has led to the decrease of greenhouse gases emissions and water usage. To achieve decarbonization, the State is also using solar energy and biomethane. Public awareness to highlight the importance of the reuse and recycling of waste is also being done. One of the most important programs of the State Government to achieve a circular economy is called “*Novorio Pinheiros*” which is based on decontaminating a river that crosses Sao Paulo. All the programs presented are crucial to Brazil, a country that needs to grow, but with cleaner energy.
5. **Mr. Luis Miguel Paiz, General Manager, ASAZGUA, Guatemala** showcased ASAZGUA’s alignment with SDG 6, clean water and sanitation. ASAZGUA sugar mills have reduced water use by 16% between 2015-2020, meaning the company uses 14% less water per ton of sugar produced in comparison other mills. Overall Guatemalan sugarcane production uses less water per ton of sugarcane than the global mean. This was achieved through a shift to efficient irrigation technology, use of soil and weather data in irrigation, use of wastewater, water reuse, and waterless cleaning technology. ASAZGUA also contributes to SDG 7, renewable energy. 100% of the biomass obtained after processing the sugarcane is used to produce energy. During harvest season, the company is able to cover 32% of national energy demand. The electricity generated from sugarcane prevents 4 million tons of CO_{2e} from entering the atmosphere annually. The CO₂ that is produced is offset by absorption from sugarcane and other forest plants.
6. **Ms. Sylvia Tramberend, Research Scholar, Water Security Research Group, Biodiversity and Natural Resources Program, IIASA**, discussed sustainable biofuel development, focusing on aviation. Aviation biofuel can be identified by applying criteria from the Roundtable on Sustainable Biomaterials (RSB). The NGO has created 12 principles concerning legal, social, environment, and management of biofuel, including GHG emissions, local food security, soil, conservation, and water. Principle 6: local food security seeks to improve food security in food insecure regions. This applies to aviation biofuel in the exclusion of cropland and livestock feed for fuel production. Principle 7: conservation excludes forest land and areas of importance for the environment with a buffer around protected areas. Approximately 5 million hectares of “remain land” in Sub-Saharan Africa can be used for biofuel production after the exclusion of aforementioned land.
7. **Mr. Evandro Gussi, President, UNICA, Brazil**, discussed sugarcane bioenergy in Brazil. The Brazilian sugar-energy industry consists of 360 mills, generates US\$40

billion, and employs 700,000 people. 29 million tons of sugar are produced in the region making Brazil the largest exporter of sugar globally. Brazil is the 2nd largest producer of ethanol in the world with 35 billion liters produced. In one year, enough bioelectricity for 12 million households is generated. Socioeconomic development has also been bolstered by the sugarcane industry. GDP has increased considerably in 15 cities as a result of sugarcane industry activities. The environment has also benefited from the industry as well. Sugarcane producers' plant 46 million seedlings, preserve 7,315 water springs, protect 200,000 hectares of land, and avoid burning pre-harvest. Mr. Gussi then introduced RenovaBio, a key tool Brazil is using to reduce GHG emissions to align with the Paris Agreement.

8. **Mr. Federico Valles, Electricity Power Coordinator, Canal de Isabel II, Region of Madrid, Spain**, presented findings of water, electricity, and biogas consumption in the Canal de Isabel II region. The canal serves over 6 million Spaniards and generates 124 hm³ of water and 312 million kWh. There is a close relationship between water use and electricity in the area. Canal de Isabel II produces a large amount of the energy that is used in the region due to the production of biogas. Biogas can be used in waste treatment, agriculture, and livestock, while reducing the amount of sludge produced in the process.

Annex I – Agenda

Webinar on Bioenergy

8 June 2021

(10:00 – 11:30) New York Time

Total time: 90 minutes

5 minutes	Moderator: <i>Mr. Jinlei Feng, Programme Officer, IRENA</i> <u>Opening Remarks</u> <ul style="list-style-type: none">• <i>Mr. Ivan Vera, Senior Advisor, Sustainable Water and Energy Solutions Network, UNDESA</i>
70 minutes	<u>Panel Presentations</u> <ul style="list-style-type: none">• <i>Mr. Marcos Penido, Secretary, Infrastructure & Environment, Sao Paulo State Government, Brazil</i>• <i>Mr. Luis Miguel Paiz, General Manager, ASAZGUA, Guatemala</i>• <i>Ms. Sylvia Tramberend, Research Scholar, Water Security Research Group, Biodiversity and Natural Resources Program, IIASA</i>• <i>Mr. Evandro Gussi, President, UNICA, Brazil</i>• <i>Mr. Federico Vallés, Electricity Power Coordinator, Canal de Isabel II, Region of Madrid, Spain</i>
10 minutes	Discussion and Questions
5 minutes	<u>Closing Remarks</u>