ESES Quarterly Newsletter

Engineered Waste to Energy Solutions for the World

Announcements

- Emilye Garner takes over as ESES Social Media Director.
- ESES International Research fellows Eniyew Abebaw, Ronald Kizza, and Sohail Lone presented the results of their efforts combating plastic waste at the 3rd Sustainable Waste Management Conference, held virtually.
- ESES has established three new partnerships with organizations around the world: the American College of Environmental Lawyers in the United States; Addis Ababa University in Ethiopia; and the National Institute of Technology – Srinagar in India
- ESES receives a $2,500 donation from the American College of Environmental Lawyers to send a 3T Processor to India.
- ESES hats are now available on our Redbubble link on the website (www.eses-plastic.com). Be sure to get one to show your support.

Inside This Issue

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- Read about the latest ESES news and events.
- New condenser design improves operability of our Trash-to-Tank Processor.
- PDFO could provide a solution to indoor air pollution from open fire cooking.
- Read about our ongoing projects with our partners in Uganda and India.

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- Read more about all of our partnerships in India.
- Learn about all the ways you can support our non-profit mission.
- Learn how to connect with ESES through the web or our social media pages.

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- The ESES Photo Gallery features pictures from our trip to Uganda to bring a 3T processor to our partners at Upcycle Africa.

ESES News and Events

- A documentary film called "The Plastic Pearl" by Ugandan film maker Joseph Buwule focuses on the recent ESES team visit to Upcycle Africa in Mpigi, Uganda. The film is available on the YouTube link on our website (www.eses-plastic.com).
- ESES Undergraduate Research Scholar, Ms. Emilye Garner, will be taking over as our new Social Media Director. Emilye has some exciting things planned to extend our online reach! Be sure to follow all our social media outlets to stay up to date on news, event, and information on the global plastic waste crisis.
  www.facebook.com/esesplastic
  www.instagram.com/esesplastic

Technical Corner

by Dr. Jeffrey Seay, ESES President/Founder

New condenser design improves operability of 3T Processor

Bourbon is the king of spirits in our home state of Kentucky. Taking inspiration from an old-fashioned ethanol still we have redesigned the condenser for our 3T processor. The new design is a double pipe condenser made from copper piping, some flexible tubing, and a submersible pump from a garden fountain. This design minimizes leaks and is less expensive than our previous design.

PDFO is a cleaner option for household cooking

Solid cooking fuels like coal, wood and charcoal are still widely used around the world. Long term exposure to smoke from cooking fires can lead to chronic lung, heart, and eye health problems – and the public health burden caused by this exposure disproportionately falls upon women. Liquid fuels, like PDFO are a cleaner option. PDFO contains no sulfur, and the particulate emissions are dramatically reduced when compared with solid fuels.

Projects Overview

by Shelby Browning, ESES Projects Director

Uganda

Upcycle Africa, an NGO based in Mpigi, Uganda and ESES partner, collects plastic waste from community members and the surrounding environment to use as building materials to construct homes and office spaces for communities in various parts of Africa. A multidisciplinary team from ESES traveled to Uganda in July 2021 to visit Upcycle Africa and implement our Trash-to-Tank (3T) technology. This technology provides Upcycle Africa with an appropriate solution to convert excess plastic waste not suitable for construction into plastic-derived fuel oil (PDFO). Upcycle Africa's staff members were trained how to operate the 3T processor and produce PDFO, which can be used as a kerosene alternative in cookstoves and lamps, along with a variety of other uses.

Two story home built using plastic bottles in Mpigi, Uganda.

India

ESES has built a 3T processor that is ready for shipment to the National Institute for Technology (NIT) in Jammu & Kashmir, India. This construction of this processor has been made possible through a donation from the American College of Environmental Lawyers (ACOEL). The processor will be used to demonstrate our 3T process in the region, in collaboration with our partner organization, Bridge Foundation. This project will be headed up by ESES International Research Fellow, Dr. Sohail Lone.

Partner Spotlight

ESES began a partnership with BRIDGE Foundation in Jammu and Kashmir, India in 2021. BRIDGE Foundation was registered as a society in 2018. The primary areas of focus are: Education, Advocacy, Health, and Environment. BRIDGE Foundation's mission is the welfare of the general public irrespective of religion, caste, creed, and sex. Helping empower people to take control of plastic waste will be a new opportunity. ESES is partnering with BRIDGE Foundation to introduce Trash to Tank technology to communities in Jammu and Kashmir so they can remove plastic trash from the ecosystem and have a clean source of fuel for cooking. This will provide economic opportunities and environmental benefits for people in the region. ESES is looking forward to a fruitful collaboration with BRIDGE Foundation!

BRIDGE Foundation
Peace,Prosperity & Development

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Mr. William Seay

How You Can Help

Amazon Smile

If you make purchases from Amazon, purchase instead from www.smile.amazon.com. Make your purchase as normal, then select Engineers for Sustainable Energy Solutions as your preferred charity. Amazon makes a donation to ESES for every purchase you make! Works with Amazon Prime as well.

Redbubble Store

Purchase original ESES art from on stickers, mugs, shirts, water bottles and hats from our online Redbubble Store. All proceeds benefit ESES. Link at www.eses-plastic.org

PayPal Donation

Make a tax-deductible PayPal donation using the Donate button on our website or using the URL here: https://eses-plastic.org/donate/

ESES is a 501(c)3 non-profit. All donations are tax deductible to the maximum extent allowed under the law.

Volunteer

E-mail us or use the contact form on our website to find out how you can help.

Connect with us!

We'd love to hear from you! Follow us on social media or check out our website for news and updates!

www.eses-plastic.org

www.facebook.com/eses-plastic

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ESES Photo Gallery

Making tea in Uganda on a stove fueled by PDFO.

ESES President Jeff Seay and volunteer William Seay collect plastic waste in Uganda.

Village-made lamp burns PDFO produced in Mpigi, Uganda.

Upcycle Africa Director, David Monday cuts up plastic for producing PDFO for cooking in Mpigi, Uganda.

ESES volunteers (l to r) Rondal Kizza, Shelby Browning and William Seay assemble a 3T processor at Upcycle Africa.

ESES Team with the Upcycle Africa staff in Mpigi, Uganda.

Fuel oil produced in Kampala, Uganda.