



December 2022  
Volume 7 Issue 6

## Rotarians' Quest for Circular Economy

In many countries, December brings an avalanche of shopping, shipping, fossil-fueled travel, and discarded packaging. It's hard to imagine anything farther from sustainability, so ESRAG's holiday gift to you is this newsletter reporting on circular economy. The writers share practical ways to reduce humans' need to mine, grow, process, transport, and throw things away. This December, read about:

- ESRAG's exciting lithium-ion battery recycling partnership with Redwood Materials.
- How businesses and Rotary Clubs are pioneering reusable containers to replace the single-use packaging polluting our land, rivers, and oceans.
- Solvatten solar water purifiers to reduce deforestation and air pollution, and save lives: a perfect gift for humanitarians within and beyond Rotary.



Fresh from Rotary's multi-zone Institutes this month in the United Arab Emirates and India, ESRAG Directors Yasar Atacik and Mina Venkataraman report on the growing prominence of environmental sustainability on the agendas of Rotary's Presidents, Directors, and the District Governor line. Yasar shares another circular solution: RI Director Frederick Lin's report on the multi-district Save Food for Taiwan Association that is reducing food waste and hunger in Taipei.

And we ask for YOUR news as a life-giving, sustainable gift to fellow Rotarians. Take a look at the calendar of ESRAG's monthly themes for 2023, and see where your work fits. We can't wait to showcase ESRAG members' effective strategies through our Projects + webinars, newsletter, social media, and blog. Use the links below the calendar if you have an environmental project that other Rotarians can replicate. Finally, we share a beautiful alphabet of environmental pledges from ESRAG's Great Britain and Ireland Chapter, for you to consider as you choose your new year's resolutions.

ESRAG Chair Pat Armstrong sends you the following message: "Thank you to all our members from around the world for your work in supporting the environment. This wonderful newsletter showcases

some outstanding examples of environmental projects and initiatives that you may be able to adapt to your own club or district. With the efforts of our many volunteers, ESRAG continues to grow in effectiveness and influence. We now have over 1,650 members in 90 countries with 13 active Regional Chapters. Thank you for being part of ESRAG. I wish you all a safe and happy new year!"

*Photo: Members of the Rotary Club of Novato Sunrise, California, US display a barrel of used devices they've collected to recover lithium and other metals essential to new rechargeable batteries. On the right, ESRAG Director Clari Nolet.*

## Connect with us on social media



## Mining Homes and Businesses for Lithium

**By Ariel Miller, ESRAG Newsletter Editor**

Mass electrification demands more rechargeable batteries that require lithium and other rare minerals. Through ESRAG's new lithium-ion recycling project, Rotarians are engaging their communities in a smart circular economy step to accelerate climate solutions. "The largest lithium and cobalt reserves in the western hemisphere sit in America's junk drawers," says JB Straubel, founder and CEO of [Redwood Materials](#), the United States' only recycler of used lithium-ion consumer batteries. American Rotary, Rotaract, and Interact Clubs have begun recovering thousands of pounds of lithium-ion batteries whose rare minerals can be recycled almost indefinitely.

"Redwood Materials' Battery Materials Campus in Northern Nevada, US reclaims over 95% of these precious metals," says Rotarian Joe Richardson, who organized four Rotary-sponsored collections in Frederick County, Maryland (US) this fall. Redwood Materials just announced their second Battery Materials Campus in Charleston, South Carolina, increasing their capacity to recycle, refine, and remanufacture critical battery materials.

Under a memorandum of understanding between ESRAG and Redwood Materials negotiated by ESRAG Director Clari Nolet, Rotary Clubs in California, New York, Massachusetts, Nevada, and Maryland have already carried out community recycling events netting over 7,600 pounds of rechargeable batteries. ESRAG's lithium-ion project has a [website](#) explaining the impact of this strategy and how to easily participate, using their turnkey project plan and marketing materials. At this point, the project is being piloted in the US. ESRAG will keep you informed if we are able to expand it to other countries. Click more below to read about the great potential of this project.

*Above: publicity for the August recycling event organized by the Endwell and Endicott Rotary Clubs in New York State.*

[Read More](#)

## Smart Alternatives to Single-Use Packaging

**By Lori Cloutier, Co-Chair, ESRAG Plastics Solutions Task Force**

Unless you live in a (plastic) bubble, you already know that single-use packaging and serving ware (SUP) make up to 40 - 50% of the plastic products fueling the global plastic waste crisis. So...what is the best alternative to use instead? Is it aluminum? Bioplastic and compostables? Bagasse and bamboo? No.....not really.

According to the United Nations Environment Program (UNEP) and other environmental organizations, there are no disposable alternatives that do not have big sustainability issues of their own. For that reason, many countries have passed legislation banning shopkeepers from handing out plastic bags and single-use containers. UNEP's perhaps unwelcome, but data-driven recommendation is to replace disposables with refill and reuse systems.

So what might these "refill and reuse systems" look like? Hundreds of entrepreneurial solutions are already in operation in various parts of the world, as you can see in Upstream Solutions' global library of [reuse service providers](#). Tech-enhanced packaging systems are using unique QR codes, blockchain-inspired technology, cashless transactions, rfid, touchless vending and user-friendly apps to build something entirely new. Read more to discover businesses that serve customers without single-use packaging, followed by Rotary Club initiatives that you can replicate.

Photo: [Go Green's toolkit](#) for plastic-free farmers' markets.

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## Solvatten: Sustainable Solution to Holiday Giving

If you're still wondering what to give a Rotary friend or loved one – and struggling to find a gift consistent with your values – a Solvatten Solar Safe Water kit is a truly beneficial and sustainable choice. Here's why:

- Your gift sends a solar water purifier kit to a Kenyan family who lacks access to safe water. Powered by the sun instead of wood or charcoal, the kit will provide safe water for seven years.
- As you can see from the [website](#), Solvatten kits advance all seven of Rotary's Areas of Focus, from preventing disease to community economic development.
- You're not cluttering up your loved one's house.

This is a perfect way to show a prospective Rotarian the good that Rotary does worldwide! You can [donate at this link](#) and download this cheerful gift card to give to your loved one.

Designed by Petra Wadström of Sweden, Solvatten solar water heaters are providing safe, hot water to almost 500,000 people worldwide. Each kit can heat and treat up to 40 liters of water a day, saving 6-8 trees and preventing 1-1.5 tons of CO2 emissions a year. Wadström and Solvatten have won many awards, including Aftonbladet's Environmental Hero Award, the EU Prize for Women Inventors, the UNFCCC Momentum for Change, the WWF Climate Solver, the Swedish Design Prize, and the Swedish Royal Institute of Technology's 2022 Grand Prize. European Rotarians have been championing this project, and their donations have saved 13,760 trees and prevented 1,925 tons of greenhouse gas emissions to date.

The video about Solvatten won first prize in this year's I Fix the Planet contest! Read more about the Solvatten project and make life-giving gifts at [www.solarsafewater.org](http://www.solarsafewater.org)





# Rotary Leaders Put Environment Center Stage at Abu Dhabi Zone Institute

**By Yasar Atacik , ESRAG Chair-Elect**



Dedicated to "Climate Stability Through Environmental Sustainability," Rotary's Institute for Zones 1b, 9 and 10 took place 2-4 December in Abu Dhabi. This Institute put the spotlight on urgent environmental issues and effective responses for close to a thousand Rotarians representing 42 nations, from Pakistan to Taiwan to Indonesia. ESRAG Projects Director Mina Venkataraman and I attended upon the invitation of RI Director M. Faiz Kidwai. RID Faiz, who lives in one of the regions hardest hit by Pakistan's 2022 catastrophic floods, served as the Institute's convener. He is an ESRAG member and was Regional Chapter Co-Chair with me before being elected to the RI Board.

Top Rotary leaders participated in each of the three environmental plenaries, starting with "Climate Carnage," moderated by RID Faiz. That panel included RI Director Pat Merryweather-Arges, an ESRAG member, and RI Trustee Aziz Memon. I spoke as a panelist on the second plenary, "Environment Townhall: Climate Stability Through Environmental Sustainability." RI Director Urs Klemm also served as a panelist. The third plenary was called "No Holds Barred: An Open Discussion with our Leadership," also moderated by RID Faiz. The panelists were RI President Nominee Stephanie Urchick, RI Vice President Nicki Scott, RI Trustee Bharat Pandya, and RI General Secretary and CEO John Hewko. President Jennifer Jones and PRIP Ravi Ravindran also attended the Institute.

In addition, RID Frederick Lin gave an exciting talk about District 3520's highly effective Save Food for Taiwan Association. D3520 joined forces with four other districts to win a Rotary global grant to build a commercial kitchen to divert food from the landfill and provide culinary training to unemployed people. Between its inception five years ago and May of this year, the project has saved over 59,000 kg of food and delivered almost 200,000 lunches to low-income people across Taipei, thus reducing both greenhouse gas emissions and hunger.

Read more to learn about the two important gains resulting from our attending the Abu Dhabi Zone Institute as ESRAG representatives.

*Photo: ESRAG Projects Director Dr. Mina Venkataraman, RI Director M. Faiz Kidwai, and ESRAG Chair-Elect Yasar Atacik in Abu Dhabi.*

[Read More](#)

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## Vital Connections Made at Visakhapatnam Zone Institute

**By Dr. Mina Venkataraman, ESRAG Projects Chair**

ESRAG members dove into Rotary's multi-Zone Institute Dec. 9-11 at Visakhapatnam, with zest and great success in raising the profile of environmental work. We connected with top leaders, from RI President Nominee Stephanie Urchick to current and upcoming District Governors from Zones 4,5,6, and 7. Networking throughout the weekend, we energized Rotarians about opportunities including watershed restoration, solid waste, cleaner cookstoves, and mangrove projects. We fielded a multitude of inquiries, and will follow up to support Clubs in their work, including global grant applications.



This region has seven women DGEs, all of them ESRAG members! The role of women was a major theme of this Institute, including RI President Jennifer Jones' leading the first-ever Women in Rotary Conference, which emphasized girls' empowerment. We can build on this by promoting low-cost, reusable menstrual hygiene resources to help girls stay in school.

I was ably assisted by fellow ESRAG members Dr. S. Rajalakshmi, Booma Mahendrarvarman, and ESRAG South Asia Chapter Co-Chair MK Sivabal, all of us from D3203 Environmental Team. By attending this Zone Institute, we gained access to and visibility with the DGEs from 42 districts. By attending Zone Institutes yearly, ESRAG members will gain more traction in expanding Rotarians' environmental action and impact. I informed RIPN Stephanie Urchick about ESRAG's Climate Action Plan, which ESRAG Chair Pat Armstrong then emailed to her.

This Zone Institute had only one environmental session, but we were able to leverage it by connecting conferees to river strategies championed by ESRAG.

*Photo: ESRAG South Asia Mangroves Team. From left, ESRAG Projects Director Dr. Mina Venkataraman, PDG Ajay Gupta (D3141), and Biswajit Ghosh. Rtn. Ajay, a trustee of the Rotary India Water Conservation Unit, conducted the mangroves breakout session at the 2022 RI Convention in Houston. Rtn. Biswajit serves on the board of the Rotary Action Group for Community Economic Development and as COO/CEO of Rotary India Humanitarian Foundation and Rotary India Literacy Mission. He helps build connections with organizations for community development and plays a key role in vetting the Sunderbans Mangroves project.*

[Read More](#)

## Teachers! Unleash Your Students' Leadership!

**By Ariel Miller**



ESRAG is thrilled to invite teachers worldwide to empower students as climate leaders through the [Climate Innovation Challenge](#). By registering online by Jan. 20, 2023, teachers can access free curriculum for ages 8 through secondary school. The six lessons introduce students to climate change, mitigation and adaptation strategies, reputable sources, project design, and powerful visual storytelling. Students choose a solution that fits their local community, then create a 2-4 minute video about it, due March 19. The 2023 Challenge concludes with a project showcase and award ceremony in May.

The goal is to engage students' leadership and amplify their voices to inspire others. "Our priority is to give students the chance to discover their own agency," says Phil Lucero, education director of [CAVU](#), the American non-profit that created the initiative. "Students are passionate about addressing climate

change. It's not fair to them to say they are going to 'inherit' this crisis. We are engaging them in the problem of our time." [CAVU's team](#) draws on decades of experience in photojournalism and environmental education to support this program, now in its fourth year. It's currently being used by teachers in 14 states across America and in Kenya. The project leverages the skills contemporary youth already have in visual content creation, from music videos to animation.

The Climate Innovation Challenge is an opportunity for Rotarians who teach or influence local schools to offer this learning adventure to students worldwide. Please use this ESRAG form to start connecting your community's or country's teachers to this empowering learning experience. Kenyan educator and CAVU's Africa Education Liaison Mercy Wambui [pictured], a member of the Lavington Eco Club in Nairobi, is demonstrating that this project can work across language, culture, technology, and economics.

[Read More](#)

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## I Fix the Planet Winners

*By Ariel Miller*

The results are in! Five videos have won top honors in ESRAG's second international "I Fix the Planet" Contest. They illustrate an array of powerful actions Rotarians are taking across six continents to overcome human-caused pollution, restore ecosystems, and advocate for accountability.



Here are the winning videos of 2022:

- **First Prize** goes to the **Stockholm Djurgården Rotary Club in Sweden, ESRAG's Solar Safe Water Team, and WASH-RAG** for "[Josephine Using Solvatten](#)." This luminous film shows how a mother in Kenya can now keep her children healthy, pay their school fees, and buy them nourishing food because of money she saves by using her Solvatten solar-powered water purifier kit. Over 360,000 people are using Solvatten kits across Africa, South and Southeast Asia, the Caribbean, and South America.
- **Second Prize** goes to the **Rotary Eco Club of Kaka'ako** for "[Genki Balls Clean the Ala Wai](#)," a canal on O'ahu, Hawaii. The film documents a delightful community event making mud balls with beneficial microorganisms. The project's goal is to make this highly polluted canal swimmable and fishable within seven years.

Two videos tied to win **Third Prize**:

- "[Ecocide](#)," submitted by the multinational **ESRAG Ecocide Team**. Ecocide is the mass destruction of the natural living world by humans. With haunting images and music, the film urges Rotarians to sign the international petition to make ecocide a crime. It grounds this advocacy in Rotary ethics of the Four-Way-Test. You can read more at the website of [Stop Ecocide International](#), a growing network of diplomats, lawyers, and all sectors of civil society.
- "[What I Would Like For You](#)" from the **Rotary Club Eco-Milano** in Italy. In this poignant film, a mother speaks to her soon-to-be born child of "what I hope for you and what I will teach you" to fulfill our shared responsibility to care "for the world, which is our home."

**The People's Choice Award** went to the **Rotary Club Jaipur Gurukul, India** for "[Tree Plantation Drive for the Dravyawati River in Jaipur](#)." "Let's plant a tree and plant hope for the future," they urge viewers.



[Read More](#)

## If you fly this holiday, fuel climate solutions!

If you are traveling by plane this holiday, consider using ESRAG's new [Flight Carbon Estimator](#). Your donation goes into The Rotary Foundation's fund for environmental global grants to support Rotary projects that reduce carbon emissions. By estimating your flight's emissions and making this donation, you're increasing your awareness and turning it into action. Goal 4 of Rotary's [environmental global grant guidelines](#) lists an array of eligible carbon reduction projects including solar power, sustainable transportation systems and cleaner cookstoves.

To use the calculator, all you need to enter is the total duration of your air travel, the number of flight segments (since takeoffs and landings add emissions), and the seat class. First class uses more space and accounts for a greater portion of the flight's emissions. The calculator offers two levels of donation: basic (\$10 USD per tonne) and premium (\$30 USD per tonne).

## Send us News for ESRAG's 2023 Monthly Themes

By Laurie Zuckerman, ESRAG Communications Chair

### ESRAG 2023 Communications Calendar

<b>JAN</b> Pollution Rt: vocation UN: International Day of Education	<b>FEB</b> Biodiversity Rt: peace building UN: wetlands, pulses, women in science, social justice	<b>MAR</b> Sustainable Living Rt: WASH UN: women, seagrass, wildlife, forests, water	<b>APR</b> Climate Rt: environment UN: Earth Day, health, immunization, malaria	<b>MAY</b> Biodiversity Rt: youth service UN: biological diversity, plant health, migratory bird, bee, peace, families	<b>JUN</b> Food Systems Rt: Fellowships UN: World Environment Day, food safety, oceans, desertification, drought, tropics
<b>JUL</b> Sustainable Living Rt: maternal & child health UN: population	<b>AUG</b> Circular Economy Rt: Membership UN: Breast feeding, indigenous people	<b>SEP</b> Pollution Rt: basic ed & literacy UN: clean air, ozone, food loss/waste	<b>OCT</b> Food Systems Rt: community & economic development UN: World Food Day, habitat, migratory bird, rural women, disaster risk reduction	<b>NOV</b> Climate Rt: Foundation UN: COP, preventing exploitation of the environment in war, science & peace, Day of 8 Billion, tolerance	<b>DEC</b> Circular Economy Rt: disease prevention UN: soil, disabilities, human rights, neutrality, solidarity

Hot off the presses: ESRAG's 2023 Communications Calendar! Your news will make it a force for good. This article tells you how to share it with us to reach fellow Rotarians and other committed people through our many channels: webinars, website, social media, and newsletter.

Both of ESRAG's Communications teams met in December to plan monthly themes to make sure we cover all six ESRAG themes twice each year. We'll include updates on relevant

ESRAG initiatives and task forces. The calendar also highlights the UN's monthly themes that relate to environmental sustainability. Our January issue will cover pollution - air quality in specific (either outdoors or indoors) - so use the links below to write us right away if you've got air quality projects to share.

Through this calendar we'll be working to reach as wide an audience as possible with inspiring and useful information. We're coordinating with ESRAG's Projects + Webinar in hopes the presentations will reinforce the monthly themes. Please look at the calendar, find out which month is the best fit for your project, and write us now. We want to publicize both projects and educational events.

The Projects + Webinar operates like an international eClub, and welcomes presentations on relevant research on environmental problems and solutions (including science, economics, and social dynamics). It also showcases Club and District projects that other Rotarians can replicate. If you know an expert who can talk about one of the upcoming themes, or would like to present a project, please [email Karin Tome](#).

Use this [Newsletter Submission Form](#) to reach our news and social media team. We work to post quality information that promote ESRAG's [vision and mission](#). All submissions must first be submitted by the 5th of the month preceding publication, which is normally the Saturday closest to the

middle of the month. Submission does not guarantee an article will be published.

If you want publicity for an event, use this [Event Form](#). All submissions must first be approved, and we need enough lead time to do a good publicity job for you. ANY form submitted less than ten working days has **no guarantee** that we'll be able to post it to the website and social media.

Thanks in advance, and happy new year! We look forward to working with you to get useful, inspiring news to a world that greatly needs it.

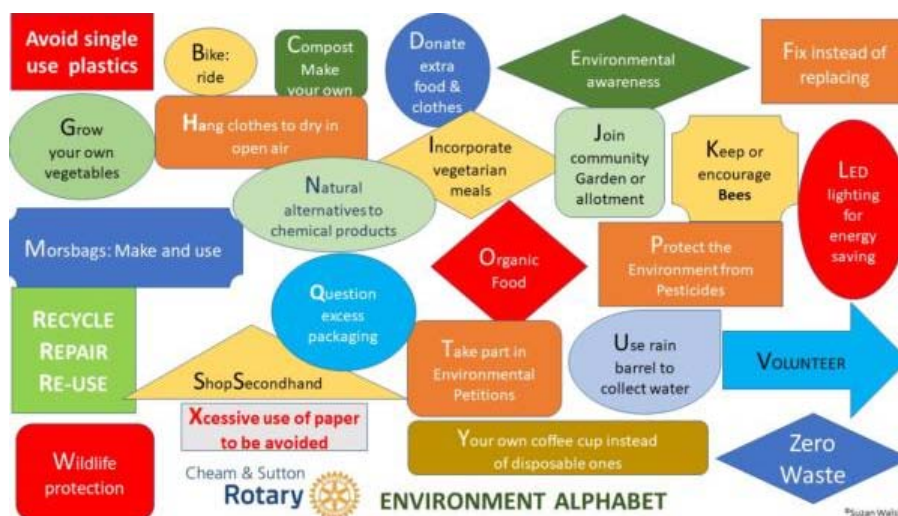
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## For Your New Year Resolutions, a Gift from Great Britain

**By Kirsten Weber**

Suzan Walsh, President-Elect in Cheam and Sutton Rotary, D1145, sent us this delightful graphic that you can use as a guide to sustainable living. She explains how it was created: "When we set up an environment working group for our Club in 2020, the first thing we did was to get environmental pledges from our members and draw up a list of best practices for all of us to follow. From that list, we got inspired to prepare an Environment Alphabet to help us to raise environmental awareness."

Happy New Year!



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## The Environmental Sustainability Rotary Action Group

operates in accordance with Rotary International policy, but is not an agency of, or controlled by, Rotary International.

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