

Current

IMPACT REPORT 2024

TRANSFORMING WASTE INTO WEALTH

Built in the Great Lakes, Made for the World

Current is an independent nonprofit water innovation hub founded in Chicago in 2016. Our mission is to grow an inclusive, circular blue economy, accelerate innovation, and solve pressing water challenges.

To date, Current has helped raise **over \$58M** for regional water innovation and economic development, engaged with **40+ water startups**, launched **11 technology pilots**, and educated more than **40,000 people** through events and convenings.

Platinum
Transparency
2024

Candid.



SUPPORT US

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Waste to Wealth: The Future for the Great Lakes

FROM OUR CEO

Dear Friend,

If you are new to Current, welcome! We're glad to have you in our growing ecosystem of visionaries, changemakers, and champions for water. If you've been following our journey, welcome back— you know that 2024 was nothing short of transformational in our world.

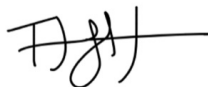
In January, Great Lakes ReNEW—a regional coalition of over 50 partners led by Current—was selected as one of just ten Regional Innovation Engines by the U.S. National Science Foundation. This prestigious award underscores the national and critical significance of our mission to advance water innovation and build a circular blue economy in the Great Lakes region. It could also provide up to \$160 million in catalytic funding over the next decade to support it.

Great Lakes ReNEW unites researchers, industry, utility, and community leaders, entrepreneurs and investors to address a major global problem. Today, conventional water and wastewater treatment flushes valuable resources down the drain and leaves harmful contaminants behind. Although solutions exist, progress in water innovation remains slow and challenging. **In a world of increasing water and resource scarcity, we can no longer afford the status quo.**

Great Lakes ReNEW is dedicated to transforming waste into wealth for our region and beyond, because water security is national security—a consensus priority that requires collective action.

The accomplishments outlined in this year's Impact Report are the culmination of years of dedicated investment from our founders and partners in shaping a blue economy strategy and ecosystem in our region. I'm proud of what we've achieved together, and yet I recognize we are much closer to the starting line than the finish. **To realize the full scale of our ambitious vision, we need your support—your investment and your belief in our mission.** We expect to face some fierce headwinds on this journey, and we'll need a bigger vessel with everyone rowing in the same direction to move forward at the pace these urgent challenges demand. I hope you'll be inspired to join us.

In partnership,



Alaina Harkness

Chief Executive Officer

Principal Investigator, Great Lakes ReNEW



2024

GREAT LAKES ReNEW ANNOUNCEMENT

Current is announced as an inaugural recipient of the National Science Foundation's Regional Innovation Engines program for the Great Lakes Water Innovation Engine (Great Lakes ReNEW), an award worth up to \$160M over 10 years to advance the circular blue economy.



January

February

March

April

May

June

July

August

September

October

November

December

YEAR IN IMPACT

GREAT LAKES ReNEW LAUNCH



Great Lakes ReNEW officially launches and celebrates at a kickoff event in Washington D.C. with the other NSF engines.

CHICAGO WATER WEEK & CIC KICKOFF

5th Annual Chicago Water Week; Current Industry Consortium (CIC) launches with Exelon and Ingredion as inaugural members, bringing industry end-user perspective to our R&D, commercialization, and workforce strategies.



MILWAUKEE NSF SITE VISIT

Great Lakes ReNEW leadership welcomes NSF representatives to Milwaukee, WI to visit Marquette University, Sentry Equipment, and see ReNEW's first six months of impact in action.

ROADMAP SUMMIT

Great Lakes ReNEW leadership participates in the NSF and EDA's inaugural ROADMAP National Summit, which highlights federally supported place-based innovation investments aimed at strengthening U.S. competitiveness in science and technology.

H2NOW SEASON FOUR



H2NOW Chicago, a critical node in our connected regional testbed network, launches for a fourth season to provide real-time, accessible water quality monitoring data for the Chicago and Calumet Rivers.

CRC/CIC TECHNICAL ROADMAPPING WORKSHOP

The Current Research Consortium (CRC) and CIC meet in Columbus, OH for a joint workshop to roadmap future blue economy research, workforce priorities, and commercialization.

POWERING A CIRCULAR WATER ECONOMY

THE PROBLEM

Conventional water and wastewater treatment flushes valuable resources down the drain and leaves harmful contaminants behind. In a world of increasing water and resource scarcity, we can't afford the status quo.

THE OPPORTUNITY

With unparalleled freshwater resources, leading research institutions, and a diverse industrial base, the Great Lakes region is poised to drive the transition to a circular water economy. **If the region were a country, it would rank as the third-largest economy in the world**, boasting a GDP of \$6 trillion and 51 million jobs, creating a solid foundation for innovation.

THE SOLUTION



GREAT LAKES ReNEW

Great Lakes ReNEW is a coalition of 50+ cross-sector partners driven to unlock the region's water innovation potential.

ReNEW bridges gaps in the innovation ecosystem between researchers, startups, water technology testbeds, and pilot programs to accelerate the validation and deployment of new technologies. ReNEW focuses on developing breakthrough technologies such as AI/ML-powered sensors, advanced nanofiltration systems, and materials

for recovering critical minerals and nutrients from wastewater.

Strategic partnerships with industry and workforce development partners further drive commercialization while creating new jobs and upskilling the workforce. By securing domestic supplies of critical minerals and reducing the environmental footprint of water-intensive industries, **ReNEW aims to establish the Great Lakes as a leader in the circular blue economy, ensuring long-term resilience, sustainability, and prosperity.**

BUILDING AN ENGINE

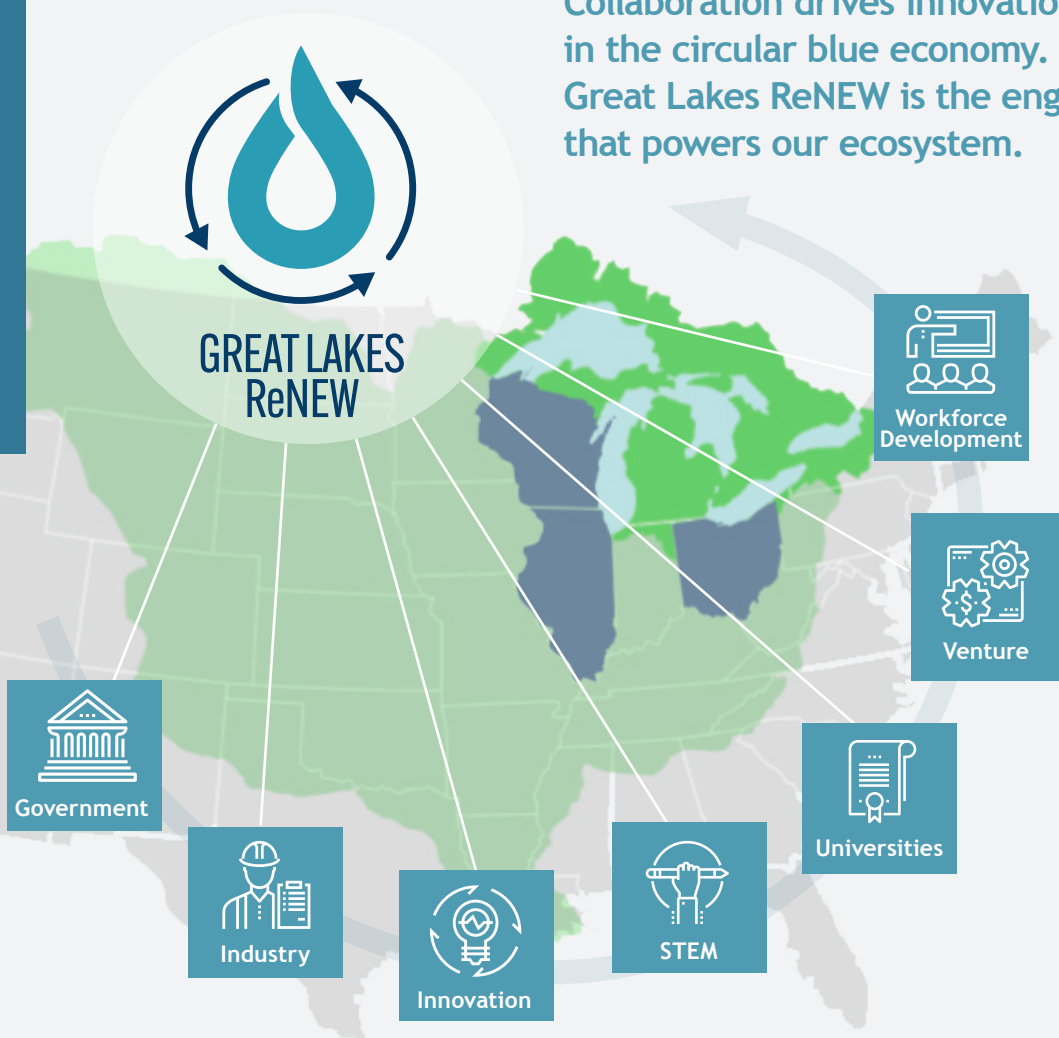
Demand for new technologies is surging, including solutions for water reuse, nutrient recovery, and selective separation of chemicals and minerals. Regulatory changes further accelerate this need. Aligning our region's unique assets gives us a clear opportunity to lead in resource recovery, meet growing global demands, and position the Great Lakes as a center of sustainable water innovation.



GROWING THE GREAT LAKES ReNEW ECOSYSTEM

BUILDING AN ENGINE

Collaboration drives innovation in the circular blue economy. Great Lakes ReNEW is the engine that powers our ecosystem.



Illinois, Ohio and Wisconsin:
The Nascent Phase for
Region of Service

Current Research Consortium

Comprising nearly a dozen leading research institutions, this consortium focuses on developing cutting-edge technologies for resource recovery, selective separation, and other critical water challenges. Newest participants in the CRC include Marquette University, Purdue University, University of Michigan, University of Minnesota, and University of Wisconsin-Milwaukee.

Current Industry Consortium

This coalition includes key players from manufacturing, energy, and agriculture sectors. The CIC serves as a bridge between research and real-world application, working to inform the CRC's research priorities and accelerate the transition of research from lab to market. CIC members include: Exelon, Ingredion, and Sentry Equipment.

Community Partners

Local governments, nonprofits, and community organizations bring valuable insights to the ecosystem. Their engagement ensures solutions are inclusive and address regional water sustainability challenges.

Workforce & STEM Partners

Committed to developing a skilled workforce, these organizations offer educational, apprenticeship, and training programs that equip individuals for existing and emerging jobs in water technology. This focus on workforce development ensures a diverse, resilient labor force capable of meeting the demands of the growing circular water economy.

Thirsty Growth Industries Demand Smart Water Strategy

The Great Lakes region is becoming a hub for advanced industries with significant water and energy demands. Our region can and should continue to attract and scale water-intensive industries that drive economic growth and create jobs. But we should select for industry leaders that bring smart, sustainable water strategies, such as wastewater reuse, and be intentional about long-term water availability and resource planning. The future health and security of our region depends on smarter water strategy and practice today.



Chicago and Illinois' freshwater access has always been a strategic advantage. It anchored the diversified industrial economy of our past, and it will be key to the industrial economy of our future. We must work with these new industries to... preserve the strategic value of our most precious natural resource for generations to come.

– Alaina Harkness, CEO, Current; CEO & PI, Great Lakes ReNEW, in [Crain's Chicago Business](#)

Water for Power Generation

Power plants, especially thermoelectric and nuclear, **consume staggering amounts of water for cooling.**

Cooling towers in these plants evaporate significant volumes of water to prevent overheating, placing heavy demands on local resources. While renewables like solar and wind help reduce water dependency, other more popular electric power sources still demand substantial water resources.

Advanced Computing

The rise of AI, data storage, and quantum computing is significantly driving water demand, with data centers alone using **300,000+ gallons** daily for cooling. Efficient water reuse systems are essential for lowering this consumption and preserving our water resources while supporting the sector's growth.

Manufacturing and Related Industries

In manufacturing, semiconductor production, and even food and beverage processing, water is fundamental for cooling, cleaning, and processing materials and machinery. Without sustainable water use and wastewater management practices, these sectors risk exacerbating local water scarcity, as well as contaminating water resources.



STEM



ENTREPRENEURS



Building our Water Workforce from K to Gray



TRAINING PROGRAMS



ACADEMIA



Current is building equitable pipelines to blue jobs at every stage, from early education to mid-career transitions, higher education pathways, and entrepreneurship opportunities. Great Lakes ReNEW is building a **regional blue jobs strategy** backed by research and community engagement led by the Council for Adult and Experiential Learning and the National Fund for Workforce Solutions. Training partners like W RTP | BIG STEP, HIRE360, and regional water utilities are collaborating to address skill gaps and prepare for mounting retirements in trades and utilities.

We collaborated with Elevate, HIRE360, and the Metropolitan Planning Council to build an **inclusive lead service line replacement (LSLR) workforce strategy** for Illinois. Together, we convened 50+ stakeholders from labor and trades, workforce providers, engineering firms, government, education, and nonprofits to address workforce needs and build equitable opportunities in LSLR for people underrepresented in the blue economy. This effort will culminate in a report and recommendations to be published in early 2025.

In 2024, we received \$225,000 from the U.S. Department of Labor, through a congressionally directed request from Senator Tammy Duckworth's office, to pilot a **wastewater sampling job training program** launching in 2025. Additionally, JPMorganChase awarded Current \$363,000 to support water workforce development across Illinois and the Great Lakes region.

Our Mobile Lab provided hands-on water-STEM programs to **250+ students and 400+ community members** from the Chicagoland region. Our Mobile Lab offers activities for all ages to create a pipeline from water education to water workforce. We also collaborated with the Teaching Institute for Excellence in STEM on the launch of the Blue Economy Ecosphere. This ecosphere brings together education and industry, promoting inclusive water-STEM learning across the Great Lakes.

Current also hosted its first official **Summer Intern Cohort**, hiring 16 interns to work on Great Lakes ReNEW-related projects.

Connected Infrastructure for Critical Challenges

ACCELERATING INNOVATION

Use-Inspired R&D

Through Great Lakes ReNEW, we have initiated **13 collaborative R&D projects** to address three specific water challenges: efficient and **selective separation**, emerging process technologies for **resource recovery**, and **real-time sensors and sensor networks**. These projects combine machine learning, advanced materials, and in-situ measurements, resulting in novel materials, sensor networks, and process platforms that target critical contaminants and enable sustainable water management solutions. This year, we also launched our inaugural **Great Lakes ReNEW Postdoctoral Fellowship cohort**, consisting of nine postdoctoral research fellows selected from a pool of 101 applicants to support ReNEW's R&D projects.

Connected Testbed Network

We are in the early stages of building the **nation's first connected testbed network** to accelerate water technology innovation. This network, spanning university, research, utility, industry, and ecosystem partners, will offer innovators unique testing and scaling opportunities critical for commercialization.

The Nation's First Connected Testbed Network for Water Innovation

Diverse Testing Systems

Range of testing environments with various waste streams to support diverse technology testing.

Centralized Testbed Planning

A centralized facility serving as the hub for testing and validating water technologies.

Workforce Development and STEM Education

Integrated training and education opportunities to build a skilled water sector workforce.

Technology Scouting and Matching

ReNEW scouts for innovations and connects researchers and startups with the best-suited testbeds.

Water is massively underinvested in. We've developed a blueprint, something that can be built upon and expanded. Chicago or Cleveland can't own this alone. ReNEW gives all of us a chance to build a much more robust ecosystem, so that collectively we can own and lead this issue nationally and globally.

– **Bryan Stubbs**, President & Executive Director of **Cleveland Water Alliance**; Testbed Lead, Great Lakes ReNEW



Real-Time Water Quality Monitoring & Sensing Technology Testbed

H2NOW Chicago provides critical insights into the health of Chicago's waterways, enhancing public health and supporting the city's recreational, economic, and environmental goals.

H2NOW Chicago continues to empower local communities, businesses, and policymakers by delivering vital, real-time water quality data for the Chicago and Calumet rivers. **As the first real-time microbial water quality monitoring tool for an urban waterway in the U.S.**, H2NOW uses advanced sensor technology to monitor key indicators like fecal coliforms and other pollutants. These insights enable greater transparency and more effective action to ensure cleaner, safer rivers for all.

H2NOW
WATERWAY MONITORING
CHICAGO

Improving Public Perception:

H2NOW's real-time data is helping shift public perception of local rivers' health. With steadily declining fecal coliform levels in recent decades, the Chicago

River has become safer for recreation, boosting community confidence in our waterways.

Democratizing Water Quality Data: H2NOW's website provides insights into river conditions based on real-time data assessments. As river conditions are always changing, access to H2NOW data empowers the public to make informed decisions about when to recreate in the river. This year, we also made **H2NOW's historical water quality data** publicly available.

STEM Education: H2NOW is featured in Current's River Lab program as part of our K-12 STEM education initiative, **Blue EDU**. Blue EDU introduces students to water quality through an engaging, hands-on engineering design challenge. This unique learning experience not only builds scientific literacy but also connects students with the local river ecosystem, fostering the next generation of water stewards and innovators.

A Testbed for

Innovation: Since 2019, H2NOW has piloted six new water monitoring technologies, positioning Chicago as an open-water testbed for innovative solutions. This work aligns with Current's broader vision for a connected water testbed network through Great Lakes ReNEW.



Become a Sponsor! Join us in safeguarding Chicago's waterways for the 2025 H2NOW season. Email h2now@currentwater.org for more information.

Making Headlines

In 2024, our team worked hard to keep water front and center in the conversation. We elevated challenges and shone a spotlight on solutions, growing our ecosystem of partners to amplify our message and increase our impact.

CHICAGO
BUSINESS JOURNAL

JANUARY 2024

Great Lakes coalition wins up to \$160 million federal grant for water innovation

[Read it here.](#)

AUGUST 2024

The New York Times

Divert Great Lakes Water to California?

[Read it here.](#)



CRAIN'S
CHICAGO
BUSINESS

JULY 2024

Opinion: Growing the Quantum Prairie will take water-smart strategy

[Read it here.](#)

MARCH 2024

Chicago Tribune

J.B. Pritzker, et al.: Clean water is our moonshot moment for Midwest climate leadership

[Read it here.](#)

RESET
with SASHA ANN SIMONS

SEPTEMBER 2024

Sensors in Chicago's rivers could tell you whether it's safe to kayak, swim

[Read it here.](#)

SITE
SELECTION

MAY 2024

Big Dreams Take Shape: A federally-funded initiative seeks to re-imagine the Great Lakes

[Read it here.](#)

DECEMBER 2024

**milwaukee
journal sentinel**

AI uses so much water. If Midwest wants tech growth, let's plan to sustain it.

[Read it here.](#)



The ReNEWletter

In July, we launched our **ReNEWsletter** on LinkedIn to provide regular, monthly updates on Great Lakes ReNEW. [Subscribe Here.](#)

Growing Our Ecosystem



Chicago Water Week has been a cornerstone of Current's efforts to build a thriving water innovation ecosystem. Each year, it brings together water leaders, policymakers, innovators, researchers, industry experts, and advocates to connect, collaborate, and explore solutions to pressing water challenges and opportunities.

Chicago Water Week 2024 by the numbers:



7 days of events

connecting diverse stakeholders in water-focused discussions



3 event sponsors

—**Charles Stewart Mott Foundation, Sloan, and Exelon**—whose support powered the week's impact



3 proclamations

from Mayor Brandon Johnson, Governor JB Pritzker, and the Metropolitan Water Reclamation District, all recognizing the week's importance



8 tours

of local water facilities, nature sites, and historical landmarks



28 events

hosted by partner organizations throughout Chicagoland



3,000 attendees

who came together to celebrate and champion water



Thank you to everyone who attended, partnered, sponsored, and supported Chicago Water Week 2024.

Save the Date

MAY 4-10 2025

Learn more about Chicago Water Week, sign up to host an event, or express interest in becoming a sponsor [here](#).



Forging Connections, Driving Change

Our team attended dozens of engagements across the water sector and beyond, raising awareness for our initiatives, strengthening our network, and growing our ecosystem.

Championing Water Stewardship

At **Aspen Ideas Climate**, we highlighted the critical importance of freshwater for our planet's future and Great Lakes ReNEW's role in safeguarding the Great Lakes.

Alaina moderated a session with Shedd Aquarium CEO Dr. Bridget C. Coughlin and Illinois Gov. JB Pritzker. At the **City Club of Chicago**, Alaina and Junhong Chen, Co-PI of ReNEW, demonstrated innovative water treatment techniques using a Chemex coffeemaker.



Driving Innovation

UMN Twin Cities hosted a workshop on Innovations in Sensing, Data Science, and Water, featuring speakers from ReNEW research leadership, including our Technical Program Director Dr. Melissa Pierce, Dr. Brian Chaplin (UIC), Dr. Nancy Love (UMich), and Dr. Tianhong Cui (UMN). Melissa also delivered the keynote at the AIChE Chemical Ventures Conference, fostering connections among startups, investors, researchers and industry leaders in chemical engineering.



Community Engagement & STEM

At the Peggy Notebaert Nature Museum's Summer Nature Fest, our Program Manager Hannah Henderson led our first Mobile Lab program and engaged nearly 1,000 attendees. This year, we also celebrated a major milestone with our partners at TIES this year: the launch of their new STEM initiative, the Blue Economy Ecosphere.

Advancing the Blue Economy on a Global Stage

Strategy Director Kalindi Parikh joined Chicago innovation leaders to brief The Chinese People's Association for Friendship with Foreign Countries on the city's environmental and economic progress. In Montréal, Alaina Harkness joined Mayor Brandon Johnson's delegation at the Great Lakes and St. Lawrence Cities Initiative Annual Conference, where mayors pledged to transform the region into a thriving blue-green economic corridor.



Building Relationships with Government Leaders

In partnership with Argonne National Lab, HIRE360, and the University of Chicago, we briefed Illinois Senator Dick Durbin, Senator Tammy Duckworth, and Heather Boushey of the White House CEA, highlighting how climate investments at state and federal levels fuel a circular blue economy.

Bold Action to Shape a Sustainable Future

Global water challenges require bold action. Clean water is vital for human health, agriculture, energy production, and industry, forming the foundation of thriving economies and ecosystems.

With its abundant freshwater resources, the Great Lakes region is uniquely positioned to lead in fostering competitive, resilient industries and strengthening global supply chains. **In a world facing increasing water scarcity**, embracing innovation and eliminating waste will be essential steps.

Current is scaling up efforts to bring the Great Lakes ReNEW coalition's transformative "waste-to-wealth" vision to life. Over the next four years, we aim to secure an additional \$60 million from diverse funding sources to accelerate research and development, support entrepreneurs, scale water-tech companies, and build a skilled workforce to power the blue economy.

By partnering with philanthropies, industry leaders, governments, and investors, we can protect our freshwater resources, drive breakthrough innovations, and build resilient communities across the Great Lakes and beyond. Together, we can shape a better water future—built in the Great Lakes, made for the world.

Help us rise to meet this moment. We are grateful for your support.

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Water Innovation is Powered By Partnerships

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Industry Partners

Deloitte Services

Ingredion Corporation

Koval Distillery

Sentry Equipment Corporation

Sloan Valve Corporation

Government Partners

U.S. National Science Foundation

**U.S. Department of Commerce
Economic Development Administration**

U.S. Department of Labor

**Illinois Department of Commerce &
Economic Opportunity**

**City of Chicago Department of Water
Management**

**Metropolitan Water Reclamation
District of Greater Chicago**

Research Partners

Argonne National Laboratory

Illinois Institute of Technology

Marquette University

Northwestern University

Ohio State University

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Elevate

Exelon Foundation

HIRE360

JP Morgan Chase Foundation

Just Transition Fund

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Once Upon a Time Foundation

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Individual Gifts \$500+

James Mann

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We are deeply grateful to our partners, collaborators, supporters, and advisors for their invaluable contributions to Great Lakes ReNEW.

TEAM *Current*

