

# NATIONAL WATER REUSE ACTION PLAN

## COMPLETED ACTION



**Action 7.5:** Coordinate and Promote Water Reuse Technology in Federal Small Business Innovation Research Programs

## Background

The Small Business Innovation Research (SBIR) program, also known as America's Seed Fund, funds small businesses and startups across technology areas to stimulate technological innovation, meet federal research and development (R&D) needs, and increase commercialization to transition R&D into impact.<sup>1</sup> EPA is one of 11 federal agencies that has an SBIR program through which it supports the development and commercialization of innovative technologies that meet the agency's mission of protecting human health and the environment.

The SBIR program is structured in phases to determine technical merit, and commercial potential of the technology. Topics for Phase I are determined yearly based on agency priorities, and Phase I EPA SBIR awardees receive \$100,000 to complete six-month projects. After successfully completing Phase I, small businesses can apply for Phase II awards of up to \$400,000 for two years to further develop and commercialize the technology. Through the EPA SBIR-WRAP collaboration, high priority water reuse topics have been identified and included in the annual EPA SBIR solicitation for three years, which has led to funding a portfolio of innovative reuse technology projects that address monitoring and treatment as well as urban and agricultural applications. EPA aimed to include water reuse as a standing topic within its SBIR solicitation to invest in new reuse technologies that address emerging needs. Highlighting and addressing challenges that small businesses face while introducing these technologies to market can help them learn to be adaptive and break into the competitive sphere. EPA can provide support for creating and facilitating connections across the industry.

Six of the 11 SBIR agencies were identified as having funded projects that develop and commercialize innovations related to water technology and water reuse. SBIR projects differ across federal agencies with respect to scale, application, source of water, and end use. Despite differences in agency SBIR projects, the shared focus on water technology and reuse can be leveraged and coordinated to achieve more effective advancement and commercialization of new water reuse technologies.

## Accomplishments

- As of spring 2022, awarded \$1.5 million in EPA SBIR Program funding to 11 U.S. small businesses to develop water reuse technologies.
- Compiled past and currently funded [SBIR water reuse projects](#) from across relevant federal SBIR programs to identify the shared focus on water reuse and coordinate new technology commercialization.
- Created [profiles](#) of five EPA SBIR small businesses with innovative water reuse projects to showcase the challenges and opportunities surrounding the commercialization of new products.
- Assessed needs and developed multiple EPA SBIR Phase I water reuse solicitation topics over three years related to treatment and monitoring as well as urban and agricultural applications.
- Provided EPA SBIR-funded small businesses with EPA mentors who have helped them make connections to further advance and commercialize their technologies.
- Promoted SBIR Phase I solicitations through [webinars](#) to address questions about eligibility and topics.

<sup>1</sup> EPA. Small Business Innovation Research (SBIR) Program. Available from <https://www.epa.gov/sbir>.

### Action Team

#### Action Leaders

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#### Action Partners

- Federal Small Business Innovation Research Programs**

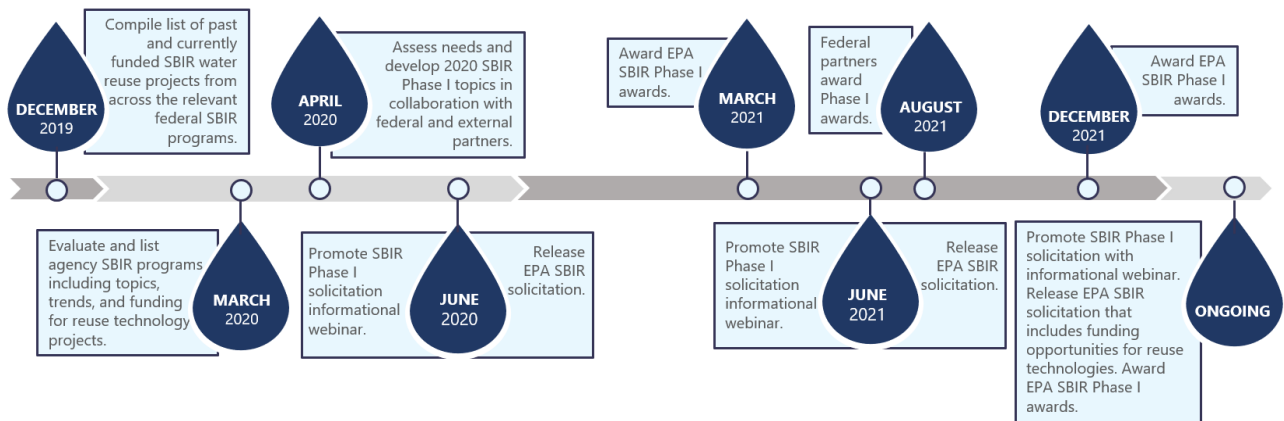
## Impact

Action 7.5 sought to improve coordination and promotion of water reuse in SBIR programs to create a strategic approach to addressing water reuse technology gaps. To coordinate the commercialization of new water reuse technologies and understand the realm, trends, and available funding for these technologies, EPA compiled a [list](#) of SBIR reuse projects funded by DOD, EPA, NASA, NIH, NSF, and USDA. EPA then identified SBIR program contacts within these six federal agencies and developed model language to share to develop water reuse topics.

Beginning in 2020, new water reuse topics were included in the annual EPA SBIR solicitations. Initially, the topics were broad, such as treatment and monitoring technologies for water reuse, but over the years, they have evolved to target more specific needs, such as modular decentralized non-potable water reuse for urban applications, low-input decentralized non-potable water reuse for irrigation applications, and decentralized wastewater treatment (septic system) technologies for intentional non-potable reuse. The frequency of SBIR solicitations and invitation to include new reuse topics ushers in innovative technologies that are particularly relevant and necessary to the sector. EPA held annual informational [webinars](#) to announce the funding opportunities and address audience questions. Since the onset of Action 7.5, \$1.5 million in EPA SBIR program funding was awarded to 11 U.S. small businesses. The [awardees](#) are employing innovative approaches and reuse technologies, such as a smart-sensor approach to automate and optimize agricultural water reuse and a compact, modular system for rapid, fully automated treatment of domestic greywater for non-potable onsite reuse. The SBIR-WRAP collaboration has provided these EPA SBIR-funded small businesses with EPA mentors who have helped them make connections to further commercialize their technologies.


EPA profiled five of its prior SBIR-funded small businesses that worked to develop water reuse technologies in a [document](#) that showcases the simultaneous challenges and opportunities surrounding the commercialization of new products. The lessons learned provided in the document can help small businesses navigate the various challenges faced when commercializing technologies in the reuse space. Collectively, these activities helped to institutionalize water reuse as a topic in EPA’s SBIR program and support innovative, emerging technologies.

## Action Implementation Process



## Potential Future Activity

- EPA will continue to collaborate with, and seek input from, reuse experts to include new and relevant reuse topics in SBIR solicitations to fill current needs and research gaps. EPA will provide guidance to SBIR-funded small businesses as well as resources and points of contact to ensure they are equipped to commercialize their technologies to support full implementation.
- EPA plans to hold a webinar highlighting the EPA SBIR-funded water reuse technologies for interested stakeholders such as EPA representatives, states, tribes, utilities and other SBIR agencies.
- EPA intends to create a website writeup of reuse success stories to increase awardee visibility and explain



how their technologies address needs in the water reuse space (see [climate change writeup](#) for example).

## Additional Resources

- [List of funded SBIR water reuse projects across six federal agencies](#) (as of December 2019)
- [SBIR case studies—small businesses take on the challenges of water reuse](#) (March 2022)
- [EPA SBIR project portfolio](#)
- [SBIR awards information](#)
- [SBIR informational webinar and Q&A](#)