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Why Environmental Impact Bonds Are Catching On.

They give cities a way to share the risk and learn whether new approaches work.

Washington, D.C., had a problem. Like many cities with antiquated sewer systems, D.C. was under orders from the Environmental Protection Agency to reduce stormwater runoff that threatened the region's water quality. To solve the problem, the city wanted to experiment with "green infrastructure" as an alternative to building costly new pipes and pumps. But green infrastructure had not yet been tried at that scale, so how could the city finance this unproven approach?

The answer, for D.C., was to launch the nation's first environmental impact bond in 2016. An EIB enables the city to share the risks — and the rewards — of innovative problem-solving with investors. EIBs are considered a "pay for success" strategy because investors' returns depend on whether the project meets its goals. Because of the need for extensive measurement around those goals, the jurisdiction also learns what works best for future planning. This approach is catching on, with Baltimore and Atlanta recently announcing plans to issue EIBs.

In Washington, the impact investing firm Quantified Ventures worked with DC Water on a $25 million EIB for large-scale green infrastructure: rain gardens, permeable pavement and other landscaping designed to absorb and divert stormwater. The EIB was privately placed with Goldman Sachs' Urban Investment Group and Calvert Impact Capital.

The need for intervention was clear. D.C. (like more than 770 other American cities) has an outdated combined sewer system, meaning that stormwater is funneled into the same pipes that handle raw sewage. On a good day, all that wastewater goes to a sewage treatment plant. But on a bad day — and climate change guarantees more of those — heavy precipitation exceeds the capacity of the pipes and untreated sewage is discharged directly into local rivers.

In 2005, D.C. entered into a consent decree with the EPA to address this problem. The city's plan A was a $2.6 billion tunnel system to capture the combined-sewer overflow. But halfway through that 20-year project, green infrastructure began to look like a viable and less expensive plan B. And green infrastructure has the potential to create ancillary benefits such as increasing access to green space, reducing the urban heat island effect and creating ongoing jobs in landscape maintenance. The EIB allows D.C. to test that hypothesis at scale.

Of course, testing a hypothesis depends on rigorous monitoring and evaluation, a feature that distinguishes EIBs from other modes of finance, such as standard municipal bonds. But while the full results of the D.C. EIB won't be known until the project's completion in 2021, other cities are already betting on the new approach.

Baltimore, another city with combined sewer problems, also will utilize EIBs to finance green infrastructure. Here, too, the need is urgent: Baltimore is required by federal and state regulators to reduce and treat polluted runoff from more than 4,000 acres of pavement and buildings by 2019. In partnership with the Chesapeake Bay Foundation and with support from The Kresge Foundation, Baltimore plans to issue up to $6.2 million in EIBs later this year to help pay for stormwater

management in some three dozen neighborhoods.

And Atlanta is the first winner of the “Environmental Impact Bond Challenge,” funded by the Rockefeller Foundation and in partnership with Quantified Ventures and municipal-bond broker Neighborly. Atlanta’s will be the first publicly offered EIB, allowing residents to invest in improving their city. The city plans to use EIBs to fund approximately $12.9 million worth of green infrastructure projects in flood-prone neighborhoods on the city’s west side.

Kresge and Rockefeller believe that EIBs can deploy impactful solutions to resilience, water quality and other environmental challenges. But not everyone has embraced environmental impact bonds. Some, for example, have compared them unfavorably to “green bonds” (which are similar to standard muni bonds but earmarked for environmental projects), observing that EIBs are more costly to issue and that the monitoring and evaluation they require diverts time and resources from funded projects.

Ben Cohen, a senior associate at Quantified Ventures, concedes that “EIBs are not the best tool for every issue and geography.” But when cities want to try unproven approaches, scale up solutions that have been tested on a small scale, or share financing costs with other entities that may benefit from projects, the monitoring and evaluation requirement “is a feature, not a bug,” Cohen says. Evaluation is essential to make sure that taxpayers are not on the hook for projects that don’t work, while providing investors — who often have a social or environmental impact mandate — with an assessment of the outcomes their dollars are creating.

By focusing on outcomes and carefully measuring progress along the way, EIBs can also garner bipartisan support from those who want to see more government effectiveness and accountability. And as cities experiment with untested solutions to the unprecedented challenge of a warming planet, EIBs offer a valuable way to share risks and rewards. “EIBs are a powerful new tool in the municipal toolbox,” says Cohen.

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