



Case Study

DC Stormwater Retention Credit Trading Program

PROBLEM

Impervious surfaces (e.g., roads, parking lots, and traditional roofs) cover over 40% of Washington, DC, and large rain events generate large amounts of stormwater runoff. High volumes of runoff carry pollutants (e.g., trash, oil and grease, and sediment) into local waterways, degrade aquatic habitats, and contribute to localized flooding.

SOLUTION

In 2013, the DC Department of Energy and Environment (DOEE) enacted the Stormwater Rule, which set a retention standard for stormwater management and established the Stormwater Retention Credit (SRC) trading program. District stormwater management regulations require most new development and major renovation projects to 1) install green infrastructure best management practices that retain stormwater runoff on-site and/or 2) purchase SRCs to meet all or part of their stormwater retention requirements off-site. SRC trading offers increased flexibility for compliance and increases overall stormwater retention by distributing green infrastructure over a larger area, a key factor enabling the Stormwater Rule.

The SRC trading program provides regulated projects with flexibility in complying with stormwater management requirements and accelerates the restoration of District waterbodies by incentivizing private investment in green infrastructure construction in high-priority areas. SRC trading allows regulated developers to use SRCs to meet all or part of their stormwater retention requirements off-site. An SRC is a tradable unit, certified by DOEE, equivalent to one gallon of stormwater retention capacity for one year installed voluntarily or in excess of the retention requirement for a regulated site. High-Impact SRCs come from voluntary green infrastructure projects in areas of the District that are most likely to provide the most significant water quality benefits.

As the SRC trading market has evolved, DOEE has adjusted SRC trading rules to maximize private investment in high-impact voluntary green infrastructure. The SRC market is now well-established, with several hundred SRC trades and growing SRC demand each year, and DOEE plans to refine SRC trading rules to require the use of High-Impact SRCs in most cases. This will help accelerate the restoration of District waterbodies by increasing demand for SRCs from voluntary projects built in regions of the District that are most likely to provide significant water quality benefits.

In 2016, DOEE established the [SRC Price Lock Program](#) to “jump start” the SRC market supply and ensure that there would be an affordable supply of High-Impact SRCs. The SRC Price Lock program de-risks investment in voluntary green infrastructure by offering purchase agreements that give SRC Aggregators (businesses that generate and sell SRCs) the option to sell SRCs on the SRC market or to DOEE at fixed guaranteed prices for 12 years. Participating SRC Aggregators retain the option to sell credits on the market and receive subsidy payments for market sales, helping to maintain competitive SRC prices.

OUTCOMES AND COBENEFITS

- Reduced stormwater runoff directly discharging into District waterways.
- Increased green space, particularly in environmental justice communities in the District that have less green infrastructure and are overburdened with urban heat islands, localized flooding, mosquitos, etc.
- Growth in local, green economy (e.g., companies that produce stormwater retention credits, demand for green infrastructure planning, design, and maintenance)
- Potentially provides financial assistance for non-profit property owners that need/want green infrastructure on-site and seek reduced stormwater fees.
- Residential green infrastructure projects increase property values for homeowners.
- Property owners who haven't met their on-site stormwater retention requirements can save money. The credits are significantly cheaper than the in-lieu fee they'd have to pay otherwise.

FINANCIAL MECHANISM

DC Green Bank (DCGB) has provided financial solutions to two SRC Aggregators to support the development of voluntary green infrastructure projects within the District. In July 2021, DCGB provided Green Compass (an SRC Aggregator) with a revolving loan facility to fund five new projects aiming to divert 250,000 gallons of stormwater per storm event. The cost of the five projects totals \$1.2 million, all financed by a \$650,000 revolving loan facility provided by the DCGB. In August 2022, DCGB issued two loan facilities to Rainplan (another SRC Aggregator) totaling \$2,000,000 to finance both commercial and residential green infrastructure projects that will aid in stormwater management across the District. Rainplan estimates that once they implement their planned 14 residential projects and 10 commercial projects, 100,000 gallons of water will be captured and filtered for each future storm event.

FINANCING SOURCE

The SRC Aggregators can draw funds from their respective loan facilities for projects enrolled in DOEE's SRC Price Lock Program. DOEE and SRC Aggregators sign SRC Purchase Agreements for each project accepted to DOEE's SRC Price Lock Program. Purchase agreements include an engineering estimate for the number of SRCs the project is likely to generate and guarantee DOEE purchase prices for 12 years. This "Rate Lock" helps DCGB estimate the minimum price for the credits for the 12 years after project completion. This information helps DCGB understand the maximum amount of debt the project can viably support, as well as the collateral value of the project. Therefore, once a DOEE SRC Purchase Agreement is issued, DCGB is comfortable disbursing funds for construction costs.

REPAYMENT SOURCE

The sale of SRCs generates cash flow for repayments. Once a project has been constructed, the SRC Aggregator can certify three years of SRCs upfront. They can then sell these credits on the open market immediately, or if they wait 18 months post-certification, they are eligible to sell the SRCs to the DOEE at fixed prices (specified in the SRC Purchase Agreement). If the aggregator sells their SRCs on the open market, they also receive a price subsidy from DOEE, which helps the aggregator price their SRCs more competitively¹. Most projects DCGB has encountered thus far have earned enough revenue from selling their first three years of SRCs to repay the total amount they borrowed to cover the project's construction costs. Therefore, the SRC Aggregators were able to repay DCGB shortly after project completion and certification, and DCGB was able to recycle these funds for additional projects.

FINANCING SOURCE	REPAYMENT SOURCE
SRC Aggregators can draw funds from their respective loan facilities for projects enrolled in DOEE's SRC Price Lock Program	The sale of SRCs generates cash flow for repayments

¹ Only SRCs that are issued within the first 6 years after project completion and certification, are eligible for this additional DOEE subsidy.

ROLE OF A GREEN BANK OR OTHER SIMILAR FINANCIAL INSTITUTION

DCGB receives funding from the District government and lends money to various constituencies to meet the District's sustainability goals.

In this case, DCGB provided loan facilities to fund the construction of green infrastructure projects by Green Compass and Rainplan. When these two SRC Aggregators first came to DGGB, they already had projects that were approved or in the process of being approved for DOEE's SRC Price Lock Program, but they lacked the funds to finance their total pipeline of projects. SRC Aggregators find that they cannot reliably turn to traditional financial institutions for capital, as many financial institutions do not have environmental expertise or sufficient resources dedicated to understanding smaller environmental markets like the SRC market. Consequentially, traditional financial institutions may decline to finance these projects, or if they are willing to provide capital for projects, they may charge exorbitant rates since they deem the projects "risky investments." In such cases, a Green Bank like DCGB can mitigate this problem by having a dedicated team of financial professionals who are experts on various sustainable markets and can provide unique financial solutions to address financing gaps.

"READINESS" LEVEL

Green Compass is currently using funds from its revolving loan facility to construct its pipeline of projects. To date, one project has completed construction and been certified by DOEE's Price Lock Program, and a second project is nearing completion. Rainplan has funded four residential green infrastructure projects and is implementing additional commercial and residential projects.

MORE INFORMATION

To find other case studies and more information about financing nature-based solutions go to our website here:
<https://nicholasinstitute.duke.edu/project/green-banks-and-community-lenders-financing-nature-based-solutions>

REFERENCES

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CASE STUDY CITATION

Torre, J. and Mason S. 2023. "Case Study: DC Stormwater Retention Credit Trading Program." *Nature-Based Solutions Financing Working Group Project*. Durham, NC: Nicholas Institute for Energy, Environment & Sustainability, Duke University. <https://nicholasinstitute.duke.edu/project/green-banks-and-community-lenders-financing-nature-based-solutions>.