
# CASE STUDY

## Sofia (Bulgaria)– Atlanta (USA)

## IURC - NA

NOVEMBER 27, 2025

**Thematic Network: Nature-Based Solutions**
**Topic keywords:** ***Urban forestry, urban trees, canopy management, carbon credits***

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INTERNATIONAL URBAN AND REGIONAL COOPERATION

# Sofia (Bulgaria) – Atlanta (USA)

IURC – CASE STUDY

*Strategic urban forest management can deliver a wide range of social, environmental, and economic benefits. Atlanta demonstrated an innovative path to their Urban Forest Management by embarking on Carbon Credits Program to further benefit from their preservation of urban forested properties. They showed that a multi-prong effort is accessible and replicable and aligns well with Sofia's values of community engagement and cooperation on corporate social responsibility. Through sharing knowledge and experiences both cities are contributing to advancing nature-based solutions.*

## EXECUTIVE SUMMARY

Many cities face the challenges of growing populations and inequitable distribution of tree cover, losing natural areas to development or natural disasters, aging tree canopy, and inadequate resources for conservation or tree care. Investments in urban forest management have shown to deliver wide ranges of benefits; the inclusion of residents, organisations, and businesses in programming is essential to fostering a shared vision for circular, inclusive, and climate-resilient urban futures. The cities of Sofia, Bulgaria, and Atlanta, USA, engaged in an 18-month cooperation under the International Urban and Regional Cooperation (IURC) North America programme to share their experiences in implementing nature-based solutions and innovative practices.

With a good foundation and interest in urban forest management, Sofia (population 1.3 million) explored the many facets of Atlanta's (population 520,070) approach to urban forest management, including city goals, a comprehensive urban forestry program, and advances in carbon credits as a revenue-generating model to help fund the preservation of urban forested properties. Atlanta boasts ambitious tree related goals as part of their urban forestry management continuum. Likewise, Sofia embarked on 'The New Sofia Forest' project in 2017, which aims to create a green belt around the Bulgarian capital that will improve air quality and create more places for recreation in the future.

This peer learning, based on site visits and shared presentations, also highlighted the assets in each city and the opportunities for Sofia to leverage its advanced waste management and urban forestry efforts and explore opportunities to generate carbon credits that are growing in Eastern Europe in order to finance future conservation projects. The multi-prong approach adopted by Atlanta can also serve as guidance for advancing new elements of urban forestry and inspire Sofia to build on work to date towards sustainable urban forests and conservation.

# CHALLENGES AND SOLUTIONS

Like most large cities, Sofia also faces challenges related to the rapid development of the city and the need to ensure livability and sustainability. They have embraced the participation of local stakeholders in the development of the city as an essential component of their approach. Sofia took part in the CITIES4CSR project, which played an important role in improving dialogue and strengthening cooperation on corporate social responsibility. The project aims to strengthen the role and increase the added value of corporate social responsibility activities of companies at the local level, to improve the urban environment and innovation for social development in order to better respond to emerging challenges at the local level.

The largest reforestation initiative in the Sofia Municipality is the New Forest of Sofia. This initiative is a sustainable investment in the city's natural capital and has a long-term complex impact on improving the environment in Bulgaria's most populous municipality. It contributes to the implementation of measures related to:

- improving air quality;
- achieving a cooling effect in urban areas in the context of global warming and neutralizing the negative phenomenon of urban heat islands (the heating of asphalt and concrete surfaces during the summer months);
- participation in the global trend of mass afforestation with the aim of accumulating carbon in biomass and neutralizing part of the anthropogenic carbon emissions in the atmosphere;
- protection of biodiversity in the territory of Sofia Municipality through the creation of a new forest habitat for animals in the Sofia Field;
- provision of a regulating ecosystem service for flood prevention in the low-lying parts of the municipality – it has been proven that forest areas regulate surface runoff during heavy rainfall and reduce the risk of flooding;
- creating an area with potential for the development of suburban ecological and recreational tourism.

Atlanta is also known as A City in a Forest. The city's extensive urban canopy and urban forest were first documented in a baseline canopy analysis in 2008 by the City of Atlanta Department of City Planning. The baseline analysis revealed that Atlanta's overall tree canopy was number one in coverage for a major metropolitan city at nearly 50 percent. According to a Georgia Tech study released in 2018, 46.5 percent of the city is covered in trees. This legacy, and the canopy gain and loss cycle, requires active management in order to continue generating multiple benefits for the city. In 2023, following recommendations from Atlanta City Design:

### US Forest Service
### USD 5M Grant

- Comprehensive urban forest assessment (small tree inventory natural area assessment).
- Risk reduction maintenance of trees
- Restoration of forested areas
- Programs to connect people with urban forests & watersheds
- First comprehensive 10-year **Urban Forest Master Plan**

Nature, the city adopted an ambitious goal of maintaining 50% canopy and required that the Department of City Planning conduct a study every five years to measure the tree canopy cover within the city. A $5M federal grant awarded to the City of Atlanta in 2023 will be instrumental in enhancing their existing urban forest program continuum producing a leading example of sustainable urban forestry leading to a 10-year Urban Forest Master Plan (in development). With the lowest tree canopy in the entire city, the Downtown Atlanta Tree Planting Plan was launched in 2024. This initiative aims to double tree coverage in downtown by planting upwards of 8,000 trees

phased over ten years. This project will simultaneously cool streets, reduce the urban heat island effect, mitigate greenhouse gas emissions at the ground level, trap airborne particulate matter, and increase natural carbon sequestration.

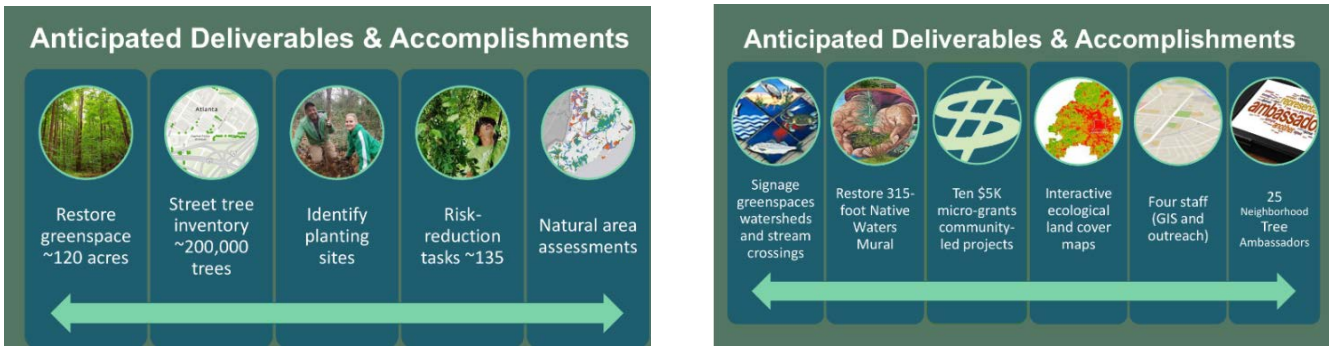


*Figure 2. Images from the presentation "City in a Forest: Atlanta, Georgia" by Kathy Evans, Tree Conservation Commission, and Taryn Heidel, Arboricultural Mgr. for Natural Areas and Land Management, Dept of Parks and Recreation, City of Atlanta.*

While planting trees is important, the maintenance and stewardship of trees require strategic planning and resources. Programs should consider measuring a range of benefits from urban natural areas, such as stormwater management, air quality, biodiversity, health, and recreational opportunities, to support financing efforts. One such source that Atlanta has begun tapping into is generating revenue from carbon credits (e.g., Atlanta's Carbon Credit Program 2024) from selected preservation initiatives that can be reinvested into urban forestry, climate resilience projects, and community green initiatives. Getting familiar with how carbon credits work and what preservation work could meet the rigorous requirements can expand financing opportunities and reinforce a city's leadership in sustainability.

City Forest Credits (CFC) is a registered national non-profit carbon registry helping to finance forests and communities in and around cities in the United States through verified carbon credits. It connects conservation and urban forest leaders to a new source of funding; empowers companies to invest in local climate action and develops national carbon protocols with leading urban forest and forest carbon scientists and professionals. Through their robust system to issue and track credits, it has opened the door to new projects and financing for urban forestry projects such as the Lake Charlotte Nature Preserve, which will preserve almost 200 acres of forested land in Atlanta and protect it from development. The property formerly owned by Waste Management was in danger of imminent destruction from development. The Conservation Fund purchased the land to protect it, and the City of Atlanta approved use of funds from its tree ordinance to purchase the property from the Conservation Fund in 2020. The process of registering the Nature Preserve required: (1) meeting a 40-year urban forest preservation protocol; (2) a contract for the Carbon Registry; (3) a deed restriction to establish additionality; (4) canopy confirmation and 3rd party verification, supported by CFC, and (5) ongoing reporting.

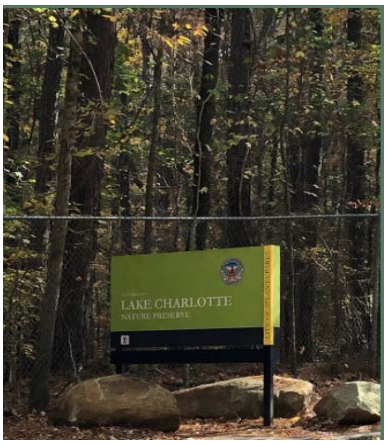


*Figure 3. Images from the presentation "City in a Forest: Atlanta, Georgia" by Kathy Evans, Tree Conservation Commission, and Taryn Heidel, Arboricultural Mgr. for Natural Areas and Land Management, Dept of Parks and Recreation, City of Atlanta.*

Building on the success of the Lake Charlotte Nature Preserve carbon credits pilot, Atlanta expanded its Carbon Credit Program in 2024 by adding four new sites (Southwest Nature Preserve, Utoy Creek Nature Preserve, Mount Zion Nature Preserve, and South River Nature Preserve), preserving over 200 acres of mature forest.

# RESULTS AND IMPACT

The Lake Charlotte Nature Preserve Project created the basis for an expanded carbon credit program and systemic changes to support selling carbon credits from conservation projects. It also led to:

- Amending City procurement code to allow for the sale of environmental credits
- Additional environmental and community benefits (air quality, recreation, biodiversity)
- Establishing processes to develop market-based "Environmental Attributes" like Renewable Energy Credits and Carbon Credits.
- Institutionalized the City's ability to sell these credits to further support sustainability programs, community programs, and forest stewardship and maintenance.

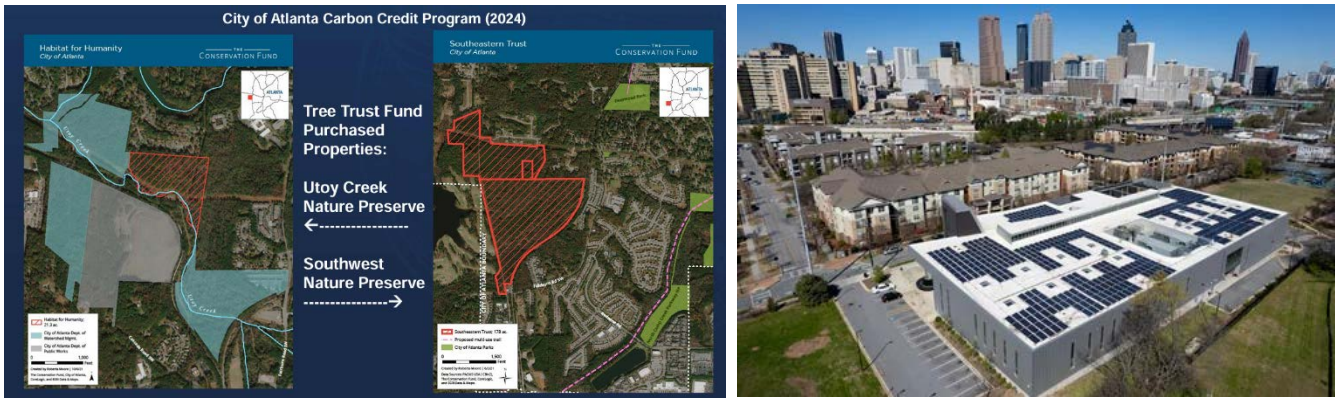


*Figure 3. Presentation of the City of Atlanta Carbon Credit Program, John R Seydel, Deputy Chief Sustainability Officer*

Creating Sofia's "New Forest of Sofia" initiative – the city's largest afforestation project aimed at improving air quality, reducing heat islands, and enhancing biodiversity – Sofia could explore participation in voluntary carbon credit schemes similar to Atlanta's Carbon Credit Program (Lake Charlotte Nature Preserve). This could be possible through participation in the **EU Emissions Trading System (EU ETS)**, the mandatory cap-and-trade program targeting large industrial and power sectors, which typically applies to large entities rather than municipalities or voluntary renewable energy projects. Against this backdrop, the city could consider exploring how some of its initiatives could meet carbon registry requirements to generate financing opportunities. There are a few registries relevant for the region:

- **Balkan Carbon Credit Registry (BCCR):** The only carbon registry tailored to Bulgarian and Balkan projects, designed to fully comply with international standards. It enables registering, verifying, issuing, and tracking carbon credits with transparency.
- **Verra (Verified Carbon Standard – VCS):** A leading voluntary carbon credit standard globally, with over 2,300 projects and more than 1.3 billion credits issued. It covers sectors like energy, transport, forestry (including REDD+), waste, and industry.
- **CEB VER (Commodity Exchange Bratislava Voluntary Emissions Reductions):** A quality standard rooted in the Kyoto Protocol's Clean Development Mechanism. It offers specific methodologies—like CEB VER Solar—and maintains its own registry via Carbonplace.

*Figure 4. The New Forest of Sofia Initiative, image courtesy of the Sofia Municipality.*


*Figure 5. The New Forest of Sofia Initiative, image courtesy of the Sofia Municipality.*

*Figure 6. The New Forest of Sofia Initiative, image courtesy of the Sofia Municipality.*

*For more information visit https://www.sofia.bg/en/events-from-2022/-/asset_publisher/XgCeFG7oXOXg/content/zapocva-zalesavaneto-na-novata-gora-na-sofia-negovan*

# KEY FIGURES

## Lake Charlotte Project in Atlanta

**36,365 $tCO_2e$**
in Carbon Credits

**~$1 to $1.2 M**
(~€860,000 to €1 M)
of revenue at an estimated sale price $30 - 35/ton

**$4M**
ecosystem services over 40 years as Co-Benefits

## New Forests Sofia

**>103,000**
saplings of white acacia and oak were planted between 2017-2020 Sukhodol neighbourhood, Ovcha Kupel district, on an area of over 206 decares.

**>76,000**
oak saplings were planted between 2022-2024 in the village of Negovan, Novi Iskar district, on an area of over 120 decares.

**>13,000**
saplings of the common maple species have been planted in the Busmanci village, Iskar district, on an area of over 36 decares.

# LESSONS LEARNED

It is important to value the city's natural assets and invest in maintaining them. Well-designed and planned conservation initiatives often yield multiple benefits, and long-term sustainability can be maintained with innovative funding sources such as carbon credits. Here are some lessons that can be followed to improve your natural assets.

**Urban forest management is a continuum**—starting with a baseline assessment, monitoring plan, community involvement, and maintenance program, the reforestation projects are necessary components to achieve and sustain urban forest targets.

**Research standards for certification and carbon registry requirements**—it is important to connect with organisations applicable to the region or project type.

**Support new directions/aspirations with relevant city rules**—consider how city codes and bylaws can support conservation efforts.

**Start small or implement a pilot that will meet certification criteria**—demonstrate what is possible with partners and engagement, measure benefits, and solidify your capacity to expand your work.

**Engage various sectors and connect with communities**—programs have demonstrated that businesses, community organisations, and residents can play roles in these efforts and have valuable contributions.

# THE INTERNATIONAL URBAN AND REGIONAL COOPERATION PROGRAMME IN NORTH AMERICA

The International Urban and Regional Cooperation program in North America (IURC NA), funded by the European Union, partners European cities with Canadian and USA cities to facilitate knowledge exchange through online tools, face-to-face interactions, study visits, participation in thematic and networking events, and capacity-building initiatives. Its activities support the achievement of policy objectives as well as major international agreements on urban development and climate change, such as the EU Urban Agenda, the UN Sustainable Development Goals, and the Paris Agreement. The program is part of a long-term strategy by the European Union to foster sustainable urban development in cooperation with the public and private sectors, researchers, innovators, community groups, and citizens. IURC NA is financed under the EU Foreign Policy Instruments and benefits from the strategic support of the Directorate-General for Regional and Urban Policy of the European Commission.

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**Acknowledgments:** Thank you **to Chandra Farley**, Chief Sustainability Officer and **John Rutherford Seydel III (John R.),** Deputy Chief Sustainability Officer at the City of Atlanta, and **Nadezhda Bobcheva**, Deputy Mayor, Green System, Ecology & Land Use and **Petya Dimitrova**, Chief Expert, Digitalization, Innovation & Economic Development at the City of Sofia, for identifying valuable lessons and sharing their experiences.

## Links to related outputs:

i-tree Tools
CFC's Preservation Protocol - 40 years
Summary of the CFC Preservation Protocol
CFC's Reforestation Protocol
Legislation reference link for the City of Atlanta's Tree Trust Fund
Trees Atlanta - Urban Tree Canopy Study

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Funded by the European Union

This document was produced with the financial support of the European Union. Its contents are the sole responsibility of ICF S.A. and do not necessarily reflect the views of the European Union.