

The Path To Sustainability

The Revitalization Scenario was conceptually modeled to test strategies and determine potential benefits development capacity, the share of transit ridership, and sources and uses for energy, water and waste.

NEW DEVELOPMENT AND INFRASTRUCTURE

The *SW Ecodistrict Plan* seeks to improve the efficiency of federal ownership of land and buildings and retain federal agencies in the District of Columbia in locations appropriate to their missions, while capitalizing on opportunities to integrate a mix of services, hotel and residential uses. The plan will maintain federal office space while increasing development density and balancing the use mix by providing opportunities for cultural, residential, and hotel development. These new uses will supplement existing offices to generate day, evening, and weekend activity and support neighborhood-serving convenience retail. New development also provides the ability to rebuild the street grid which will improve connections and enhance public space for pedestrian enjoyment.

New development will provide the opportunity to maximize green building practices. The increase in density and use mix will help expand and substantially improve the operational efficiency of the existing central utility plant. Using LEED Platinum criteria as a baseline strategy will guide the placement, orientation, and construction of new buildings that employ high energy-efficiency and potable and non-potable plumbing systems.

As streets and sidewalks are rebuilt or created, they will be designed to accommodate the infrastructure necessary to improve the generation and distribution of energy and the capture, treatment, and storage of stormwater for reuse as non-potable water. They can also be planted with canopy and understory vegetation to improve urban ecology and pedestrian comfort.

DISTRICT ENERGY SYSTEM

For energy, the plan seeks to reduce energy use in existing and new buildings, generate and distribute energy efficiently, and use de-carbonized fuel and supplement with renewable power. The existing central utility plant will provide heating and cooling for all federal and new or rehabilitated buildings. Microgrids will be established for federal and clustered private development to allow for more flexible generation and distribution of renewable energy. Most buildings and some infrastructure will support solar arrays and ground source heat production. Meeting EO 13514's goal of achieving zero net energy, as measured by carbon, will be most achievable and most cost effective when all buildings are connected to the central utility plant and the fuel source is switched to a zero carbon renewable fuel source.

WATER SYSTEMS

All stormwater will be captured, cleaned and held in cisterns beneath 10th Street, SW until it is needed for the area's non-potable water uses such as irrigation, toilets, and mechanical equipment. Managing water also provides the greatest leverage to improve the visual character and habitat conditions in the Ecodistrict.

WASTE SYSTEMS

Recycling and composting programs within each building will significantly divert waste from the landfill. Wastewater from toilets will be pumped to the water treatment plant where, through anaerobic digestion, it will be used to generate energy to help run the plant.

URBAN ECOLOGY

Vegetated systems for treating stormwater, green roofs, and new parks will enrich community life. These systems will provide connected habitat corridors to the Washington Channel and improve the visual character of the neighborhood.

Combined, these strategies will make the SW Ecodistrict a unique and sustainable new neighborhood for Washington, contributing to the area's environmental and economic health and vibrancy. The success of the Revitalization Scenario can be measured quantitatively and qualitatively. Inevitably, as individual improvements are made the actual components and land mix may vary from this scenario. However, the underlying approach will remain very much the same - the land use, transportation, energy, water, and waste framework will continue to guide the evolution of this area to be a sustainable and financial success.

A high-level economic analysis was prepared to understand the public and private investments necessary to fulfill the SW Ecodistrict vision over the plan's 20-year time horizon. The plan provides measurable and intangible economic, social and environmental benefits for the federal government, the District of Columbia, and other public and private stakeholders. The measurable benefits are derived from land sale revenue, rent saving from efficient use of space, reduced operating expenses, increase tax revenue, and net operating income. The intangible benefits are those that are difficult to quantify, such as protecting the historic landscape of the National Mall or cleaner air and rivers. The measurable and intangible benefits will likely exceed the investments in sustainable building and utility infrastructure, public space, and development opportunity creation.