

HAMMARBY SJÖSTAD PLANNING PRECEDENT

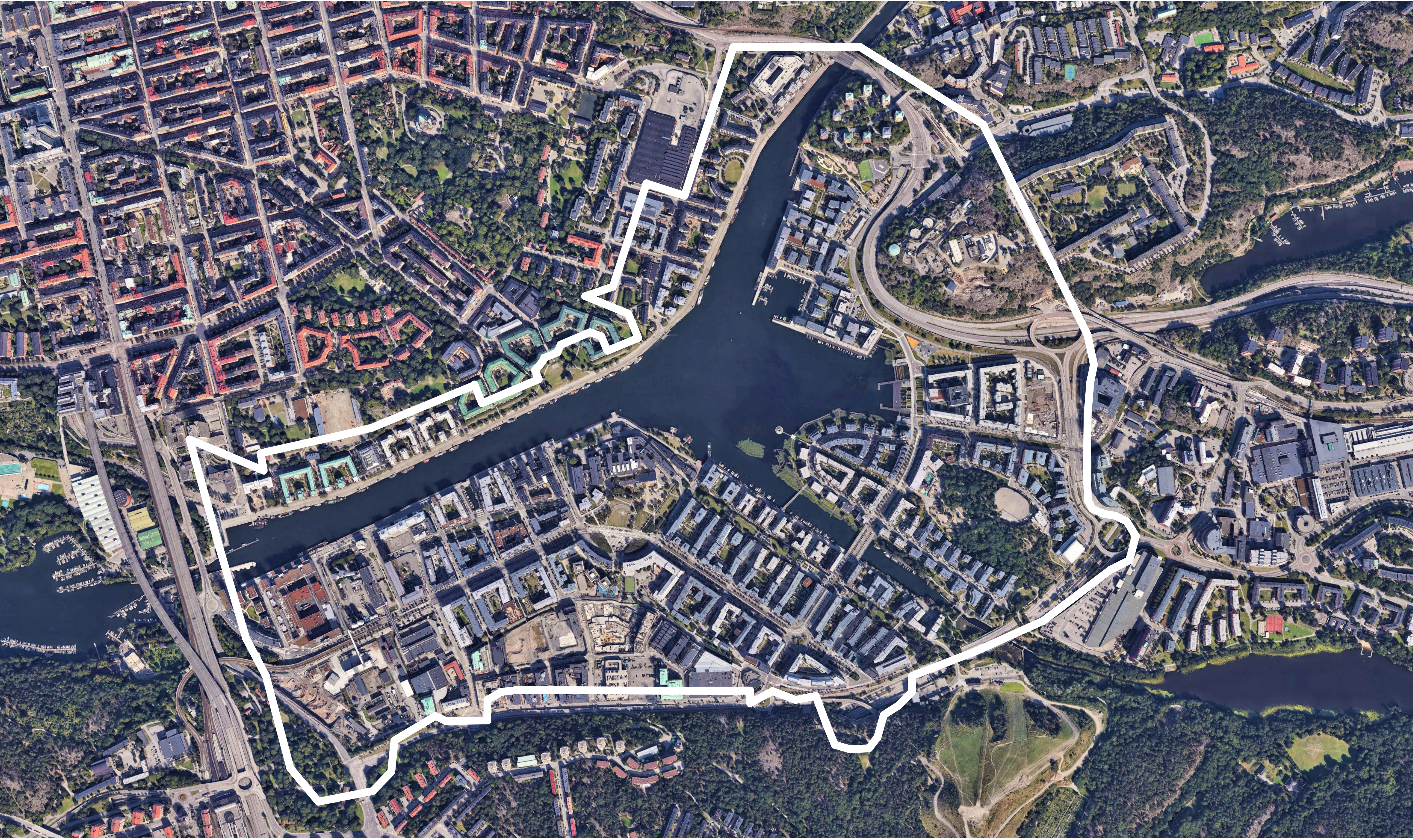


Photo: Google Maps

PROJECT INFORMATION

Location: Stockholm, Sweden
Total Area: 370 acres (494 acres with water)
Population: 17,000 (as of 2014)
Planning and Construction: 1990 - 2017

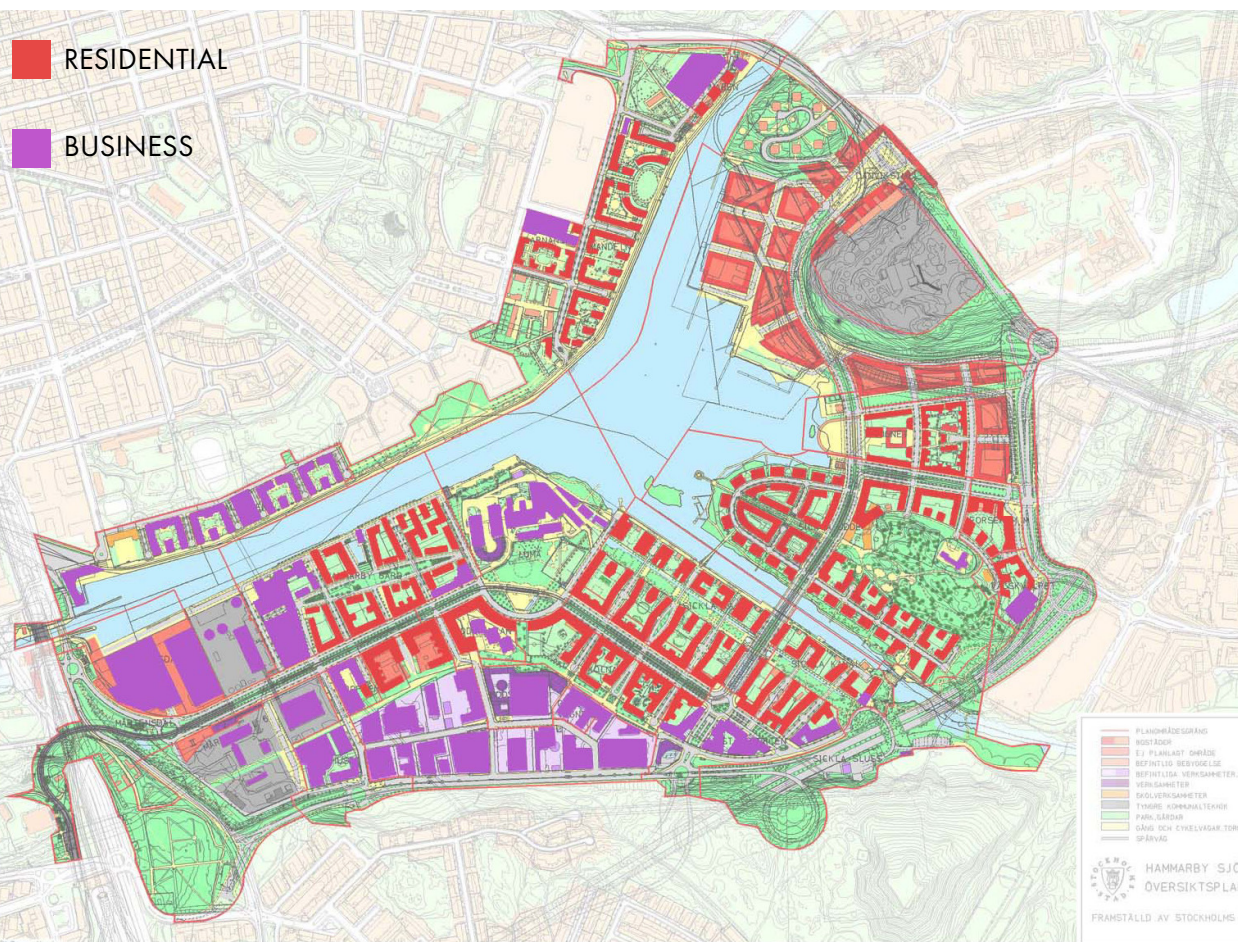
Located on the periphery of central Stockholm, Hammarby Sjöstad is former industrial zone and brownfield that recently underwent major urban development. Planning began in the 1990's when the goal was to create an ecological sports arena and athletes' village in time for the 2012 Olympics.

After losing the bid for the games, the Stockholm municipal government saw unique opportunities to create a modern urban neighborhood close to the city center while simultaneously transforming an outmoded industrial district. The ultimate build-out will create housing for some 26,000 people and nearly a million square feet of office and commercial space less than two miles from Stockholm's downtown.

The district is connected by a two-mile long esplanade. All along the waterfront are quays, parks, and walkways. Hammarby Sjöstad's Economic Association describes the district as the combination of the traditional and the modern:

"An inner city's street widths, neighborhood sizes, house fronts, density, and mixed uses are paired with a new openness with views towards water, parks, and sunlight" (Hammarbysjöstad Ekonomisk Förening).

The architecture is modern with flat roofs and brightly colored facades. Large windows and balconies look out on the water and towards the city.



Plan: Stockholm City Planning Administration

- 11,000 APARTMENTS
- 25,000 RESIDENTS
- 35,000 LIVE & WORK
- 13,000 ANNUAL VISITORS

GOALS

The main goals for Hammarby Sjöstad project were set out as early as 1996. These lay in seven key areas: soil remediation, urban form, transportation, green buildings, energy, waste management, and water efficiency. Six of these are described in the section to the right.

"TWICE AS ECO-FRIENDLY"

Closed environmental loops and synergies between utilities, buildings, and users

URBAN FORM

The development is part of a regional planning strategy to increase density towards the center of Stockholm, rather than outwards, and to create a number of subcenters around it. There are extensive guidelines that called for a mix of uses and densities, for a variety of public spaces, and for particular types of buildings (generally perimeter blocks). In general, these adhere to New Urbanist principles that encourage walkability and reducing reliance on the automobile.

TRANSPORT

One of the goals from the Green Guidelines was that 80% of the all daily journeys, by residents or workers, should be either by public transportation, walking, or cycling. To facilitate this goal, several transit options were implemented: a dense network of pedestrian and bike paths, free ferry service, a new tram line connecting the district to the city center, new bus routes, as well as carpooling and car-sharing services. Recent surveys show that car-ownership is lower than average in Stockholm, and that residents are close to achieving the 80% goal.

WATER USE

The goal at the outset was that water consumption be reduced by 60% compared to other areas of central Stockholm. Methods used to implement the reduction included low-flush toilets and water-saving appliances. Landscaped areas around the building were to use plants requiring little water. In addition, at least 20 to 30 percent of the water supply had to be recycled from either wastewater or rainwater.

GREEN BUILDINGS

Though directed by the City of Stockholm to use environmentally friendly materials in their buildings, developers in Hammarby Sjöstad were motivated on their own to do so – primarily due to customer demand and the perceived added value. Some of the green building techniques included the use of photovoltaics as a cladding material, solar panels on the roof, green roofs, heat-recovery systems, and well-insulated building shells.

ENERGY

Energy supply to Hammarby Sjöstad is mostly provided through connections to the existing systems in Stockholm. However, on-site sources like solar heating and photovoltaic cells on the buildings supplement the supply. In addition, many of the apartment use biogas, produced through wastewater treatment, for their cooking needs. Current energy use in the district is about twice the desired goal set at the outset of the project (60kWh/m2), but still lower than the average for the rest of Stockholm (150kWh/m2).

WASTE MANAGEMENT

The city undertook a number of initiatives to manage waste. These included using waste to create fuel in an incineration process; to recycle waste into new products; and to process waste via biological treatment. The most innovative solution involved an underground vacuum pump system that eliminated the need for garbage trucks and unsightly waste containers on the street.

THE HAMMARBY MODEL

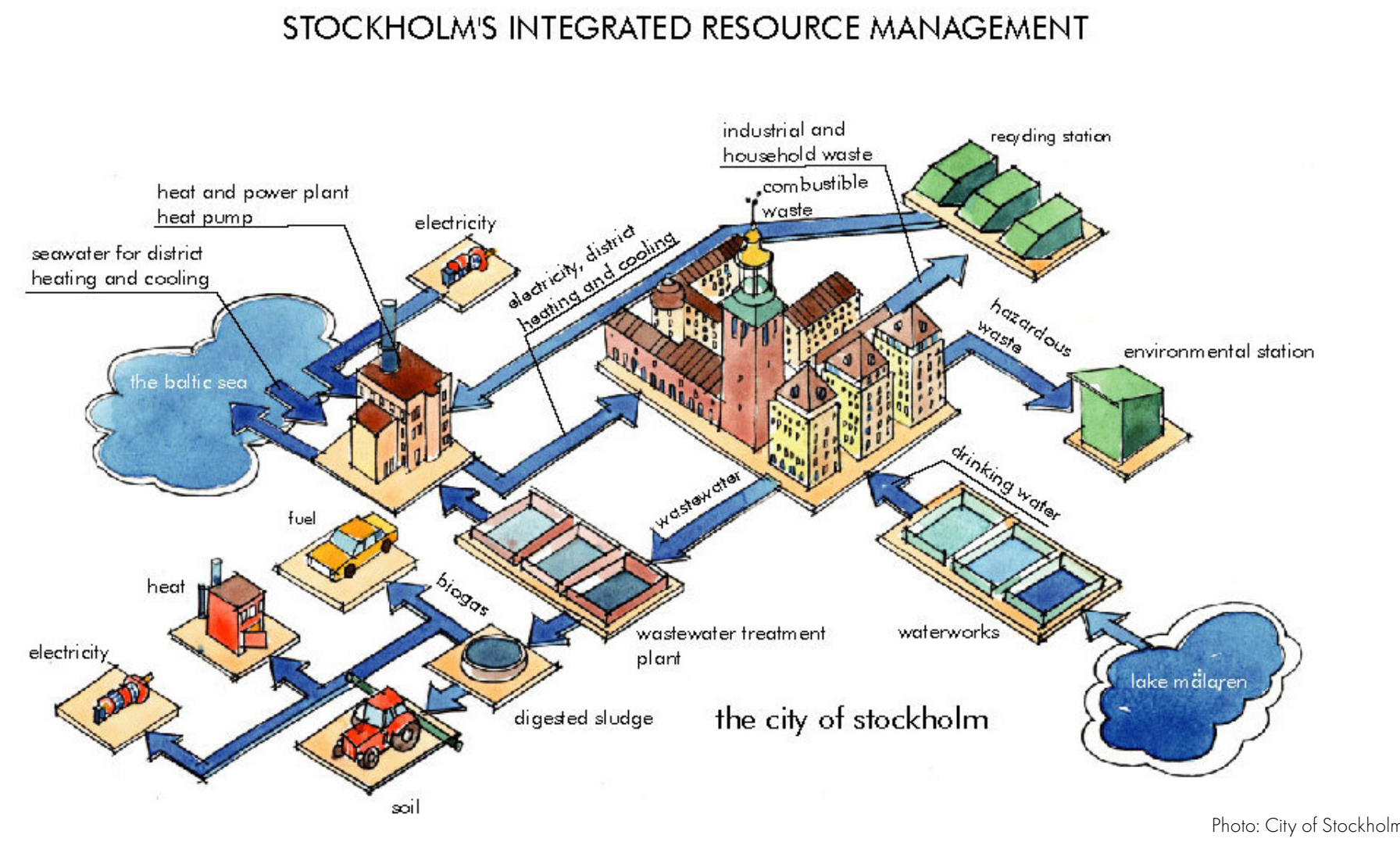


Photo: City of Stockholm

Hammarby Sjöstad is more than a new housing and commercial development: it represents a complete infrastructural project in which energy, water, transportation, and waste collection systems were designed to work together as an "eco-cycle," what's come to be known as the "Hammarby Model" (see diagram at left). As much as possible, resources are reused in circular fashion. For example, sludge from wastewater is treated and re-used as fertilizer, and the biogas that is released during treatment is used as fuel for transit vehicles.

SIZE COMPARISON



SOURCES

Hammarby Sjöstad 2.0 Case Study Initiative

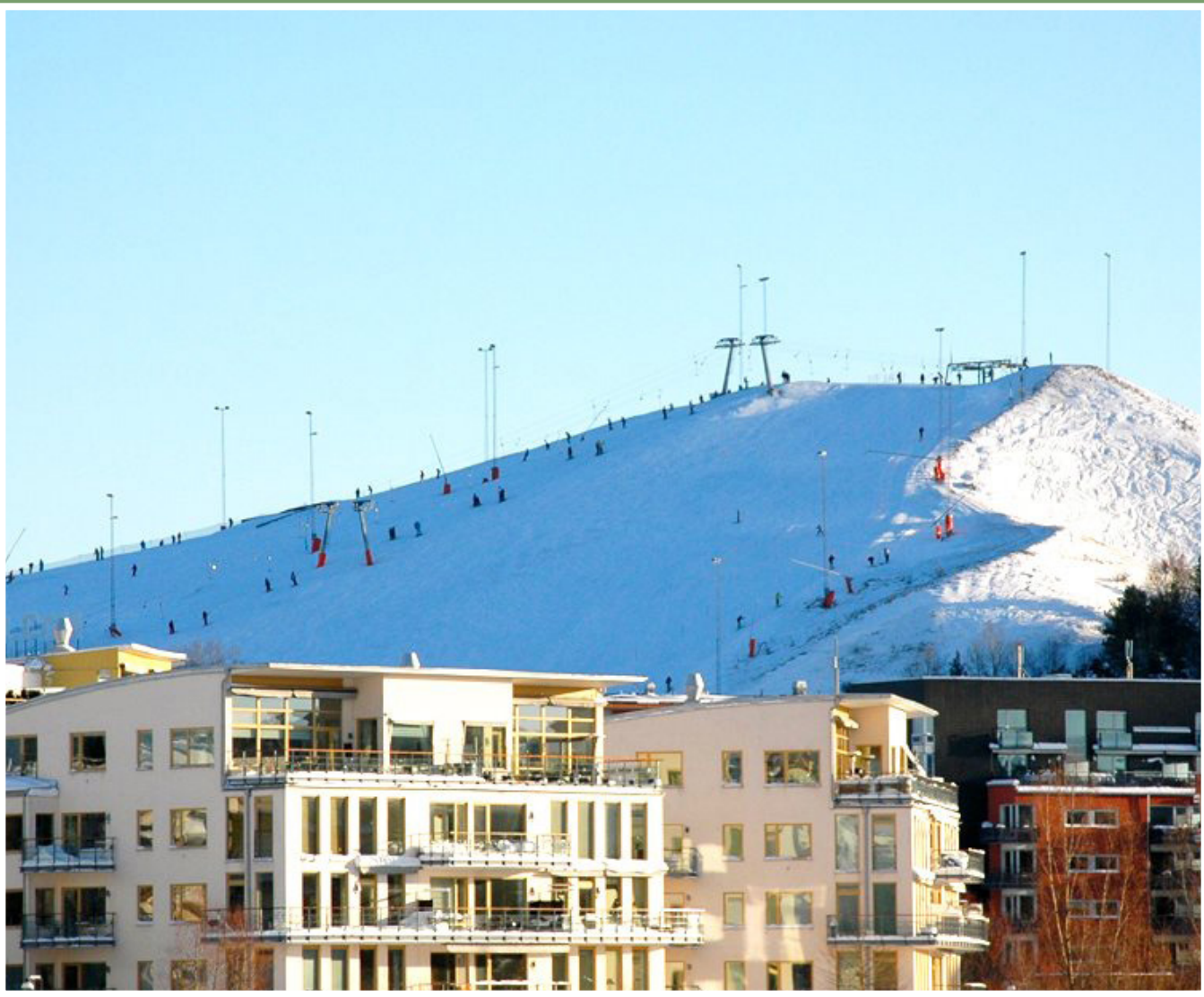


Photo: Daniel Hansson
Hammarbybacken Ski Resort



Photo: Brian Lofsted
GlashusEtt Environmental Information Center



Photo: André Vavelaire
Dagvatten Canal



Photo: Tengbom Architects
Plaza between residential buildings



Photo: Vasa Makrader
Pedestrians walking along the waterfront



Photo: Vasa Makrader
Göteborg Restaurant