ECO-VIIKKI | Helsinki, Finland

Size: 57 acres, 5,700 residents

Dates: 1989-2000 Phase; 2010-2015 Final Phase

Team: National Technology Agency, European Commission, Ministry of Environment.

Description: Eco-Viikki is a planned community containing a mix of housing types. The landscape contains extensive storm water planning. It is located 5 miles from the city center of Helsinki.

Intent: Reduce consumption, energy demands, replace fossil fuels with renewable energy. Reduce urban runoff pollution and conserve native habitat through storm water management for the nature reserve.

S
Sit+Place

GOALS: (Food) ; (Habitat+Biodiversity) ; (Transport)

STRATEGIES: (Food) Market gardening space, resident gardening plots, proximity to urban center, preparing for future agrarian needs by reducing built environment surface area ; (Habitat+Biodiversity) Habitat, biodiversity, edible landscape, resident garden plots, storm water buffer zone and retention ditches, water purification, education opportunities ; (Transport) Residences have 1/2 requirement for car parking, public transportation access, car parking is separated from dwellings, limited access roads, bike infrastructure, access to public transportation

W
Water

GOALS: 22-40 gal/resident/day.

STRATEGIES: Storm water collection, constructed wetlands to purify water that goes off site, separation of water types, efficient appliances, clusters of development integrated with storm water management

E
Energy

ENERGY DEMAND: 15-41 kBtu/ft²
CO2 EMISSIONS: 130-190 lb/gross yd²
RENEWABLE PERCENTAGE: 15-20%
GOALS: 35.8 kBtu/ft², 33% energy reduction from conventional construction.

STRATEGIES: Designed predicting 50 year period of building occupancy and use in order to set limits for CO^2 emissions, 24 kW solar panels, solar hot water, district heating, individual metering, heat recovery, cogeneration.

E
Equity

Percentage of affordable units:
GOALS:

STRATEGIES: Mixed residency: Senior to young families with small children. 50% owner occupied, 15% rent, 35% right-of-occupancy, wood construction allowing for interior walls to change over time for different uses, community space, park for children, community saunas, walking paths, commercial center

M
Materials

GOALS: (Materials) Monitor building construction to meet ecological criteria goals ; (Waste) 350lbs of waste /person/yr.

STRATEGIES: (Materials) BEES software used, Selecting renewable resources for materials, banning toxic materials in construction ; (Waste) Community waste collection, sorted for recycling, compost and garbage.

SUSTAINABILITY MATRIX

		STANDARD	GOOD	BETTER	LIVING COMMUNITY	REGENERATIVE
S Site+Place	Limits to growth		Developed for density/limits growth, contains open space			
	Urban Ag		Some community garden space			
	Habitat Exchange			Constructed wetlands, land set aside, native plantings, 25%+ of developable space is undeveloped		
	Human Powered Living		Promotes walkable streets, bicycle infrastructure, access to some services			
W Water	Net Positive Water			Greywater purification & reuse, on-site treatement of some blackwater, constructed wetlands, stormwater prevention (green-roofs & impermiable surfaces)		
E Energy	Net Positive Energy			2030 standards of efficiency, advanced construction techniques, ongoing monitoring to meet goals, net +ve energy, carbon neutral goals, 100% renewable energy		
H Health+ Happiness	Civilized Environment			Community has some organization and collaborates on 1-2 of the living community listed programs		
	Healthy Neighborhood Design			Access to walking and bike trails that connect to amenities, parks, recreation areas		
	Biophilic Environment			Innovative landscaping using native plants, rain gardens, constructed wetlands, access to parks, waterfront, community gardening		
	Resilient Community Connections	Nothing considered/ not reported				
M Materials	Living Material Plan			Rigorous material selection standards, material plan made available to public		
	Embodied Carbon Footprint			Material selection requirements, proxy standards for reducing CO2 in material selection and construction on-going energy monitoring		
	Net Positive Waste			Reduction in construction waste, material selection for recycled/recyclable materials, innovative waste collection facilities, waste to energy		
	Human Scale and Humane Places			Project is designed to create human-scaled places, promotes culture & interaction		
E Equity	Universal Access to Nature and Place			Access to parks, landscaping is innovative, promotes sense of place, community agriculture, daylighting for buildings		
	Universal Access to Community Services		Some services & community centers in development accessible by bike or walking			
	Equitable Investment	No contibution to charity				
B Beauty	Beauty and Spirit					
	Inspiration and Education		Some education on the developments attributes, some opportunities for community events			

SOURCES:

http://www.energy-cities.eu/db/helsinki_579_en.pdf
http://en.uuttahelsinkia.fi/viikki/environment
http://www.upv.es/contenidos/CAMUNISO/info/U0511280.pdf
http://www.rtpi.org.uk/media/5099/helsinki_20oct_202007_20final_1_.pdf
http://www.upv.es/contenidos/CAMUNISO/info/U0511281.pdf