

Sustainable neighbourhood Eco-Viikki (Helsinki – FI)	
Keywords	Co-generation-based district heating network, solar energy panels, solar thermal collectors, water saving, biodiversity
Main photos	 
Objectives of the action	<ul style="list-style-type: none"> • A display window of Finnish know-how as a result of ecological building trends and experience • Support of National Program of Ecologically Sustainable Buildings <p>Energy:</p> <ul style="list-style-type: none"> • Low temperature technologies • Geo-thermal heating and RES - solar energy • Wind- and solar-energy-boosted natural ventilation • Wood-heated communal saunas • Novel cold-storage solutions • Reduction of CO2 emissions by 20% • Water saving technologies (target: 40-50 l/person/day) <p>Waste:</p> <ul style="list-style-type: none"> • Reduction by 20% (max 160 kg/person/year)
Description of the action	<p>Eco-Viikki was built between 1999 and 2004. The district is situated at about 8 km from Helsinki city centre, near an extensive area of open farmland encircling an important wetland nature reserve, The Viikki Science Park and Helsinki University's Biocentre.</p> <p>The Viikki housing area of 6400 m² consists of apartment blocks and row houses for 2000 inhabitants and services. The mix of housing types is typical for Helsinki: approx. 50% of the homes are owner-occupied, 15% are rented, and the remaining homes are right-of-occupancy homes.</p> <p>During the planning and construction of Eco-Viikki exceptionally strict ecological criteria were set by external consultants mostly concerning five main issues:</p> <ul style="list-style-type: none"> • Reduction of pollutants (CO₂, sidewater, site debris caused by construction, domestic waste, eco-labels) • Use of natural resources (reduce fossil fuels, multi-purpose use of space) • Healthiness (indoor climate, moisture risk control, noise, the wind-free and sunny qualities of the site, alternative floor plans) • Biodiversity (plant choices and habitat types, storm water) • Nutrition (plants, soil) <p>Strict environmental controls have been regularly carried out during the construction phase. The City of Helsinki controls the evaluation process as a client and supervisor.</p>
Results / Achievements	<p>All the approved construction projects surpassed the minimum environmental standards set for Eco-Viikki.</p> <p>Energy:</p> <ul style="list-style-type: none"> • 2 local solar heating schemes cover a total of 10 properties • Low energy housing design • Co-generation based district heating network • 200 m² of solar energy panels • 1,400 m² of heat-collecting panels (largest project in Finland) <p>Materials:</p> <ul style="list-style-type: none"> • Flexible and innovative timber construction techniques • Use of natural construction materials <p>Soil:</p> <ul style="list-style-type: none"> • Allotment plots for market gardening • Combined housing areas with parks and green spaces <p>Water:</p> <ul style="list-style-type: none"> • Rain water use for gardening and green spaces <p>Waste:</p>

	<ul style="list-style-type: none"> • Reduction by 10% of building site waste Social: <ul style="list-style-type: none"> • Renting of allotment gardens for residents • Creation of Viikkari Park for children and young people • Shared sauna and laundries in apartment blocks • Construction of kindergartens • Local commercial centre, various shops and restaurants • Varied green spaces
Friendly advice for replication	The Eco-Viikki experience shows that ambitious goals and ecological criteria do not automatically create the desired end result. In order to achieve the goals set, a sufficiently concrete monitoring and feedback system is needed; furthermore knowledge, goals and responsibilities must permeate the whole production chain. The development work entails a long-term commitment to goals, and in the building sector the central committing factor seems to be the profit.
Online information	http://cic.vtt.fi/eco/viikki ; www.hel.fi/wps/portal/Helsinki_en/?WCM_GLOBAL_CONTEXT=/en/Helsinki ; www.helsinginenergia.fi/kaukolampo/ekoviikki.html ; www.hel.fi/wps/portal/Kaupunkisuunnitteluvirasto_en/Artikkeli_en?WCM_GLOBAL_CONTEXT=/en/City+Planning+Department/Town+Planning/City+planning+projects/Viikki-Kivikko ; www.eukn.org/finland/themes/Urban_Policy/Urban_environment/Environmental_sustainability/Renewable_energy_supplies/ekoviikki_suburb_1005.html ;
Further information	Contact person: Name: Mr Heikki Rinne Position: Head of project Organisation: City of Helsinki Tel: +358 9 310 36125 E-mail: heikki.rinne@hel.fi Website: www.hel.fi