

PROJECT DATA

Location: Pichling, Linz, Austria, Europe
 Size: 36 hectares
 Construction phase: 2001 – 2005
 Apartments: 1,298 apartments
 Apartment buildings: 73
 Inhabitants: ca. 2,700
 Central infrastructure: local shops, social and cultural facilities, school center, kindergarten, pastoral center, family center, sports park
 Public transport: tram, bus



PRECONDITIONS FOR STARTING THE PROJECT

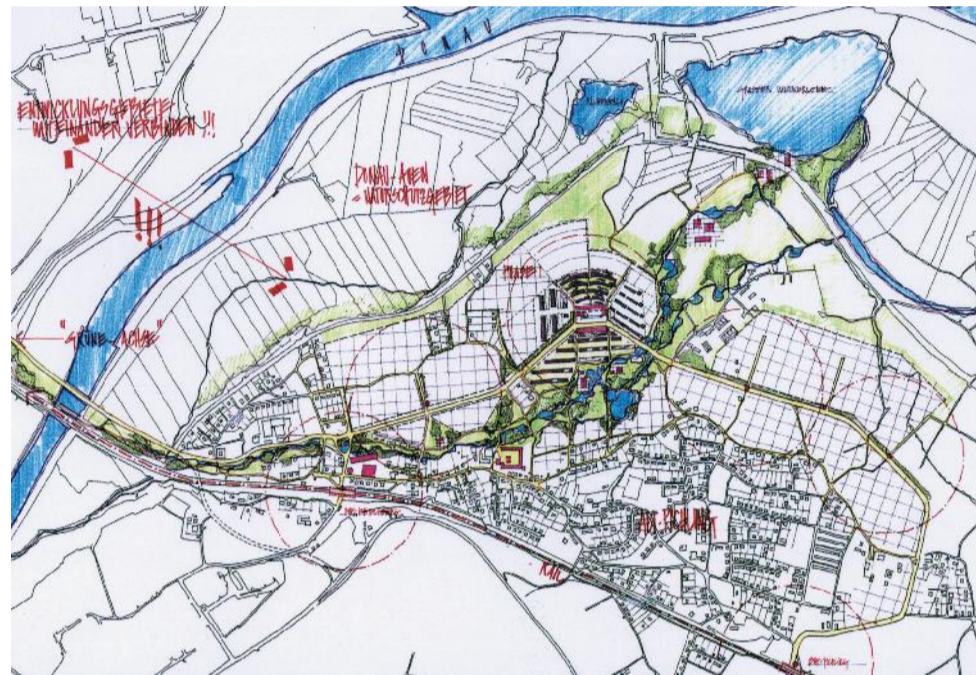
- Enormous demand for housing in Linz – 12,000 persons looking for apartments in 1990
- Lack of unspoilt, central urban building area
- City of Linz owned large, connected pieces of real estate in Linz-Pichling

PARTICIPANTS

Masterplan: Roland Rainer (A)
 Urban planning 1st construction phase: READ-Groupe (Foster and Partners (GB), Richard Rogers Partnership (GB), Herzog+Partner (G), Renzo Piano Building Workshop (I), Norbert Kaiser (G))
 Urban planning 2nd construction phase: Martin Treberspurg (A)
 Public Buildings: Architekten Loudon + Habeler (A), arch-schimek.at (A), archsolar (A), Auer + Weber + Architekten (G), Jordan architektur & energie (A), Pointner/Pointner Architekten (A), Reinhard Stummer (A)
 Residential Buildings: Architektur Weismann (A), Future Systems (GB), Herzog + Partner (G), Herbert Karrer (A), Franz Kneidinger (A), Norman Foster and Partners (GB), Richard Rogers Partnership (GB), Heiz Stögmüller (A), Architekturbüro Gellner (A), Kaufmann/Partner (A), Lassy-Architektur + Raumplanung (A), Helmuth Schweiger (A), Reinhard Stummer (A), Treberspurg & Partner Architekten (A)
 Landscape planners: Atelier Dreiseitl (G), Latz + Partner (G)
 Sociocultural planning: wohnbund:consult (A)
 Housing developers: BRW, EBS, EIGENHEIM LINZ, FAMILIE, GIWOG, GWB, GWG, LEBENSRAÜME, NEUE HEIMAT, VLW, WAG, WSG
 MUNICIPALITY OF LINZ
 LINZ AG



Original area in Linz-Pichling
[Source: Mag. Stadt Linz, Stadtplanung]



Draft of the first settlement area and further possible developments
[Source: READ-Group]



Model photo of the first settlement area in 1995 with integrated green spaces
[Source: READ-Group]



Air photograph of the solarCity in 2008
[Source: Mag. Stadt Linz, Stadtplanung]

PLANNING OBJECTIVES

The City of Linz entered into contracts with Linz's 12 participating housing developers. Main focuses of the planning objectives were:

- Low-energy construction, solar architecture
- Future-oriented approach to energy supply and disposal
- Issues of building biology
- Issues of local recreation and leisure time
- Creation of a modern sociocultural, family-oriented infrastructure
- Sustainable traffic-concept
- Common, group-specific marketing campaign

THE SOLARCITY SHOULD BECOME A EUROPEAN EXAMPLE OF SUSTAINABLE URBAN DEVELOPMENT!!!



Site plan solarCity
[Source: Treberspurg & Partner Architekten]



Center
[Source: Mag. Stadt Linz, Archiv]



Kindergarten
[Source: Mag. Stadt Linz, Archiv]



School center
[Source: Mag. Stadt Linz, Archiv; Bruno Klomfar]



Pastoral center
[Source: Mag. Stadt Linz, Archiv]



URBAN PLANNING

- 1,298 apartments + central infrastructure (local shops, social and cultural facilities, school center, kindergarten, pastoral center, family center, sports park)
- Central tram stop (max. walking-distance 300m to apartments)
- Buildings 2 – 4 stories high, max. floor space index 0.65
- Building orientation to the south, avoidance of shadowing
- Part of green spaces 60%, distance to the nature protection area „Traun-Danube-alluvial meadows“ 50-80m

SOLAR ARCHITECTURE

- Low-energy houses, 3 passive houses
- Compact construction and upgraded thermal insulation
- Utilization of solar energy (active and passive)
- Ecological building components



Different housing estates [Source: Mag. Stadt Linz, Archiv]



University of Natural Resources and Applied Life Sciences, Vienna, Austria
Institute for Structural Engineering, Sustainable Constructions
Univ. Prof. Arch. DI Dr. Martin Treberspurg, DI Roman Smutny, DI Ulla Ertl

„Sustainability Evaluation of the solarCity Linz-Pichling“ sponsored by Municipality of Linz, Province of Upper Austria and 12 housing developers of the solarCity.



Tram stop in the center of the solarCity
[Source: Mag. Stadt Linz, Archiv]



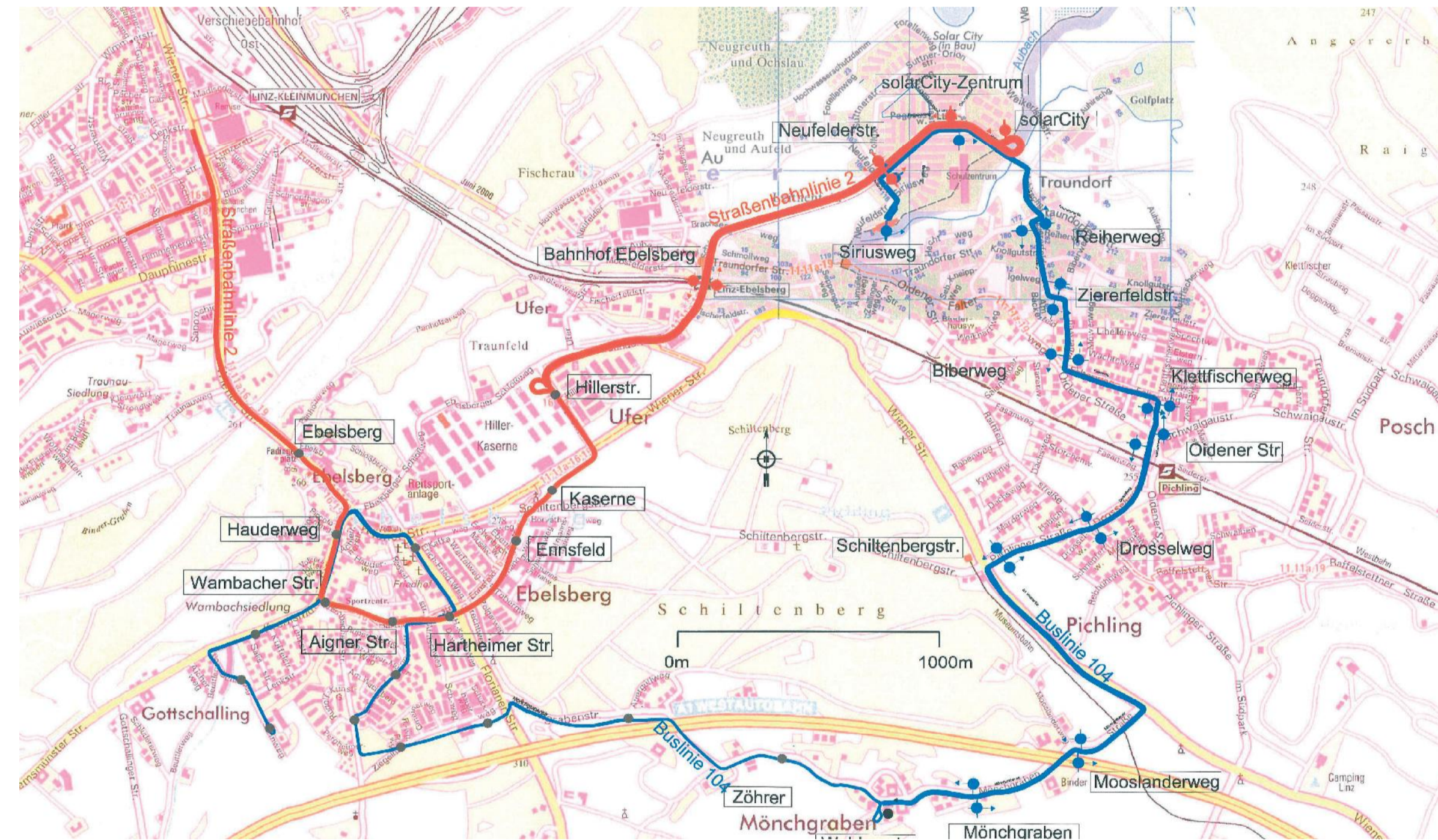
Bus stop near the kindergarten
[Source: Mag. Stadt Linz, Archiv]



Advertising theme
[Source: Createam - Werbeagentur]

MOBILITY

- Path network for pedestrians and bikers
- Reduction of car traffic: nearly car-free area, underground car-parks
- Local public transports
 - Extending the tram line no. 2 (directly connection to the city center of Linz)
 - Bus line 104 extended
- Railway connection
- Bypass road „Ebelsberg“



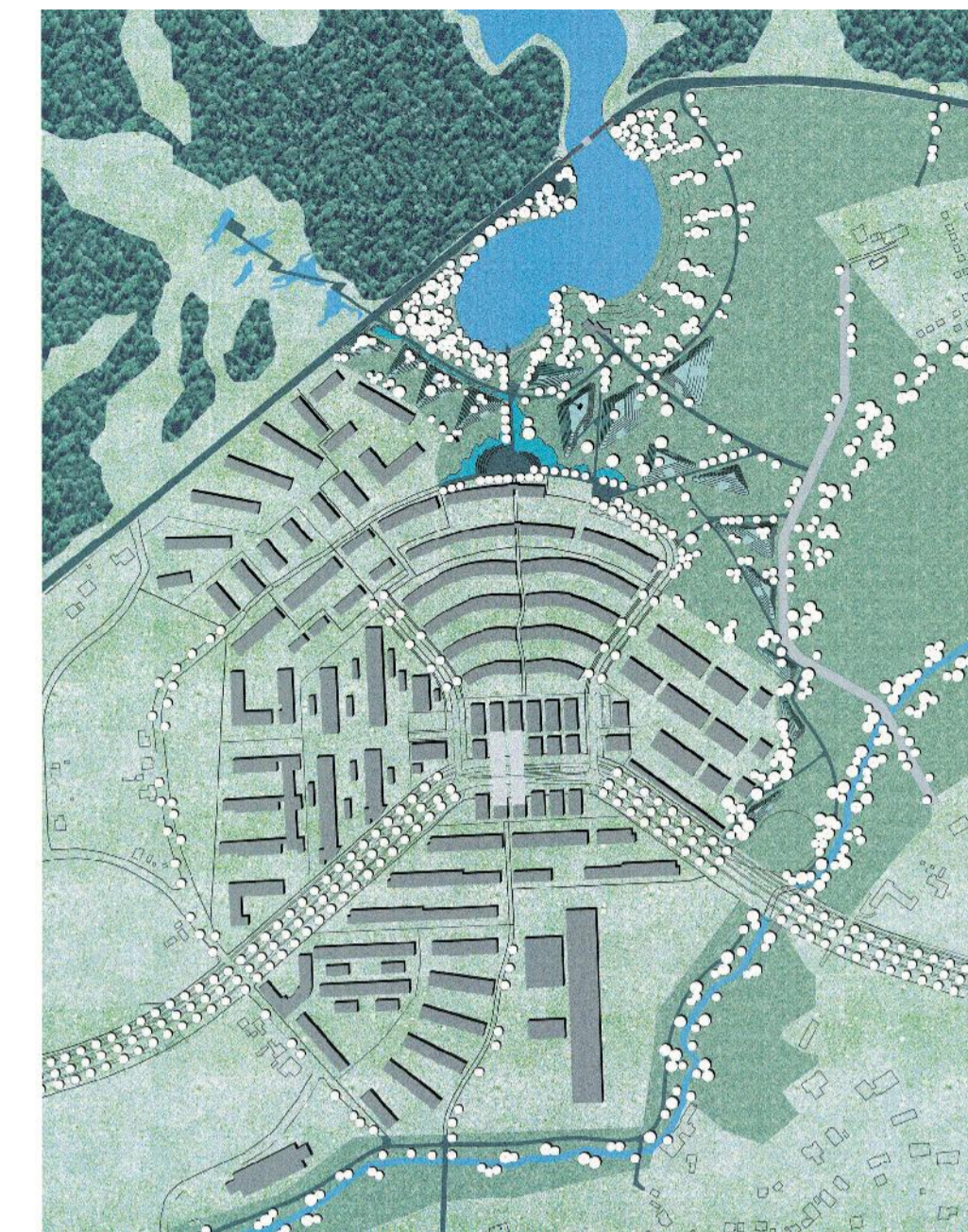
Site plan tram line no. 2 (red line) and bus line 104 (blue line) [Source: LINZ AG]

SOCIOCULTURAL PLANNING

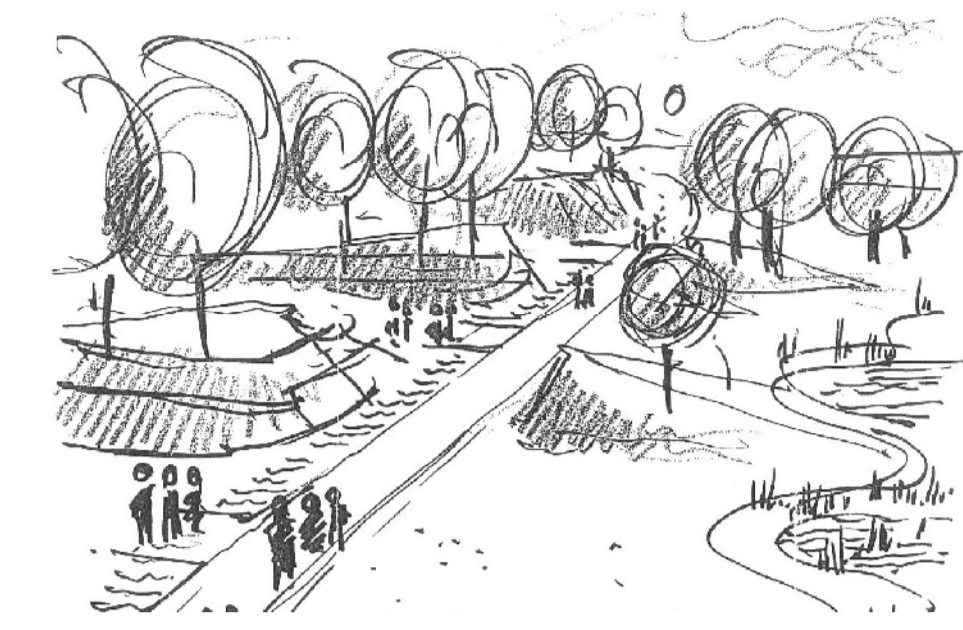
- Quality agreements with housing developers
- Concepts for resident participation
- City district management office etc.

MARKETING CONCEPT

- Create a uniform marketing concept with main focus on non-technical aspects such as quality of life and the environment



Site plan for open spaces. Draft and realization of the "hilly park"
[Source: Atelier Dreiseitl; Mag. Stadt Linz, Archiv]



LANDSCAPE PLANNING

- Logbook for the design of open spaces (Atelier Dreiseitl)
- "Hilly park" + large recreational facilities (lake with swimming area, bike path, sport area etc.)
- 70% increase of the lake "Kleiner Weikerlsee"
- Hiking trail through the nature protection area
- Revitalization of the stream "Aumühlbach"
- Construction of a sport area



Lake "Kleiner Weikerlsee" with swimming area and area for nature [Source: Mag. Stadt Linz, Archiv]

DRAINAGE AND SANITATION

- Rainwater Concept
- Alternative wastewater concept
- Constructed wetlands for wastewater treatment



[Source: Mag. Stadt Linz, Archiv]



[Source: Mag. Stadt Linz, Archiv]

POWER SUPPLY

Solar Energy

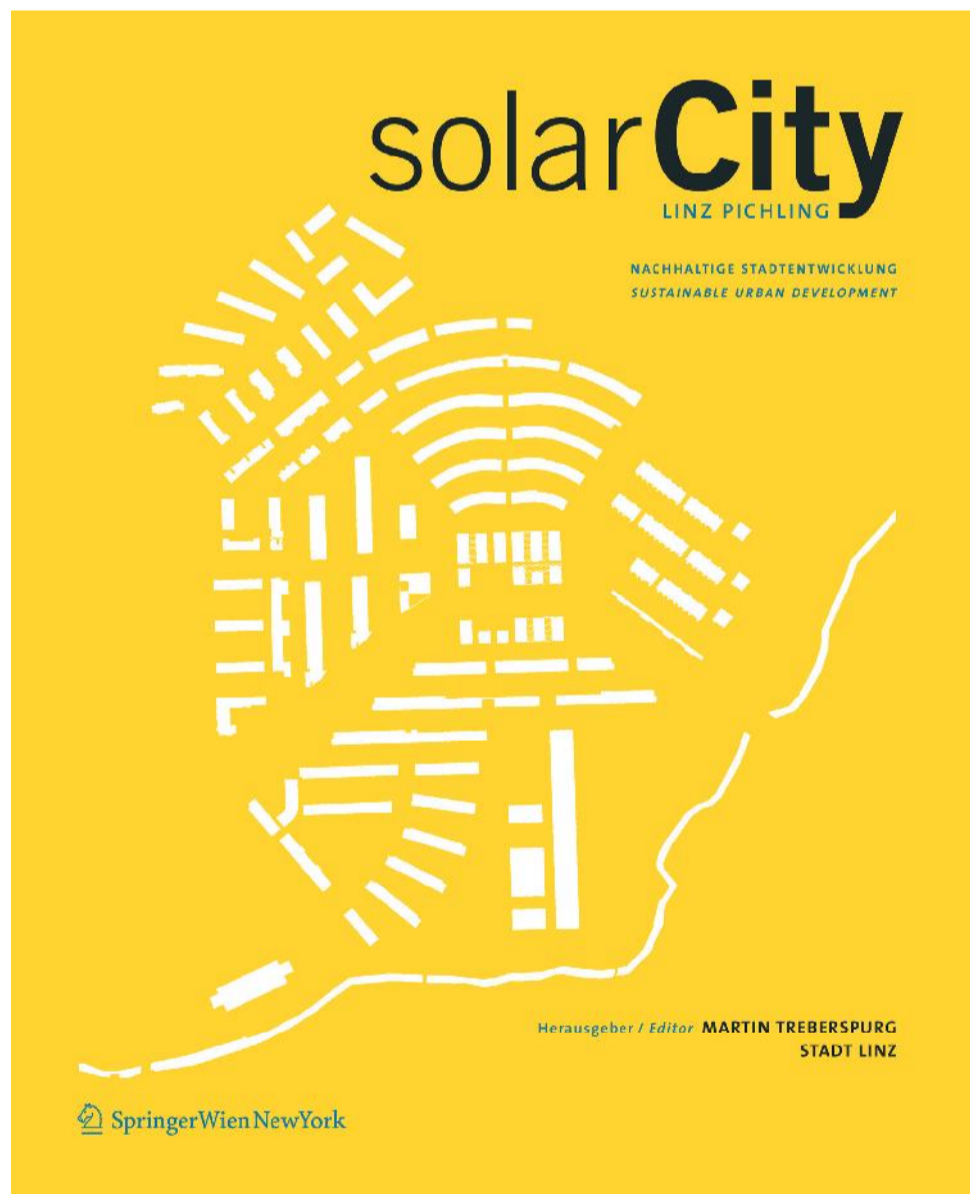
- Passive: Low energy houses after principles of solar architecture
- Aktive: Solar panels for mainly hot water

District Heating for all buildings

- CHP with natural gas and biomass

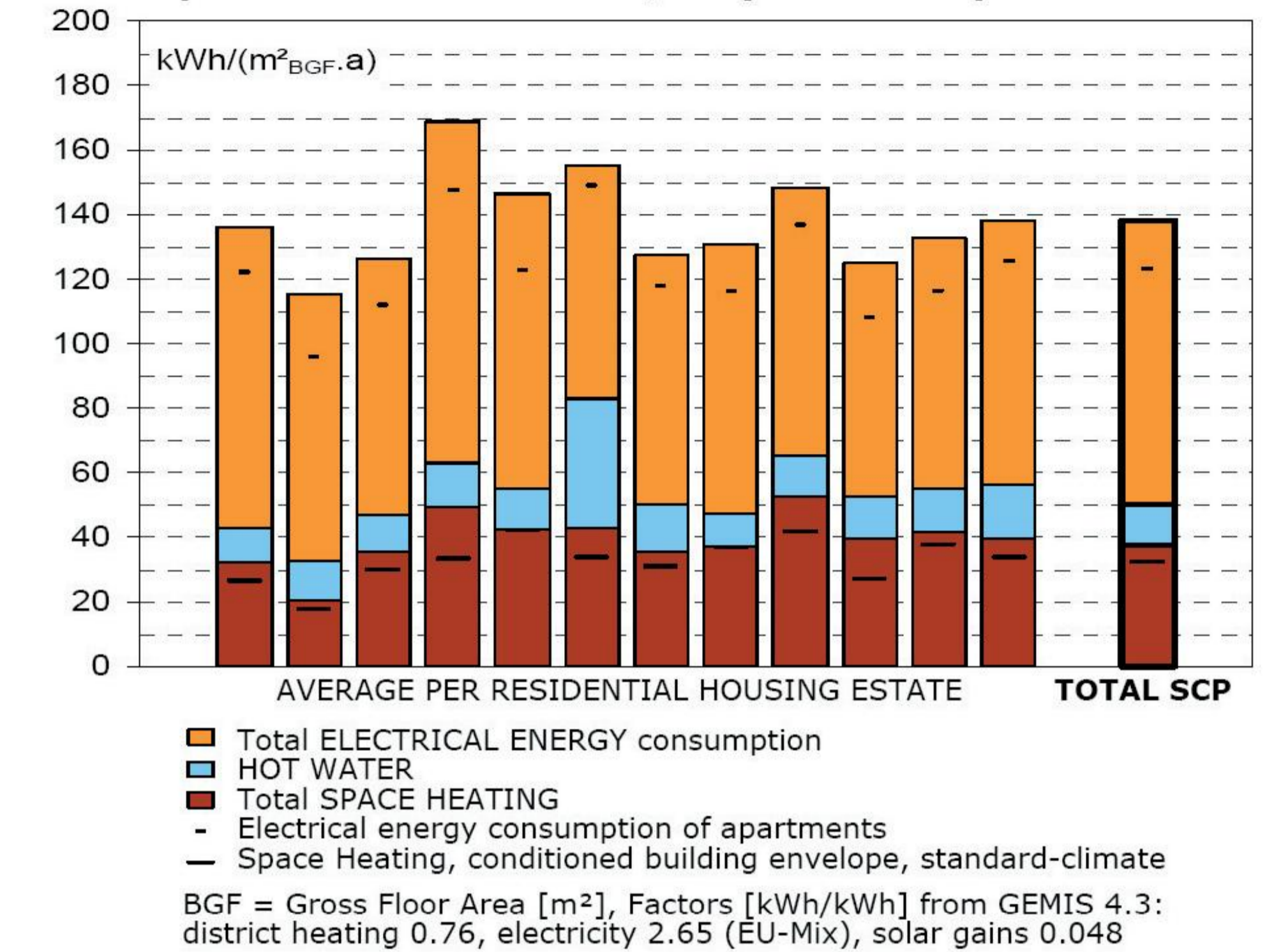
EVALUATION OF THE SOLARCITY Sustainability-Monitoring

In March of 2007, the University of Natural Resources and Applied Life Sciences in Vienna began conducting a three-year sustainability check. This sustainability monitoring and reporting project, supported by the Province of Upper Austria, the City of Linz and the housing developers, is based on quantitative quality indicators and involves intensive interviewing of the residents. The social analysis is being carried out by Dr. Josef Lins of the Johannes Kepler University of Linz. The goal of the post-occupancy evaluation is to provide factual documentation of the quality of the solarCity and a clear presentation of its sustainability performance, focusing particularly on the areas of urban development, architecture, energy management, climate protection, material management and user satisfaction. An additional part of the project consists in developing an easily applicable orientation and decision-making tool that can be used for future urban development projects and new residential buildings in Upper Austria.

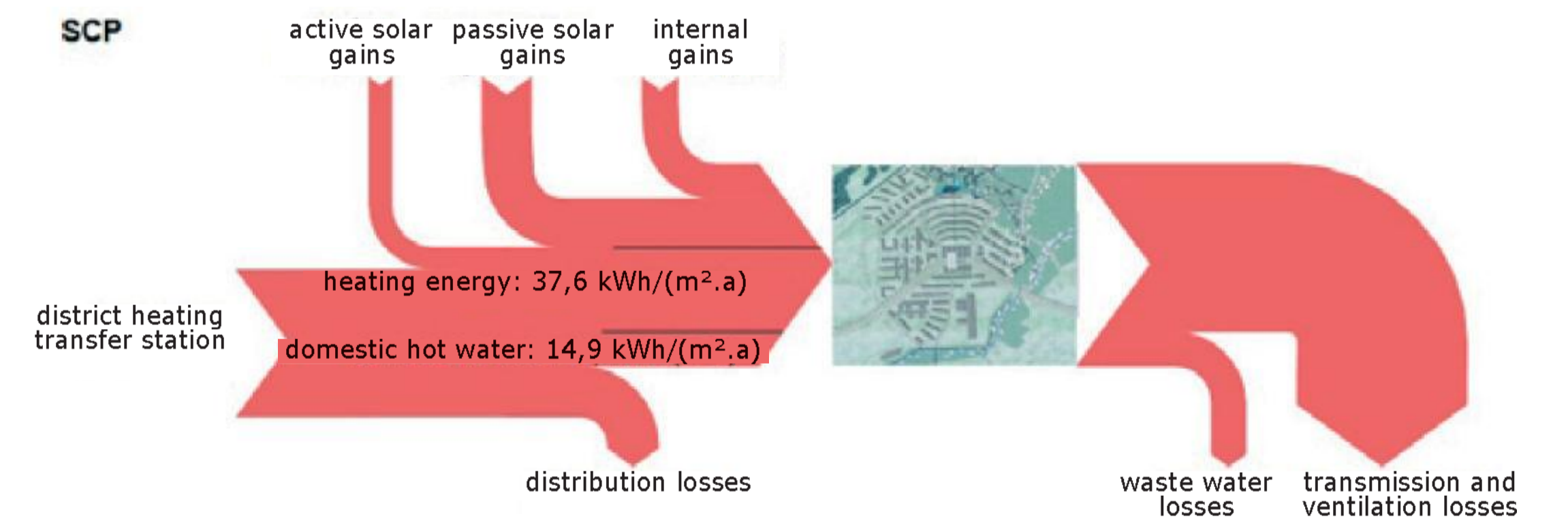


!!! NEW BOOK RELEASE !!!
 "solarCity Linz-Pichling - Sustainable Urban Development",
 Editor Martin Treberspurg and City of Linz published by Springer ViennaNewYork in English and German language

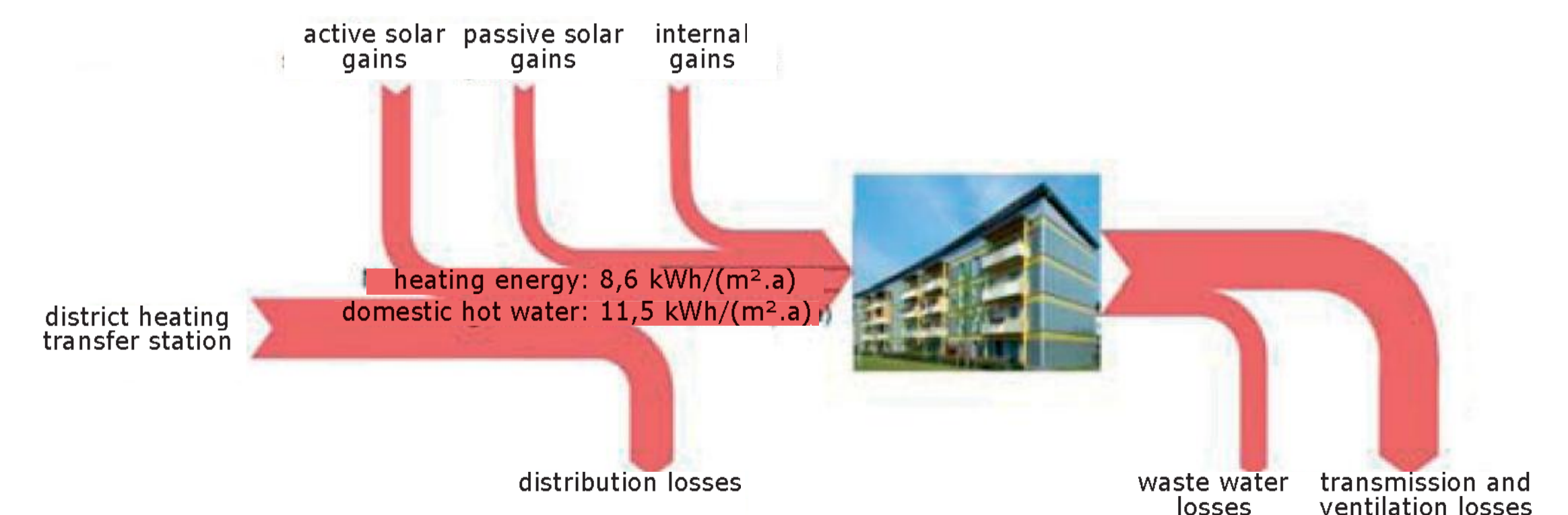
PRIMARY ENERGY CONSUMPTION, not renewable per HOUSING ESTATE, May 2006 - April 2008



MEAN HEAT FLOW for all residential buildings



HEAT FLOW of one Passive House



[Source: BOKU Vienna]



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