



- **Building Type / Use**  
Office Building
- **Location**  
Stockholm, Sweden
- **Client**  
AP Fastigheter
- **Architect**  
G Anjou, Lund & Valentin ark. AB
- **Occupation**  
1999
- **Gross Area**  
6330 m<sup>2</sup>

## Aims

- Sound and healthy for people
- Long life & resource conservation
- Simple heating and ventilation
- Clean air & silent exchange
- Low emissions from materials & heating
- Low operation cost

## Solutions

- Open plan – closed to north open to south
- Heavy materials – mostly local & national
- Earth duct ventilation for heating & cooling
- Noiseless low speed ventilation
- No ventilation ducts in the ceilings
- Stone, concrete, ceramics, wood, linoleum..
- Large ceiling height



GROUND FLOOR



1st & 2nd FLOOR

## Building data

Gross Floor Area: 6330 m<sup>2</sup>

Work places: 150

Restaurant & auditorium for 150 pers

## Heating, cooling & ventilation

Air intake through 400m large earth ducts

One large fan supply 3m<sup>3</sup>/s (win.)-10m<sup>3</sup>/s (sum.)

Inlet: ducts in external wall, outlet: atrium top

Preheating batteries in end of earth ducts

Ducts cool and heat ventilation air appr. 5-20°C

## Energy use

District heating 65 kWh/m<sup>2</sup>,yr

Building electricity 35 kWh/m<sup>2</sup>,yr (est.)

Total 100 kWh/m<sup>2</sup>,yr

## Water

Potable water 270 l/m<sup>2</sup>,yr

## Emissions from energy use

Climate change 8,3 kg equiv CO<sub>2</sub>/m<sup>2</sup>,yr

Acidification 18 g equiv SO<sub>2</sub>/m<sup>2</sup>,yr

Eutrication 145 g equiv NO<sub>3</sub>/m<sup>2</sup>,yr

Nuclear electricity 9 kWh/m<sup>2</sup>,yr

## User satisfaction

Indoor conditions >85% satisfied or very satisf.



## ByggaBo (S) A-D

Energy B  
 Indoor B  
 Chemicals B

## EcoEffect (S) 1-6 stars

Energy ★★★★★  
 Indoor ★★★★★

## LEED (US) – 92 credits

Site 4 -6 (of 12)  
 Water 6 (of 10)  
 Energy 15 (of 30)  
 Materials 4-6 (of 14)  
 Indoor 10-18 (of 19)  
 Innovation 1-3 (of 7)  
**Certified - Gold**



### Summary of Key Performance Indicators (KPI)

A	Primary Energy of Non Renewable Energy Sources	[kWh/m <sup>2</sup> <sub>GFA</sub> ]	44
B	Final Energy / Primary Energy of Renewable Energy Sources	[kWh/m <sup>2</sup> <sub>GFA</sub> ]	77
C	Total Energy, (A+B) annual data <input type="checkbox"/> predicted <input checked="" type="checkbox"/> monitored	[kWh/m <sup>2</sup> <sub>GFA</sub> ]	121
D	CO <sub>2</sub> Emissions (CO <sub>2</sub> equivalent)	[kg/m <sup>2</sup> <sub>GFA</sub> ]	8
E	Potable Water Demand/Consumption, annual data l/pers <input type="checkbox"/>	[l/m <sup>2</sup> <sub>GFA</sub> ]	270
F	Construction Cost, price level 2007	[EUR/m <sup>2</sup> <sub>GFA</sub> ]	1100
G	Operating Costs, annual, price level 2007	[EUR/m <sup>2</sup> <sub>GFA</sub> ]	14