

HDS New EMEA distribution center

HITACHI
Inspire the Next



Project name Windmill:

- Place new distribution center: Zaltbommel The Netherlands
- Expected date of start operations: April 2013
- Project focus on Employee, Environment & Future

Principles new EMEA distribution center ; Project “Windmill”



Management



Safety & wellness



Energy



Transportation



Water



Materials



Waste & cleanness



Ecology



Commercial

Principles new EMEA distribution center ; Project “Windmill”



Management

Philosophy management

- New EDC sized to absorb 15 year 3,5 % growth
- Minimal future cost of change
- Place should be a pleasure to work
- Wellness warehouse staff equal to office staff
- New EDC is building with character; LOFT (Light, Open, Functional, Transparent)
- Representativeness for commercial & training purposes
- High attention for environment
- Ambition of no use of natural resources
- BREEAM certification ambition “Very good”

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Management

Philosophy management

- Size of premises ~45.000 m²
- Size operations building ~ 29.000 m²
- Size office building ~2.000 m²
- traffic area's ~500 m²
- storage area's ~1.000 m²
- Expected energy consumption in 3,5MWh
- Expected drink water usage ~5m³ per person/year. Rain water use for toilets ~3m³ per person/year

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Safety & wellness

Philosophy safety & wellness

- Stable climate in warehouses & office;
 - floor heating in warehouses
 - zoned climate control in offices
- Light environment; in warehouses ~LUX 400
- Fitness & separate locker room
- Infrared faucet
- Contemplation room
- Parking roof and parking ramp heated

Impact safety & wellness measures on CO2:
Annual reduction CO2: ~30.000 Kg

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Energy

Philosophy energy savings page 1

- Reduction of natural resources by
 - ✓ No use of natural gas
 - ✓ Use of ground water (12C) for heat/cold storage system to heat & cool
 - ✓ Low energy use T-5 light in warehouses
 - ✓ Programmable electricity cabling (EIB) to control light based on attendance of staff

Impact energy measures on CO2:
Annual reduction CO2:~550.000Kg

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Energy

Philosophy energy savings page 2

- Reduction of natural resources by
 - ✓ Maximize use of green energy (roof solar panels -Windmill not allowed in zoning plan)

Solar project

- Largest building bounded project in The Netherlands ~1,6Megawatt
- One of largest non subsidized solar panel projects in The World

Impact energy measures on CO2:
Annual reduction CO2: ~1.050.000Kg

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Transportation

Philosophy transportation

- Contribute to CO2 reduction by offering
 - ✓ Availability of good public transport
 - ✓ Availability chargers electrical cars
 - ✓ Reduction commute mileage; Facility closer to staffs residence
- Stimulation alternative transport cycling
 - ✓ Availability chargers electrical bicycles

Impact transportation measures on CO2:
Annual reduction CO2: ~ 20.000 Kg



Water

Philosophy water

- Reduction of use drinking water;
 - ✓ Rain water used for toilet flushing
 - ✓ Water usage monitoring meters
 - ✓ Leakage detection main water tube
 - ✓ Showers water supply ≤ 9 liter per minute
 - ✓ Male toilets; component urinals $> 50\%$
 - ✓ Landscaping; water maintenance friendly

Impact drink water reduction:
Annual reduction ~540.000 liter (~60%)

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Materials

Philosophy material use

- Concrete building – no cooling necessary in warehouses
- LOFT architecture- less material use (Light, Open, Functional, Transparent)
- Use of FSC approved wood (FSC =Forest Stewardship Council)

Impact material choices on CO2:
Annual reduction CO2: ~ 70.000 Kg

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Waste & cleanness

Philosophy waste & housekeeping

- Separation waste removal during construction
- Waste containers in warehouse
- Carton shredder
- Plastic bale machines

Impact waste measures choices on CO2:
Annual reduction CO2: ~ 30.000 Kg

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Ecology

Philosophy ecology

- Consider wildlife
 - ✓ evening lighting ≤ 25 LUX
 - ✓ Trees & nests for birds & bats
 - ✓ 3 Oil separation tanks

Impact ecology measures choices on CO2:
Annual reduction CO2: ~10.000 Kg

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Commercial

Philosophy for commercial purposes

- Fit out commercial briefing center
- State of art presentation equipment
- Building ISO 14001 & OSHAS18000 certified
- Security 24/7 supporting CTPAT/AEO
- Building BREEAM “Very Good”- ambition
- Building equipped with high standards for fire measures
- New EDC close to train station & hotel

Impact commercial measures on CO2:
Annual reduction CO2: ~ 10.000 Kg

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Energy

Project contribution carbon footprint resume

Description	CO2 KG	Trees	Hectare	KwH	Families
Safety/Wellness	30.000	3.000	0,1	43.000	14
No use of natural gas	250.000	25.000	0,8	358.000	109
Heat/Cooling storage	150.000	15.000	0,5	215.000	66
T-5/LED lighting	120.000	12.000	0,4	172.000	53
EIB	30.000	3.000	0,1	43.000	14
Transportation	30.000	3.000	0,1	43.000	14
Material choices building	70.000	7.000	0,2	100.000	31
Waste removal flow	30.000	3.000	0,1	43.000	14
Reduced travel mileage visitors	10.000	1.000	0,0	15.000	5
Ecology - night light	<u>10.000</u>	<u>1.000</u>	<u>0,0</u>	<u>15.000</u>	<u>5</u>
	730.000	73.000	2,4	1.047.000	325
Solar Panels	<u>1.050.000</u>	<u>105.000</u>	<u>3,5</u>	<u>1.500.000</u>	<u>455</u>
Estimated environmental impact	1.780.000	178.000	5,9	2.547.000	780

KwH consumption EDC Waardenburg in
fiscal year 2011: **2.090.000**