DISTRICT HEATING AND COOLING FROM RENEWABLE & WASTE ENERGY IN BARCELONA

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的对象是通过可再生能源和废物能源进行的区域能源供应和冷却。

Examples from Barcelona

Case 1: Districlima

安装设备包括:
- 海水冷却机器（冷生产）
- 蒸汽/水热交换器
- 压缩机换热器（Johnson Control）
- 压缩机换热器（McQuay）
- 燃气锅炉备份 (2 x 4,000 kW)

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Case 1: Innovation District 22@

城市级别：高舒适度的多功能城市空间

通过城市热力网络和制冷系统，实现能源效率和最小生态足迹。

- 需求减少：能量效率的建筑设计
- 低碳资源：RE和废物能源
- 最优能源供应：DHC

安全的能源供应，易于维护，竞争力的价格

- 高质量多功能的城市空间

- 再工业化区域的城市复兴

- 例子来自巴塞罗那

- 热水/冷却水换热器（3 x 12,500 kW）
- 压缩机冷却器（Johnson Control）（2 x 4,000 kW）
- 压缩机冷却器（McQuay）（2 x 7,000 kW）
- 海水冷却机器（冷生产）
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Installation scheme, District energy network Barcelona and St. Adrià del Besòs

4 parallel tubs network
• 2 for DH - forward 90ºC, return 60ºC
• 2 for DC - forward 05ºC, return 14ºC
• variable flow, constant volume
• treated drinkable water, with a permanent PH and conductivity control,
• corrosion inhibitors in the heating network
• biocide in the cooling network.
• leakage detection system

Exterior view of the Districlima central production in the Forum area

Absorption chiller in the Districlima central production in the Forum area

District energy network Barcelona, evolution of installed power 2004 - 2011

Inauguration of a new production plant, Tanger street, Innovation District 22@
Case 2: Innovation District Zona Franca
Transformation of an industrial area into a Tertiary Sector and Residential area Zona Franca

Valorization of waste cold from depressurizing liquid gas
Biomass from maintenance of city parks for heat production

3 energy production plants integrated to the urban landscape, linked by a pipes network, in an area transverse to up to 12,600,000 m² ground floor area.

Ecoenergies DHC Network in Barcelona and L’Hospitalet de Llobregat

4 parallel tubs network
- 2 for DH - forward 90°C, return 60°C
- 2 for DC - forward 95°C, return 14°C
- variable flow, constant volume
- treated drinkable water, with a permanent PH and conductivity control.
- corrosion inhibitors in the heating network
- biocide in the cooling network
- leakage detection system

Biomass originated from maintenance of the city’s parks and gardens of Barcelona (approximate 8,000 tons per year) maintenance of forests of Catalonia (total of 26,000 tons per year).

Ecoenergies biomass plant in Barcelona and L’Hospitalet de Llobregat
Annual reduction compared to conventional decentralized thermal energy production:

Emissions: 13,400 t CO₂

Demand side reduction

95 Social housing apartment block

EPBD "A" Classification

Low U-values

Ventilated façade

Movable wooden blinds

Natural cross ventilation

Connected to DHC 22@

Effective management through ESCO

Thank you for your attention!