

ENERinTOWN Case Study

Energy Controlling in building pools of Berlin, Germany

Clients

Berlin Senate Department of Urban Development
District administration Pankow
District administration Friedrichshain

Initial situation



About 5.500 municipal buildings are situated in Berlin, many of them have a strong need for energetic redevelopment and optimisation. The annual energy costs of all buildings were put at about 25 million Euro. Especially schools and nursery centres have a great energy saving potential which leads to the first step of implementing an Energy Controlling System. In addition to financial aspects also ecological reasons (reduction of CO₂ emissions, etc.) were important.

Object data



Several municipal buildings are combined in district pools. Two of them, the pool Pankow and the pool Friedrichshain, will be described in more detail. The pool Pankow consists of 55 municipal buildings and has a gross floor area of 197.535 m². The 30 selected buildings of the pool Friedrichshain have a gross floor area of 181.203 m². Characteristic for the pools is the large number of schools and nursery centres.

Realisation model

To install the technology of an automatic remote Energy Controlling System and other technical measures an intelligent financing scheme had to be found. Performance Contracting like the "Energy Saving Partnership Berlin" is a relevant instrument to finance the necessary investments without public budgetary funds.

The energy-saving partners (contractors) were selected in a European-wide competition and contractually bound according to the Berlin „Contract of Guaranteed Energy Saving“.

In pool Pankow it was the first time for a single Berlin District to become a contract partner rather than several Districts inviting for tender under the patronage of the Berlin Senate Department for Urban Development. The advantages of the Pankow contract are obvious: Efficient communication and no need for long-winded negotiations in determining the targets of the contract.



The following essentials are important in these exemplary projects:

- Continuous energy controlling and monitoring
- Service and maintenance, user motivation
- Planning, financing, construction and operating of technical measures in the fields of heating, lighting, ventilation and regulation

Measures implemented



- Energy Controlling
- Optimisation of heating
- Replacement of coal fired boilers and installation of thermostatic valves
- Optimisation of ventilation
- Installation of controlled drives
- Optimisation of lighting system
- Modernisation and optimisation of regulation
- User motivation (e.a. incentive programmes)

Results

Initial investments

Pool Pankow	1.800.000 Euro
Pool Friedrichshain	940.000 Euro

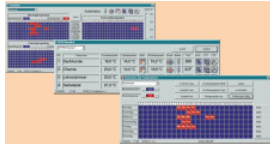
100 % of investments will be financed through saved energy costs (participation model).

Annual energy costs	before	after
Pool Pankow	2.075.000 Euro	1.573.000 Euro
Pool Friedrichshain	1.090.000 Euro	875.000 Euro

Savings per year

Pool Pankow	502.000 Euro	(24,2%)
Pool Friedrichshain	215.000 Euro	(19,7%)

Benefits for the clients



- The federal state of Berlin doesn't take out a loan for the projects, the investment costs are purely financed through the contracting rate
- Through the energy saving measures the reduction potential amounts to 3.500 tons of CO₂ per year
- Guaranteed cost reduction during the contract period for 14 (Pool Pankow) or 10 (Pool Friedrichshain) years
- Quality of investments
- Competent service and maintenance

Project assistance

Pool Pankow: JCI Regelungstechnik GmbH
Pool Friedrichshain: Arge MVV Energie AG / WFM GmbH

Contact

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