

# Purification plant at Cuxhaven Structural modernization

## Task

As part of creating a new procedure technology concept by the Bureau DNC 2009 Contelos Engineering GmbH has been commissioned to assess the renovation and modernization needs for operations buildings and digestion towers.



### Existing main operation building

The buildings were assessed in functionality in accordance with construction aspects and in their ecological, the company's cooperate design sufficient form, regarding:

- improvement of energy efficiency
- CO<sub>2</sub> -minimization
- optimization of building surfaces
- running costs optimization and
- unified architectural design

As part of a preliminary planning for the operations buildings including workshops were conducted.

- stocktaking
- creating of a new space program
- proposal of measures
- visualization of the remodeling variant
- new construction draft at new location
- new construction draft at old location



### Operation building: Visualization of the conversion

Concerning the digestion towers an energetic consideration of the facades had to be prepared with

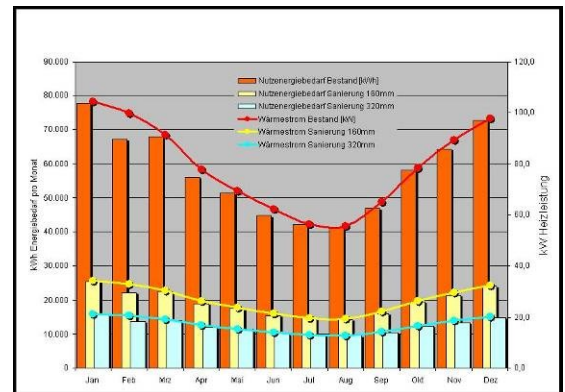
- stocktaking
- proposal of measures

## Solution

By common definition of success factors with the EGC the in quality and costs greatly different variants and measures could be evaluated.

- increase of energy efficiency with 30%
- reduction of CO<sub>2</sub> –emissions with 30%
- reduction of building surfaces with 15%
- reduction of running costs with 15%
- uniform design with 10%

Based on the ENEV 2009 the 30 year old digestion towers which need an operating temperature of up to 38°C all year round have been determined with a savings volume of 80%.



The developed measures were brought to the realization in 2009 with participation of Contelos Engineering as follows.

- new cogeneration plant
- new emergency power supply
- new medium voltage supply
- new construction of a 4. aeration basin

For 2010 until 2012 is planned

- new sludge dehydration
- remodeling of the operations building
- insulation of the digestion towers

Thereby the purification plant Cuxhaven relies on energy efficiency and sustainability within a short time.

### Are you interested

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