



Presentation of Dorsch Gruppe

Optimisation of Energy Consumption at WWTPs with Lifecycle Approach

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Presentation overview

- Why should we save energy?
- How can we save energy?
 - Improvements in equipment;
 - Improvements in treatment processes;
 - Institutional measures.
- How can we finance energy saving measures?
- Lifecycle Consideration
- Energy saving in praxis!
 - Project examples in Egypt, Jordan, Palestine

Why should we save energy?



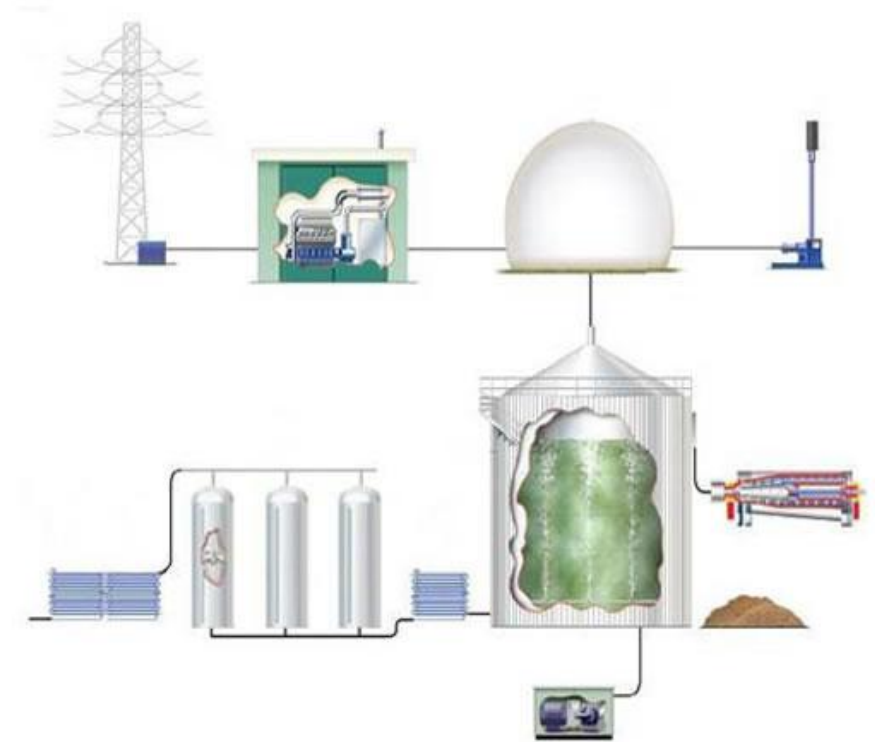
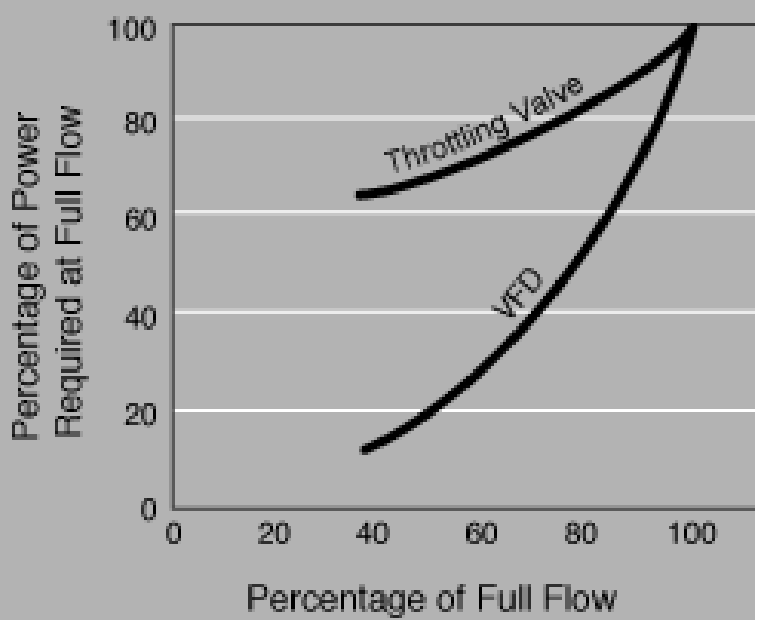
- Reduce operation & maintenance costs
- Reduce global warming



How can we save energy?

- Improvements in equipment;
- Improvements in treatment processes;
- Additional processes;
- Institutional measures.

VFDs Reduce Energy Consumption



How can we finance energy saving measures?

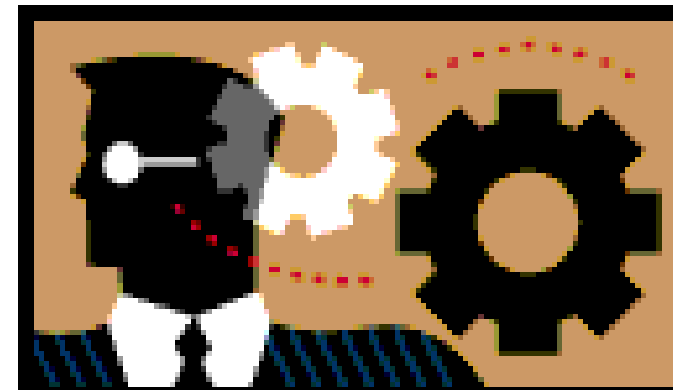
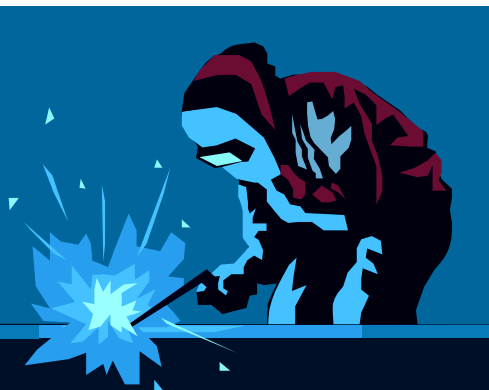
- Lower operation costs
- Private Sector Participation or Public Private Partnerships
- Clean Development Mechanism – Sludge Digestion?
- Loans / Grants

Combine with
regular maintenance /
replacement!



Lifecycle consideration

- High operation & maintenance complexity – low energy costs
- High investment costs – low energy costs
- Civil works – mechanical works
- Impact on other treatment units
- Availability of replacements
- Requirement of external experts



Project Example: WWTP Helwan, Cairo

- Replacement of mechanical equipment
- Energy efficient aeration
- High solids removal in primary sedimentation tanks
- Optimised process control
- Future measures?



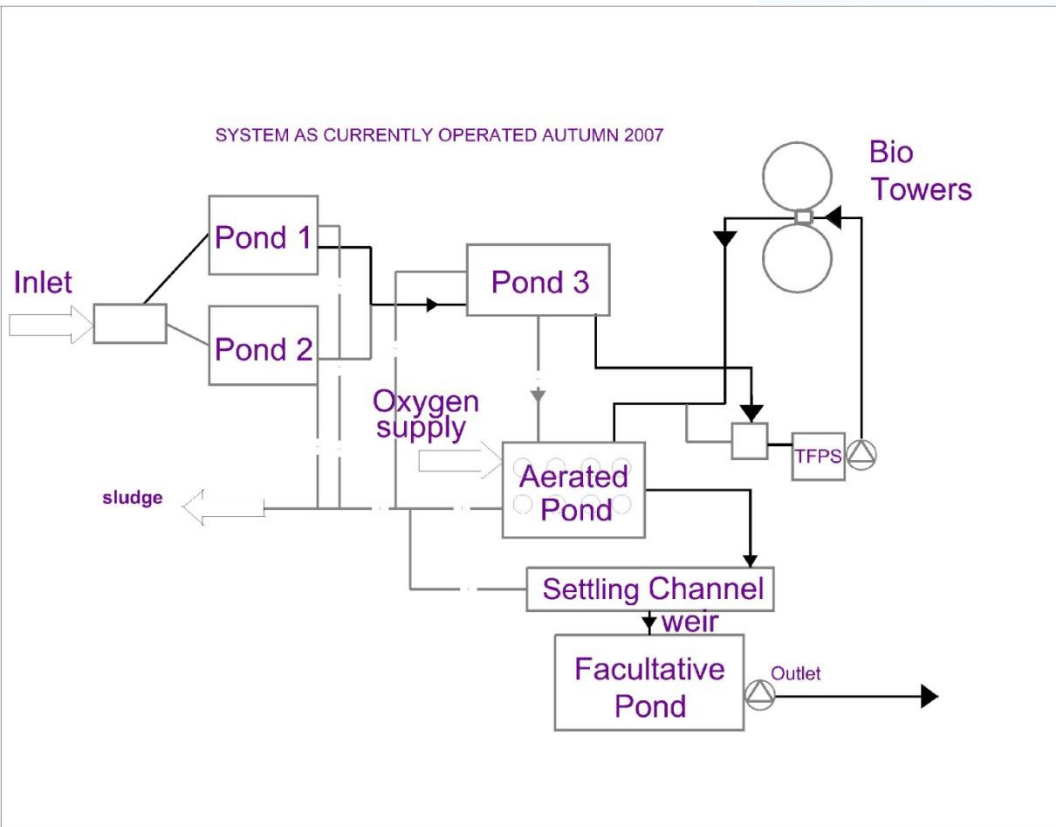
Project Example: WWTP Karak & Kofranja, Jordan

- Tailored treatment for all effluent requirements
- Optimum use of natural slopes, minimum pumping
- Sludge reuse possibilities
- Optimised process control



Project Example: WWTP Gaza, Palestine

- Easy Operation & Maintenance
- Maximum flexibility
- Minimum aeration



Conclusion

- Energy efficiency is an issue that is receiving increasing attention, global warming is now upon us and remedial action can no longer be delayed.
- Wastewater treatment is essential. Reducing energy consumption reduces both operating costs and carbon emissions, a win – win situation.
- Energy recovery significantly reduces the overall energy consumption and emissions. Increasing electricity prices and carbon credits is changing the economic balance.
- Energy efficiency is an obligation on all professionals in both design and operations.



Thank you for your attention!

Questions?

bringing visions to life. Dorsch Gruppe.