

Public Private Partnership for Wastewater Treatment 市政污水厂公共私营合作制

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Why Public Private Partnership ? 为什么选用公共私营合作制？

Government benefits

政府市政收益

Speeds up service delivery
提高市政服务水平

Frees funding for investment
in other projects
节省其它项目的初始投资

Fixed annual expenditure
固定的年度支出

Operator benefit:

经营者的益处：

- Stable income
项目稳定收益
- Potential to maximise profit
潜在节能收益巨大

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Options to increase energy efficiency 节能改造技术路线

1. Aeration
曝气
2. Sludge treatment
污泥处理
 - Generates electricity
发电
 - Reduces amount of sludge
减少污泥量
 - Increases opportunities for beneficial use of sludge
增加有益利用污泥的机会
3. Energy efficiency of pumps
高效的泵系统
4. Separation of industrial wastewater
工业污水和生活污水分开处理

Energy consumption

能源消耗

- Aeration
曝气 50%
- Clarification
净化沉淀 15%
- Sludge treatment
污泥处理 20%
- Pumps
泵耗 15%

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Energy efficiency 能源效率系数对比

Country 国家	Energy _{KPI} 能源 _{KPI}
China 中国	96-189
Denmark 丹麦	30-47
Nordic Countries 北欧国家	30-60
USA 美国	16-70

Energy savings 节能量对比

Process 污水厂处理工艺环节	Energy reduction 节能比例	Payback period 投资回收期
Aeration 曝气	50% → 25%	1
Clarification 净化	15% → 15%	-
Sludge 污泥	20% → -60%	4
New pumps 新泵	15% → 10%	8
Sum 合计	100% → -10%	

The Dark Horse – Industrial Wastewater 水业行业的节能黑马 — 工业污水

Hydraulic load

水压负荷

- Domestic wastewater
生活污水 (50%-70%)
- Industrial wastewater
工业污水 (50%-30%)

The Dark Horse 水业行业的节能黑马

- Industrial wastewater has twice the oxygen demand of domestic wastewater
工业污水处理的需氧量是生活污水的两倍
- Industrial wastewater may inhibit the biogas production
工业污水可以抑制沼气的生成

Want to know more ? 想知道更多吗?

Want to know how:

想要了解如何实施:

- to outsource you wastewater treatment under a PPP contract
依据签订一份PPP（公共私营合作制）合同，把污水厂运营提质管理外包
- to find a competent operator
寻求一个称职的运营商
- to increase energy efficiency of your WWTP
提高污水处理厂的能效水平

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