



ORGANICA

Organica Water Company Overview

International Team Brings Diversity of Perspectives and Talents

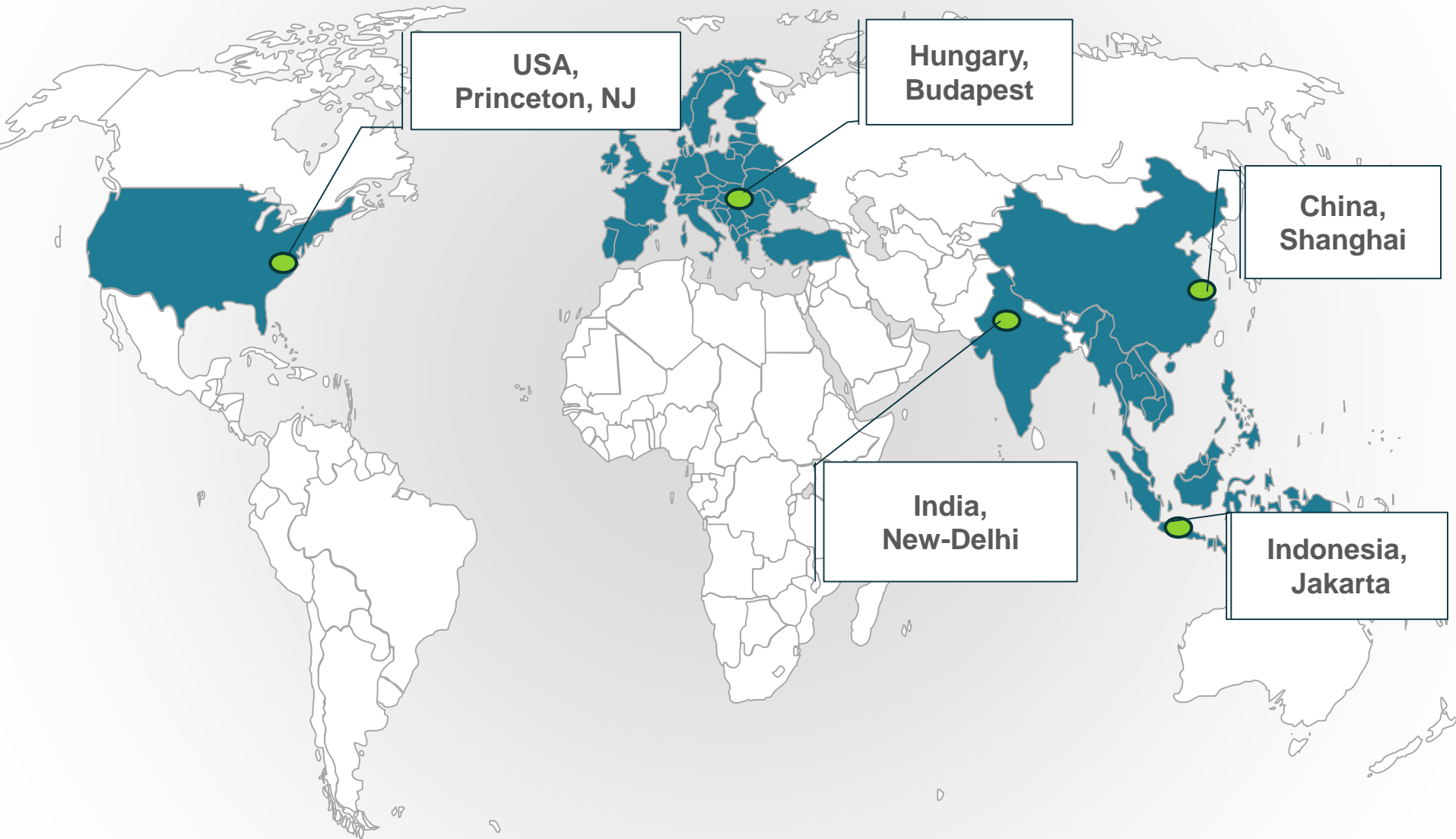
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Who Is Organica?



- Provider of cost and space efficient solutions for biological wastewater treatment
- 20 yrs of history/100 references up to 80,000 m³/d (22 MGD)
- Top management team in global water sector with Avg 24 years experience at GE, Veolia, Pentair, CH2M Hill, Xylem, Degremont
- Organica provides facility design and specialty equipment supply, enabling **local EPC/engineering companies** to deliver projects
- The future standard “operating system” for **municipal** wastewater treatment plants (WWTPs) in the 21st century

Organica Water - Global Presence Supports Wide Range of Geographical Markets



The Problem: Conventional Wastewater Treatment is Cost Prohibitive & Destroys Economic Value

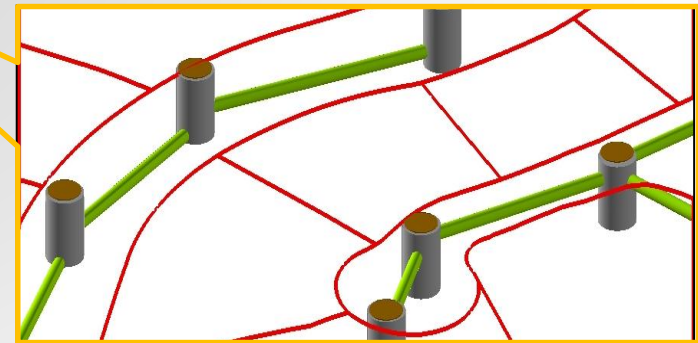
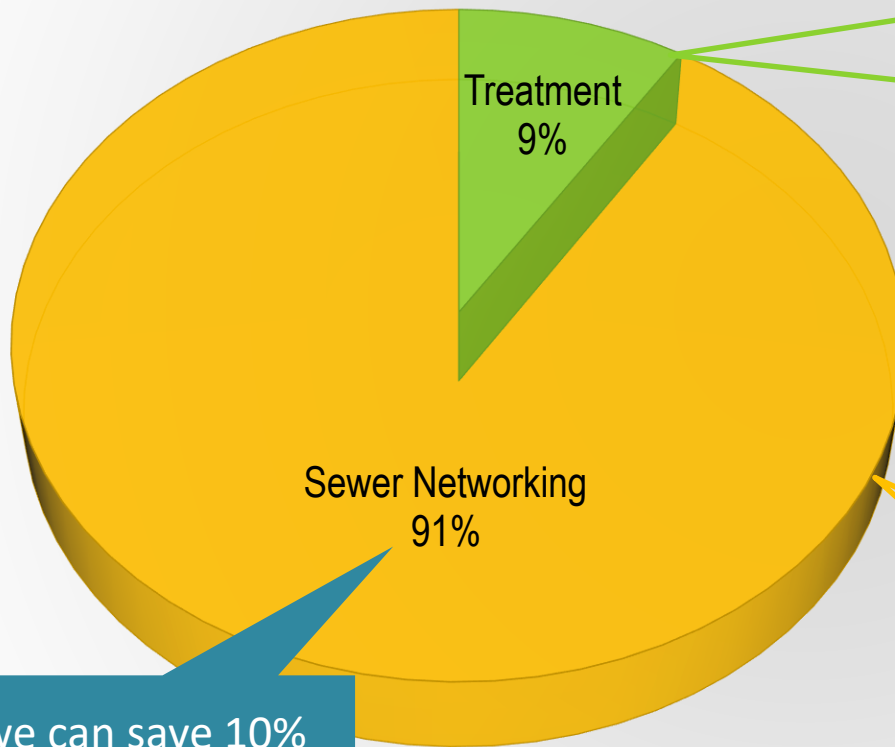


- Consume Massive Amount of Energy
- Large Physical Footprint
- Substantial Infrastructure Cost
- Destruction of Land Value



The Problem: 91% of TOTAL Wastewater Management Costs Are in the Sewer Network

WASTEWATER MANAGEMENT COSTS



If we can save 10% on network costs, treatment is “free”

The Solution: Organica-Powered Wastewater Treatment



- **60% Smaller Footprint**
- **30% Lower Energy**
- **35% Less Sludge Production**
- **Botanical Garden-Like Look & Feel**



The Solution: Organica-Powered Wastewater Treatment



Facilities Provide Community Interaction and Benefits



Organica: Unique Differentiators



- Up to **60% Reduction in Physical Footprint**
- 30% or Greater Reduction in Operating Expense (OPEX), driven by **30% lower energy and 35%+ less sludge production**
- Enhanced Biodiversity - **Resilient and Stable System**
- Unique Look & Feel allows WWTP to be strategically located virtually anywhere, resulting in **lower infrastructure costs, increased land value**, and enabling cost-effective **reuse of the treated effluent**
- Highly cost efficient **upgrade and/or expansion of capacity** by retrofitting reactors in existing conventional WWTPs with Organica Biomodules



A Proven Solution: **20 Years** of Experience with **100 Facilities** Treating **>780,000 m³/d** of Wastewater



Organica's Clients and Partners Include Most of the Top Water Companies in the World



中国船舶重工集团公司
CHINA SHIPBUILDING INDUSTRY CORPORATION



北京首创股份有限公司
BEIJING CAPITAL CO.,LTD



LARSEN & TOUBRO

History Of Awards & Recognition Demonstrates Organica's Unique Solution Offering



- Frost & Sullivan Best Practices Award in Technology Leadership (2017)** Selected from the entire global biological wastewater treatment industry
- Global Water Intelligence Industrial Water Project of the Year (2016)** Nominee, MM2100 WWTP
- 2016 Cleantech Connect Most Innovative Company** by GP Bullhound, selected from over 150 companies by esteemed panel of judges from across the Cleantech Sector
- Lux Research Top Ten Global Innovative Company** Profiled 1200 companies across 20 sectors/selected 10 most innovative
- Best Overall Innovation Winner 2013** by CIWEM West Midlands Institute of Water, Innovations Showcase
- Global CleanTech "Company of the Year" (Europe & Israel) for 2013** by CleanTech Group
- Global CleanTech TOP 100 (2013, 2014, 2015, and 2016)** by CleanTech Group
- Global Water Intelligence Wastewater Project of the Year (2013)** Honorable Mention, South Pest WWTP
- WEX Innovation Award (2013)** Water and Energy Exchange Innovation Award recognizing significant achievement in the field of Water and Wastewater Management
- European Business Awards for the Environment nomination (2010)** by the Hungarian Jury for the EU Environmental Awards
- The "Environment Award" (2004 and 2008)** by the Association of Environmental Manufacturers and Service Providers
- Frost & Sullivan Innovation Prize (2005)** for the ORGANICA wastewater treatment solution
- Company of the Year (2004)** by the Hungarian Venture Capital and Private Equity Association

Organica FCR Reactor Is The “Heart of the Solution”



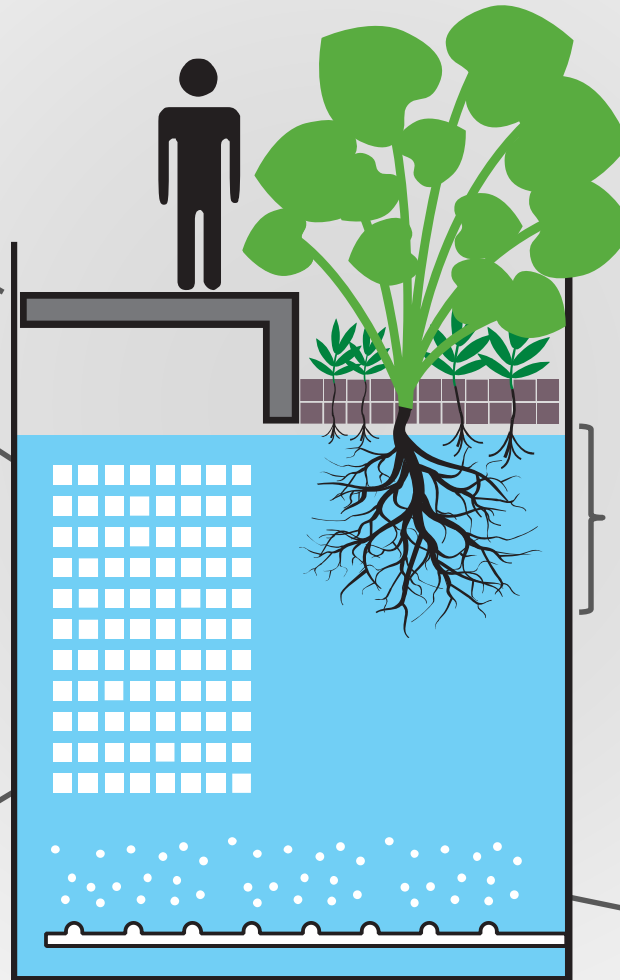
Walkway and plant supporting rack

Activated sludge in suspension

800 species

3-5 kg of biomass /m³

Engineered supporting media



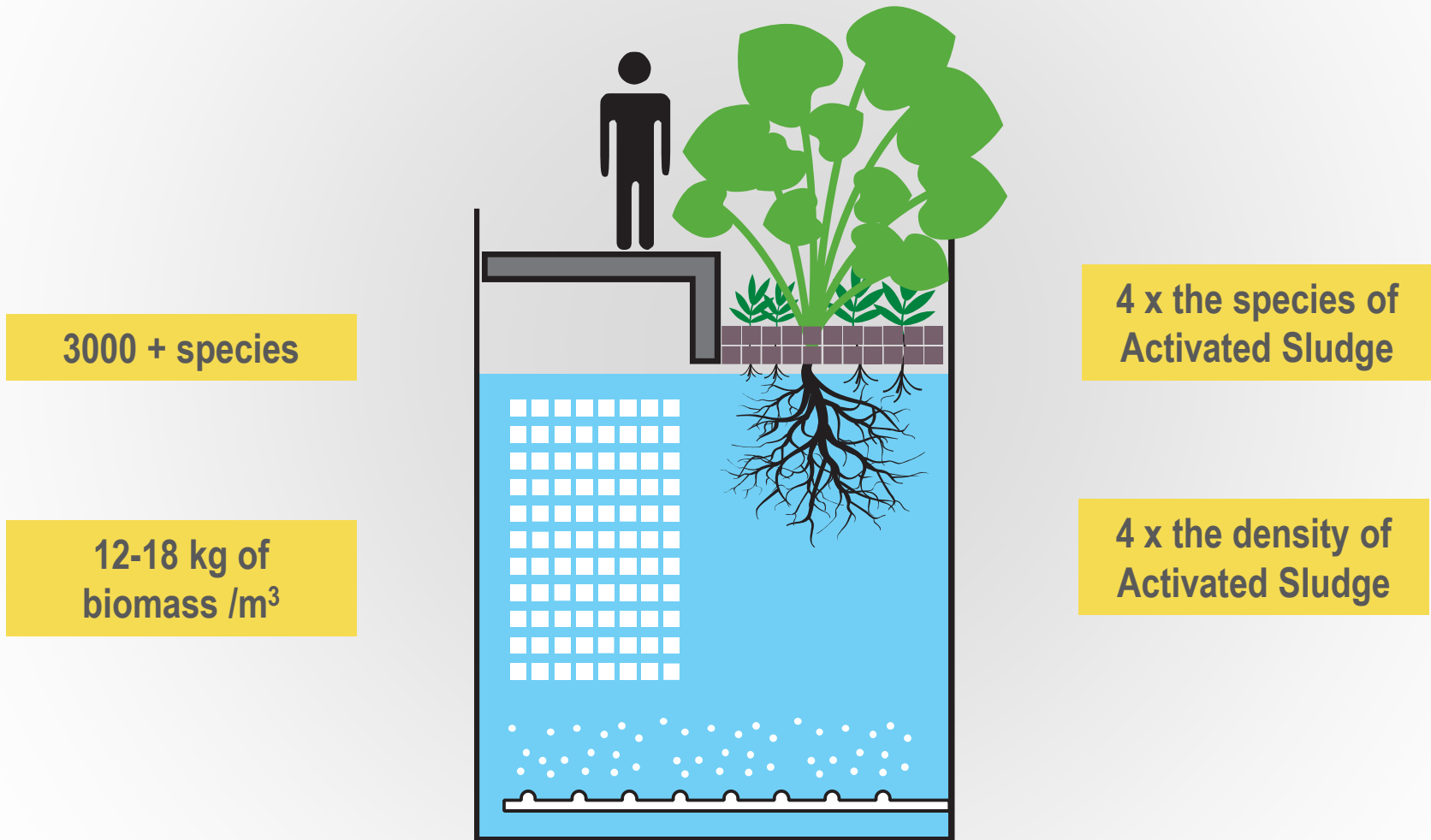
Plants on the supporting mesh

Root zone (up to 1.5m) as fixed film carrier

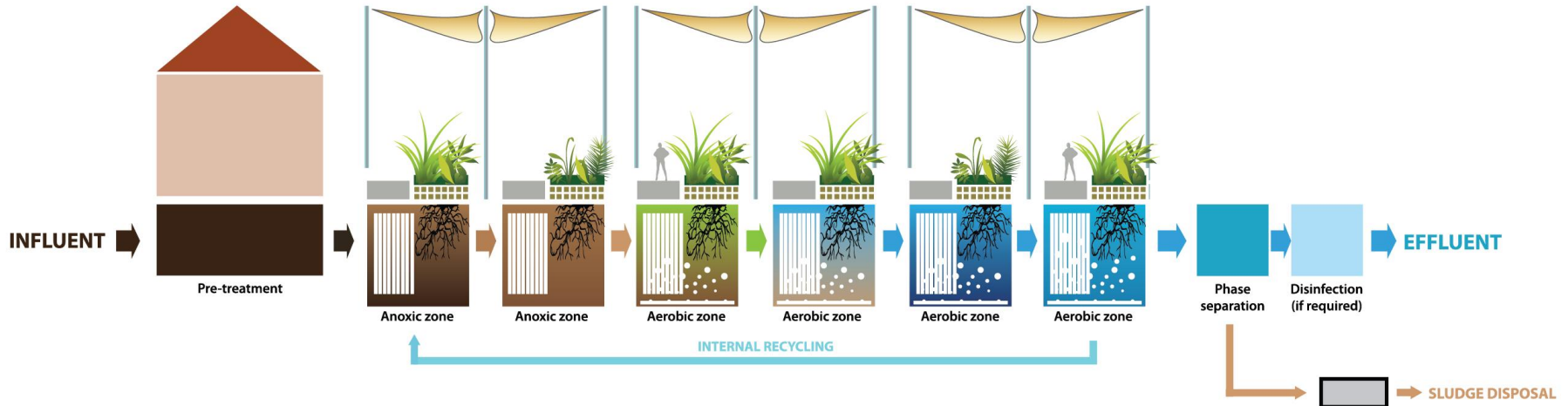
3000+ species

Fine bubble aeration

Organica FCR: More Hungry Mouths Per Cubic Meter



Series Of Food Chain Reactor Zones



- The biological process takes place in a series of cascade reactors, with standard pretreatment at the beginning, and phase separation (via Organica Disc Filters or Secondary Clarifiers) and final polishing at the end.
- As water flows through from one reactor zone to the next, different ecologies will grow and adapt to the conditions in each stage. This configuration allows the “food chain effect” to develop, as higher level organisms become predators for the simpler organisms.
- The result is enhanced removal efficiency and resiliency, while utilizing less energy and producing less sludge.

Organica FCR Provides Significant Reduction in Space Requirement

CONVENTIONAL ACTIVATED SLUDGE PLANT



ORGANICA
TREATMENT
FACILITY

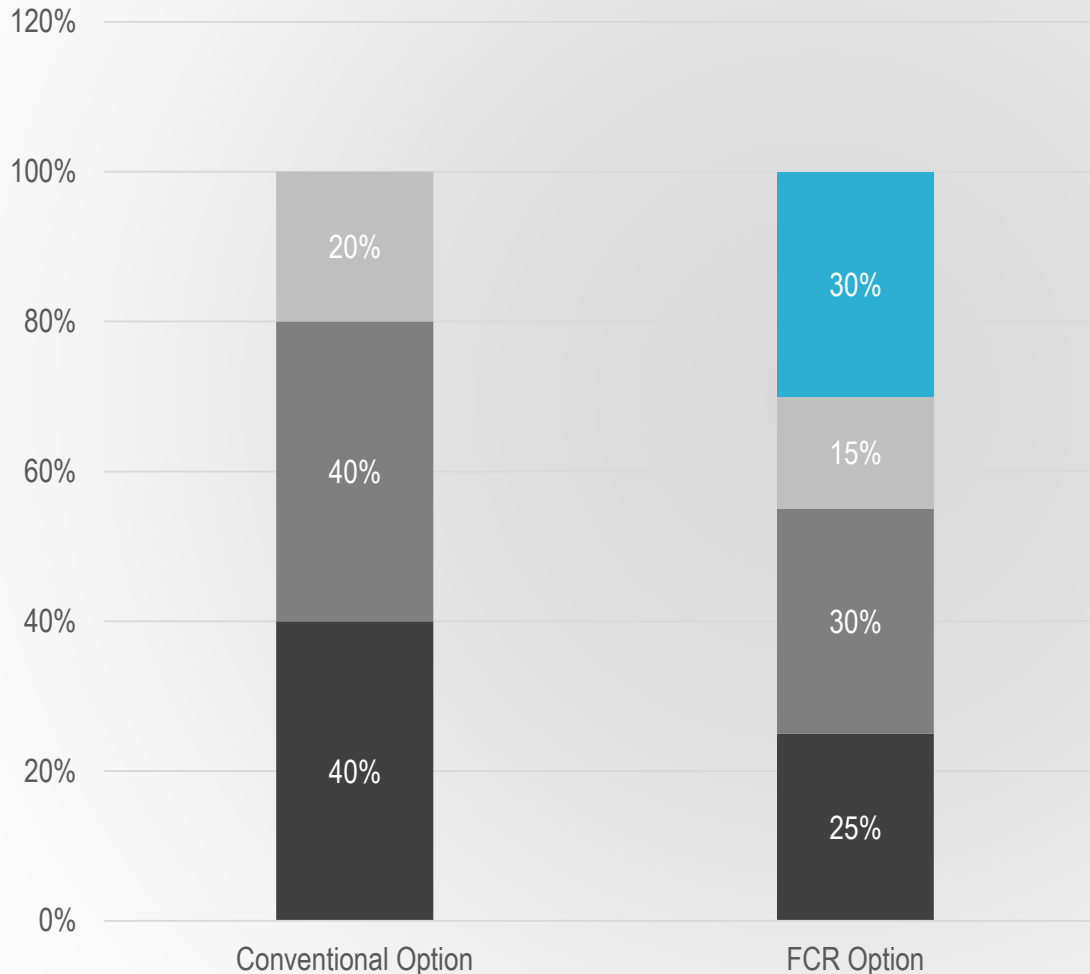
50 MLD = 9,000 m²

Up to 60% savings in footprint
over traditional process

Organica offers SAME CAPEX as Conventional Technologies with 30% less OPEX



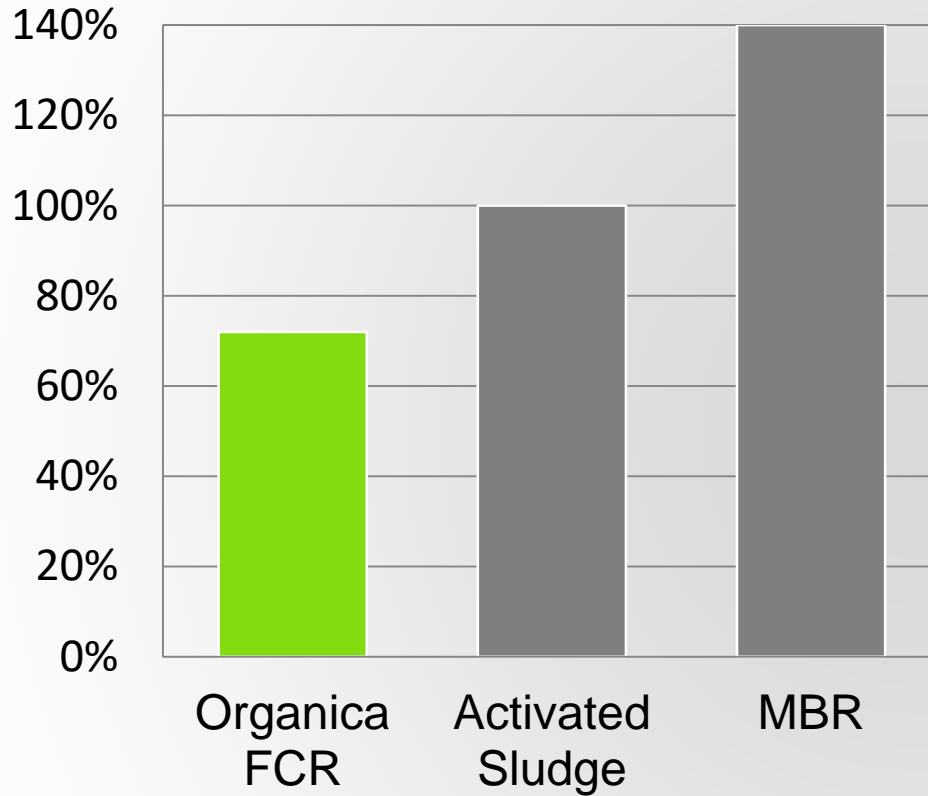
Capital Investment Cost Breakdown



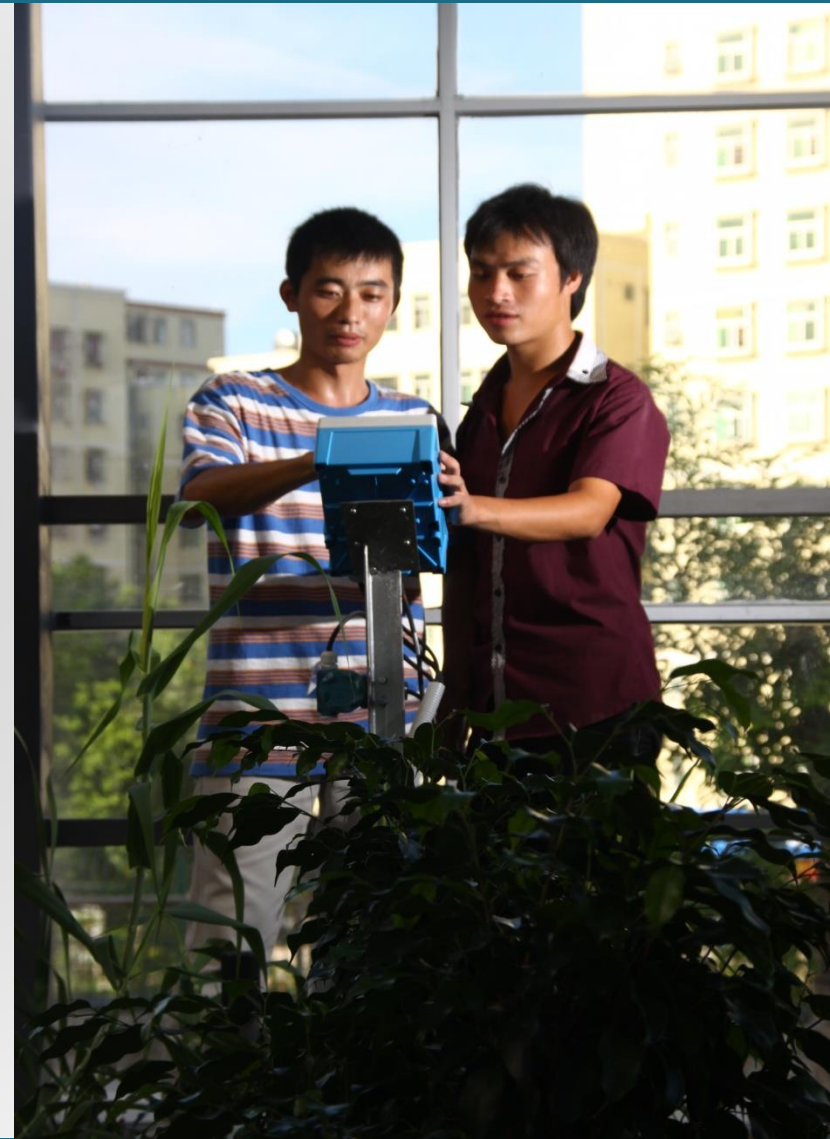
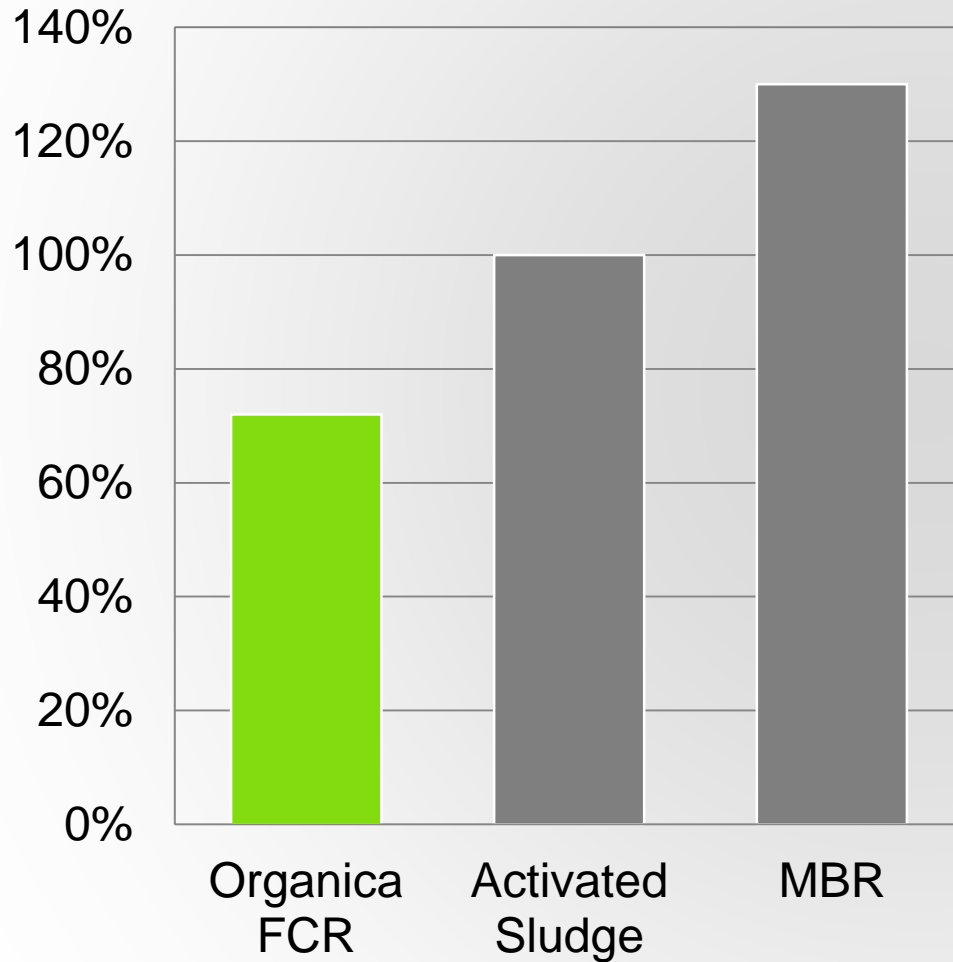
Same CAPEX
for a beautiful,
odor-free garden
with 30% less
OPEX

- Organica
- Engineering
- Mechanical & Electrical
- Civil Works

Organica FCR Requires Significantly Less Energy Than Competitive Technologies



Organica FCR Operating Costs are Significantly Less Than Competitive Technologies





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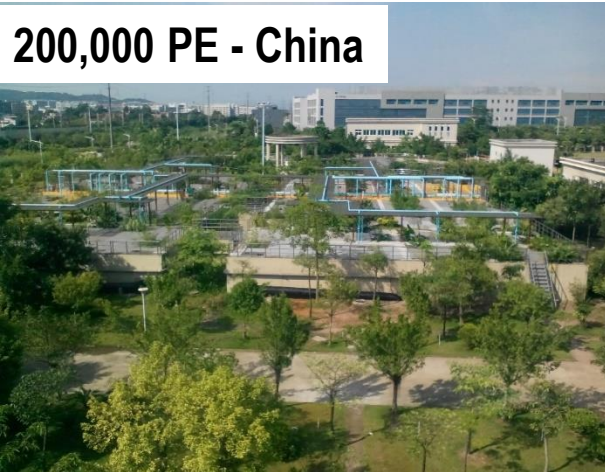


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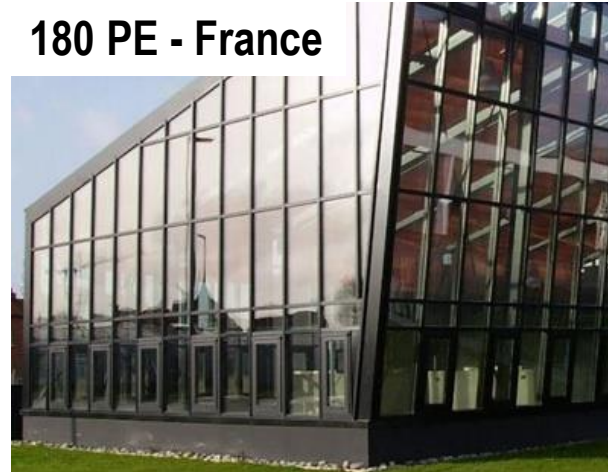


Recent Projects

Past Organica Projects Demonstrate Wide Capacity Range in a Variety of Applications



Residential



Commercial Office Park



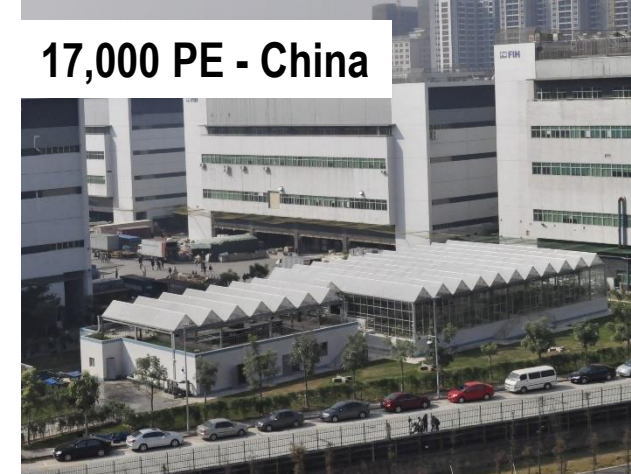
Industrial



Upgrade (Retrofit)



Tourist Areas

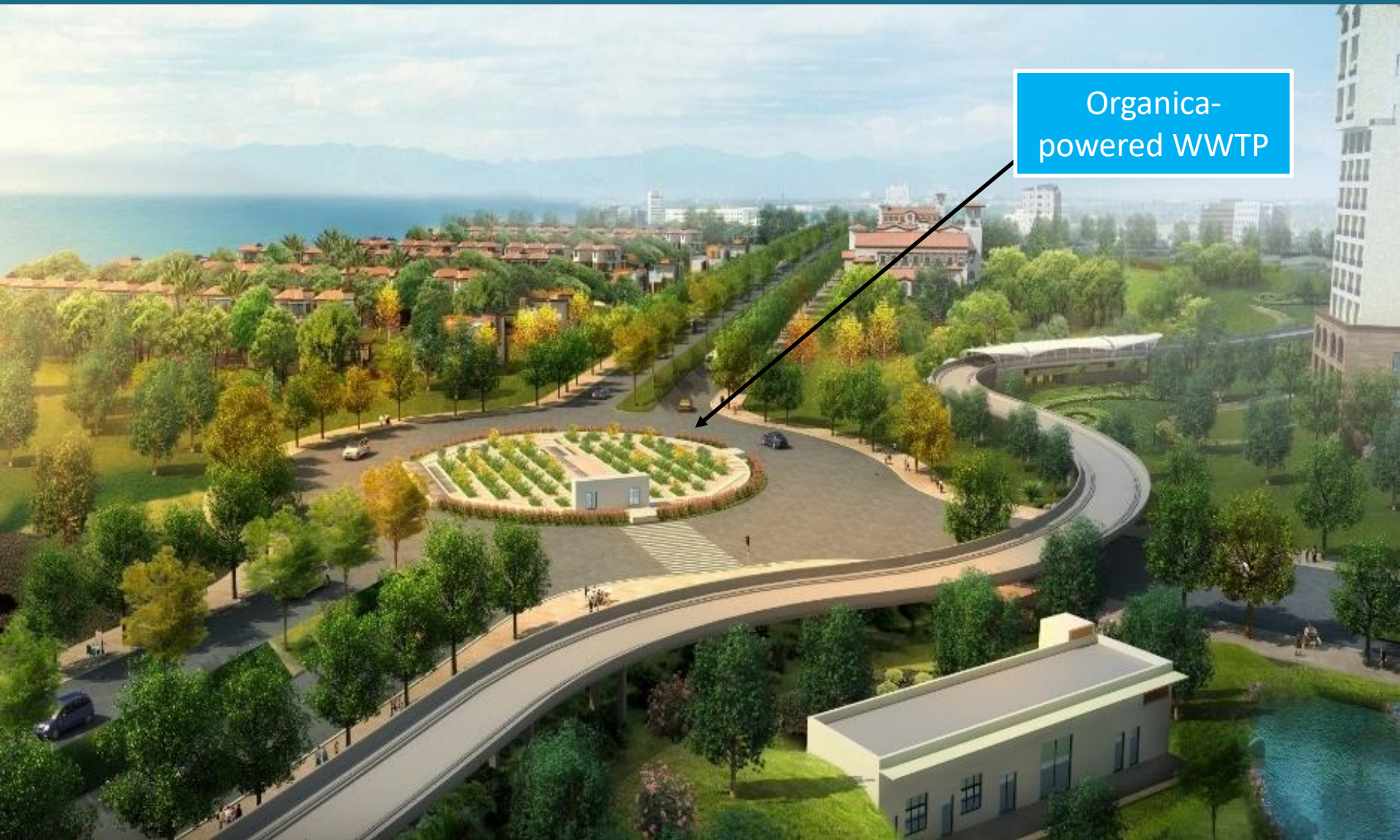


Urban Integration

Localized Wastewater Treatment: Tourist Area 7 MLD -> Hainan Island, China (Long Mu Bay)



Organica-
powered WWTP



Localized Wastewater Treatment: Tourist Area 7 MLD -> Hainan Island, China (Long Mu Bay)



Localized Wastewater Treatment: Inner City 40 MLD -> Shanghai, China (Wusong)



Before – concrete activated sludge reactors



Localized Wastewater Treatment: Inner City 40 MLD -> Shanghai, China (Wusong)



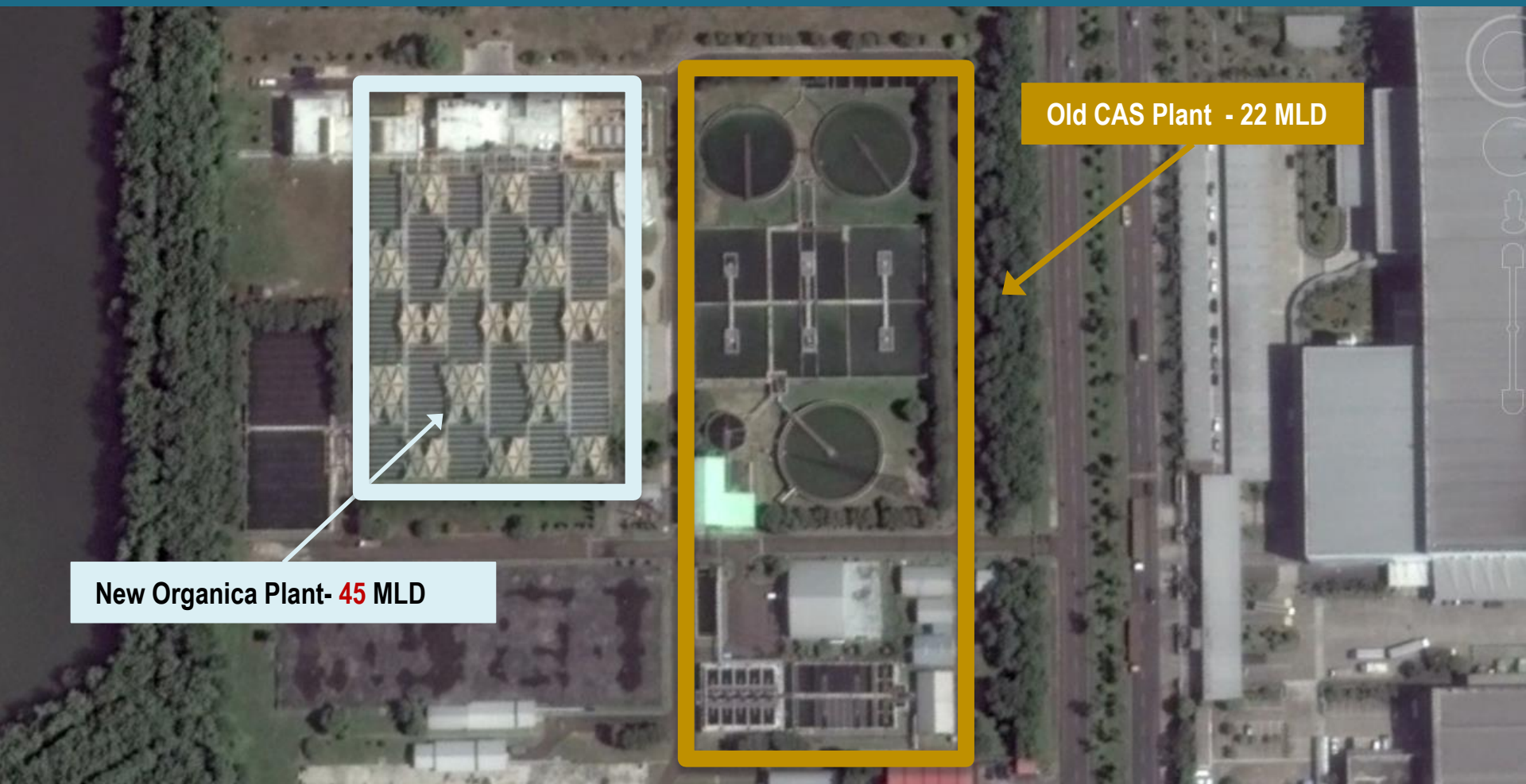
After – Organica FCR Botanical Garden (rendering)



Localized Wastewater Treatment: Inner City 40 MLD -> Shanghai, China (Wusong)



Localized Wastewater Treatment: Industrial Park 45 MLD -> Bekasi, Indonesia: Existing Site



Old CAS Plant - 22 MLD

New Organica Plant- 45 MLD

The largest industrial park in Indonesia needed to double wwtp treatment capacity while preserving land value. The Organica plant has **2x CAPACITY WHILE OCCUPYING 50% OF THE LAND**. The solution allows the developer to sell the land adjacent to Organica plant including the plot occupied by the old CAS plant.

Localized Wastewater Treatment: Industrial Park 45 MLD -> Bekasi, Indonesia: Existing Site

Site of Organica FCR

Existing CAS WWTP

Localized Wastewater Treatment: Industrial Park 45 MLD -> Bekasi, Indonesia: New Organica Facility



Organica FCR Botanical Garden (Actual)



Localized Wastewater Treatment: Capacity Expansion to 50 MLD -> Anshun, China



Organica FCR Botanical Garden (rendering)



Localized Wastewater Treatment: Capacity Expansion to 50 MLD -> Anshun, China

Organica FCR Botanical Garden (actual)



Localized Wastewater Treatment: Urban Sprawl

80 MLD -> Budapest, Hungary (South Pest Upgrade)

Transformation of Activated Sludge to Organica FCR



Before – concrete activated sludge reactors



After - upgrade with Organica FCR

Localized Wastewater Treatment: Urban Sprawl 80 MLD -> Budapest, Hungary (South Pest Upgrade)

Organica FCR Botanical Garden (actual)



Bhatpara, Kolkata, India – 30 000 m³/d



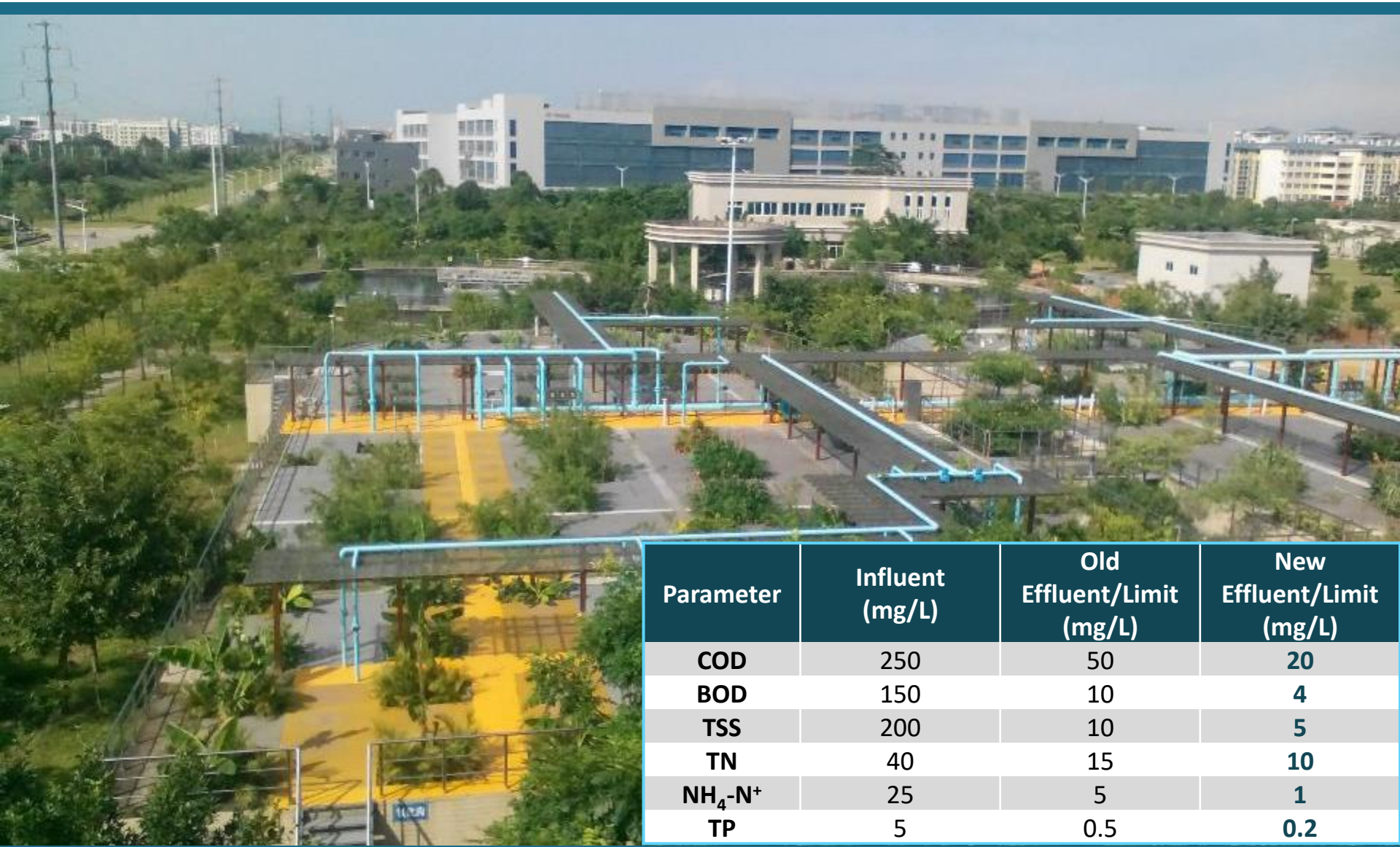
Laguna: Manila, Philippines – 6 500 m³/d



Laguna: Manila, Philippines – 6 500 m³/d



Example: Effluent Improvement Shenzhen, China- 30,000 m³/d (HeYuan)



Parameter	Influent (mg/L)	Old Effluent/Limit (mg/L)	New Effluent/Limit (mg/L)
COD	250	50	20
BOD	150	10	4
TSS	200	10	5
TN	40	15	10
NH₄-N⁺	25	5	1
TP	5	0.5	0.2

Localized Wastewater Treatment: Inner City 2 MLD -> Jakarta, Indonesia (Plaza Indonesia)



Waldorf-Astoria Hotel

Organica Facility

Localized Wastewater Treatment: Inner City Jakarta, Indonesia (Plaza Indonesia)



Localized Wastewater Treatment: Residential British Columbia, Canada (Sechelt)



Batam, Indonesia – 20,000 m³/d



Batam, Indonesia – 20,000 m³/d



Batam, Indonesia – 20,000 m³/d



Vision of the Future – Water Reclamation Gardens



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