

وزارة الأشغال  
ومشؤون البلديات  
والتخطيط العمراني  
Ministry of Works,  
Municipalities Affairs  
and Urban Planning

## *Efficient Use of Water in Sewage Treatment Plants*

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## Presentation Outline

- Wastewater Treatment Objectives
- Water Recycling at TWPCC
- TSE Costing
- TWPCC Internal Use of Recycled Water

# Objectives of Wastewater Treatment

- **Environmental**

To safely treat and dispose the wastewater and to provide a sustainable alternative resources.

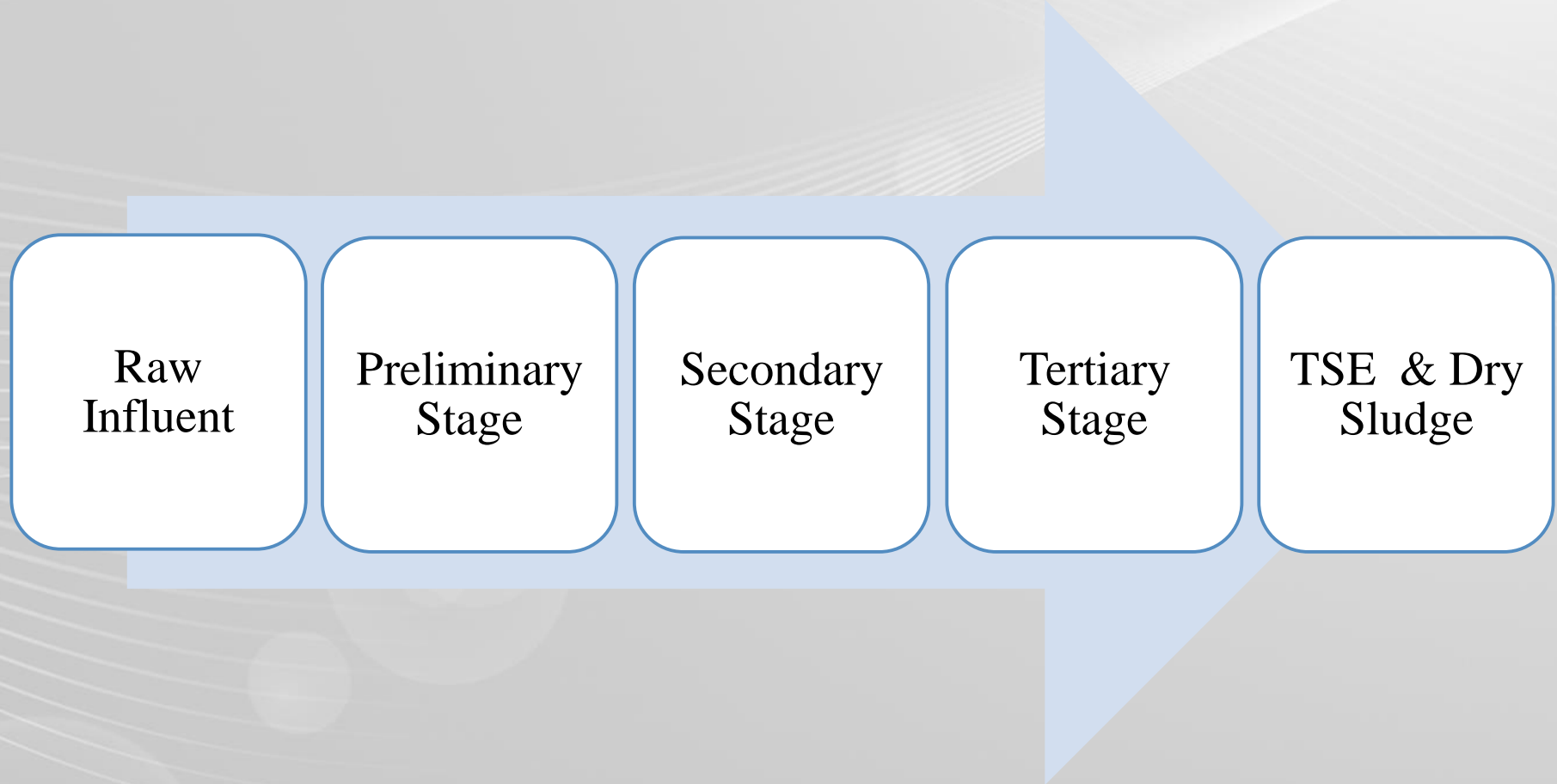
- **Economical**

To maximize the usage of the end products of the wastewater treatment in agriculture, industry and construction.

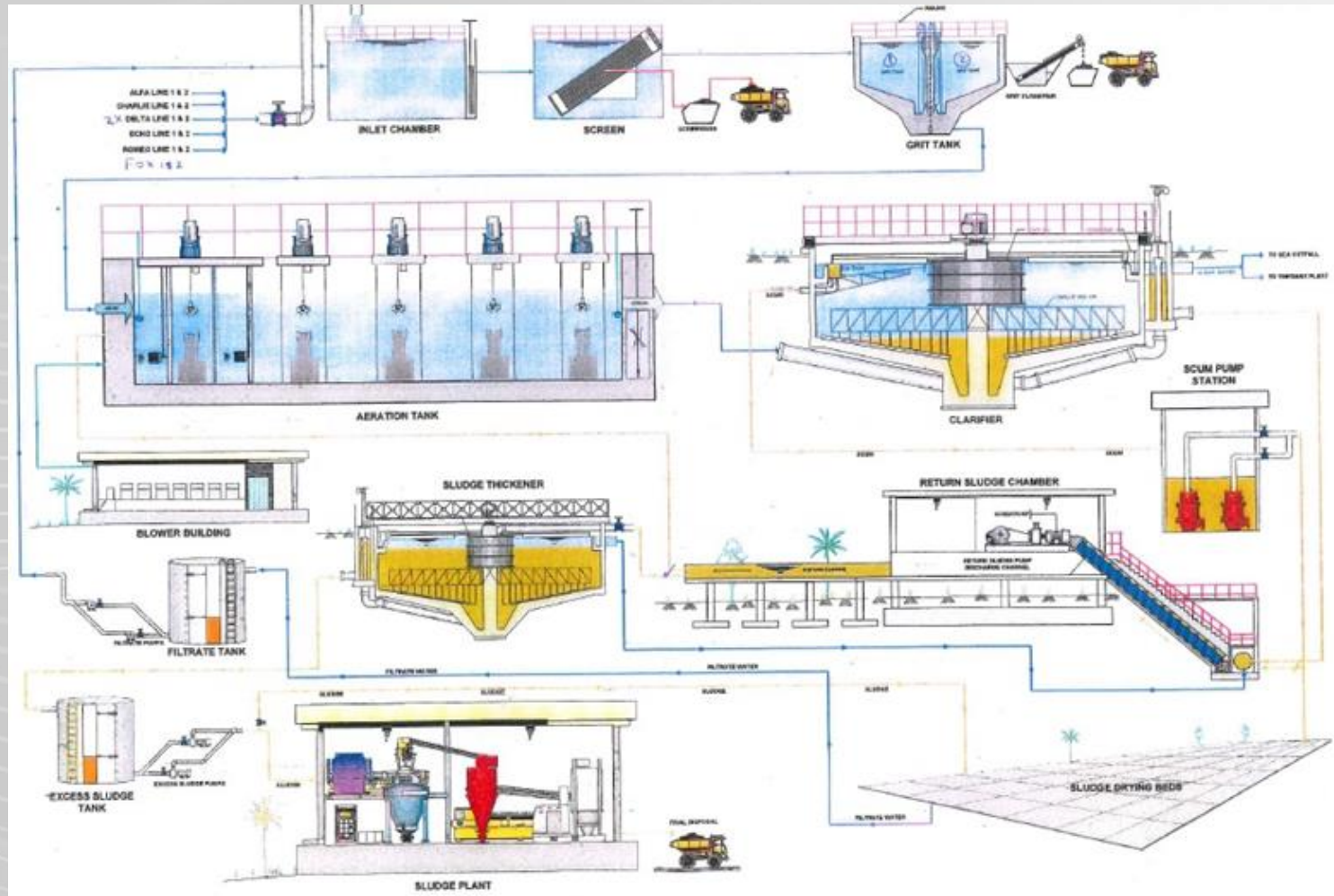
- **Health**

To improve the quality of life.

# Water Recycling at TWPCC



# Preliminary and Secondary Stages





# Preliminary and Secondary Stages



Screen



Grit Removal Tank

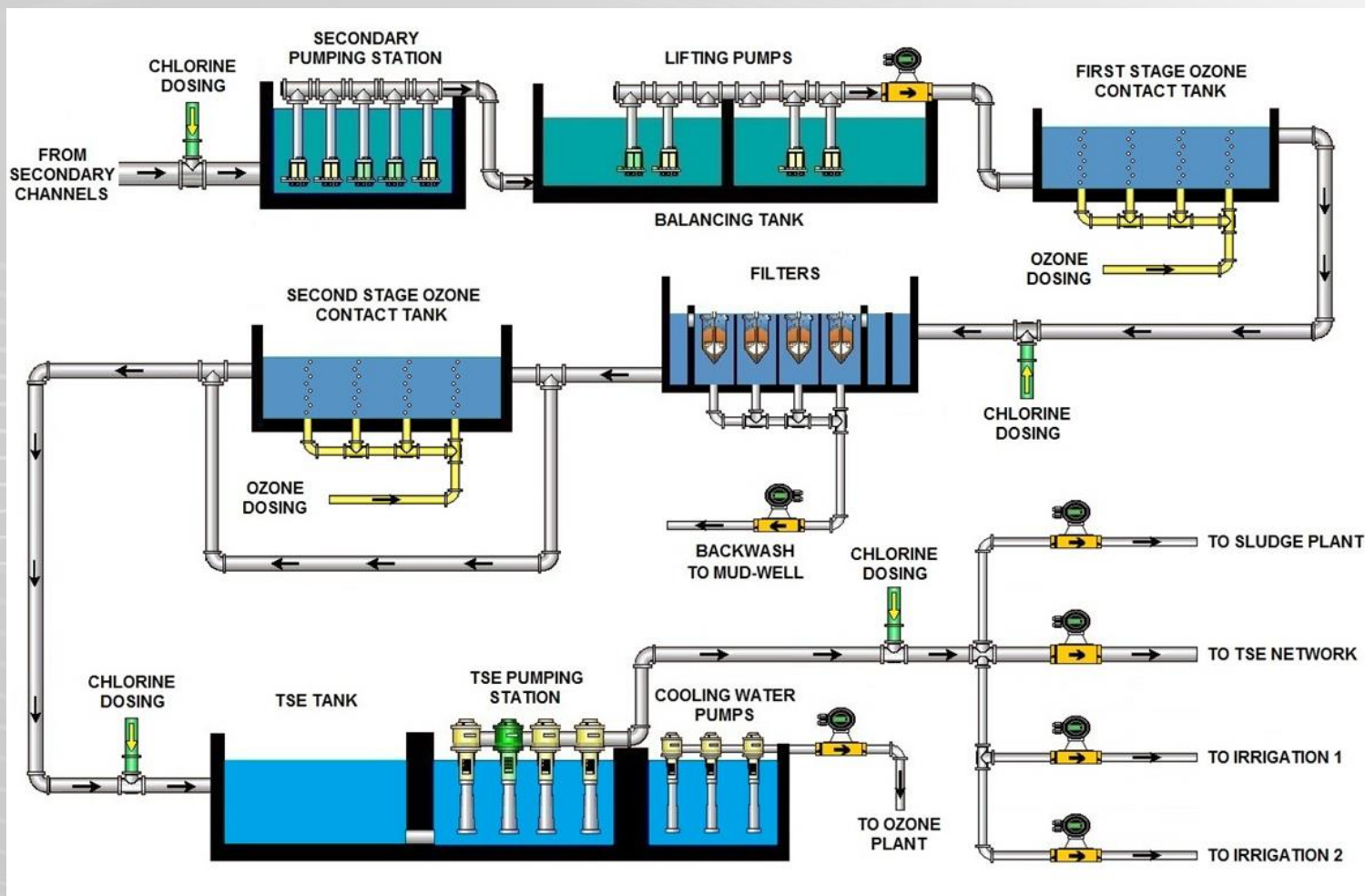


Aeration Tank



Clarifier

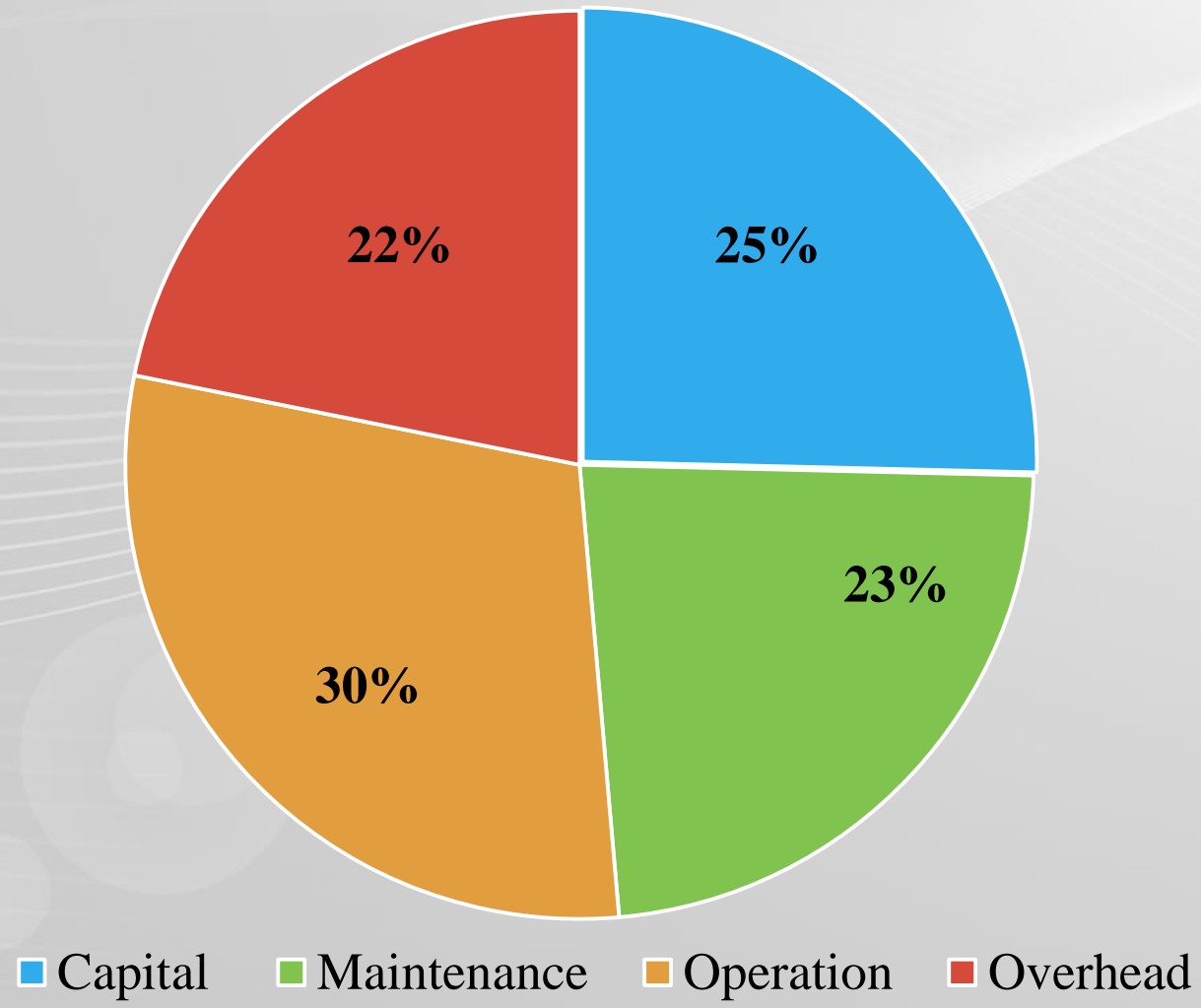
# Tertiary Treatment



# TSE Costing



# Tertiary Treatment Cost



## Tertiary Treatment Cost

Capital Cost (BD)	529,920
Operation Cost (BD)	617085.0067
Maintenance Cost (BD)	485135.504
Overhead Cost (BD)	456069.7
TSE Production (m <sup>3</sup> )	35153183
TSE Cost (BD/m <sup>3</sup> )	0.0594

## Internal Use

Uses	Quantity of Water (m <sup>3</sup> /day)	Cost of Reused Wastewater (BD/day) Fils 59.4/ m <sup>3</sup>	Cost of Municipal Water (BD/day) Fils 750/m <sup>3</sup>
Backwash of Filtration Plant	6500	386.1	4875
Sludge Plant	5000	297	3750
Cooling	8000	475.2	6000
Irrigation	600	35.64	450
Total	20100	1193.94	15075

% Saving of Using the Treated Wastewater = 92%

## Conclusion

- Using TSE as an alternative source of water improves the efficiency of the treatment process.
- Recommendations: To conduct researches about:
  - Use of sludge as a fertilizer in the agriculture





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شكراً لاستماعكم  
Thank you