



A TEAM WATERHOUSE PRESENTATION

---

# TECHNOLOGY OF OZONE IN EFFLUENT

# TREATMENT

---

# OZONE BASICS

- Discovered as a natural gas two hundred years ago, Protects mother Earth by a thick layer few thousand miles above
- Strongest known disinfectant and oxidant
- Unstable & does not leave any toxic residue
- Blessing for human health when maintained at levels standardized by Occupational Safety & Health Administration, USA.



---

# OZONE BASICS

- Ozone is an unstable allotrope of oxygen with three atoms in a molecule
- Ozone is Nature's divine product continuously generated by lightning - the fresh smell we feel after rain.
- Ozone loss (ozone hole) created by environmental pollution is thereby constantly supplemented
- Ozone has been granted G.R.A.S. status (Generally Recognized As Safe) by the U.S. Food and Drug Administration (FDA).



---

# THE MAGIC OF OZONE

Ozone is 3157 stronger as a disinfectant-cum-oxidant than Chlorine, 50 times stronger than PerAcetic Acid, 37 times stronger than Formaldehyde.

5.5 times stronger oxidant than pure Oxygen. Due to these properties, Ozone is scientifically the most effective water sterilizer and oxidizer ever discovered by mankind.



---

# WHY TO TREAT EFFLUENTS WITH OZONE



---

# OZONE – THE POLISHING AGENT OF PROCESSED EFFLUENT

Modern Effluent Treatment techniques are highly scientific & reduces the BOD & COD levels as per standard norms set by the Central Pollution Control Board of India. Ozone being the strongest disinfectant & oxidant, can do the job of giving the finishing touches to further better the results for a greener eco-friendly environment. The beauty is, post-treatment Ozone processed effluent can be re-used for various purposes like irrigation/ harvesting, wash-water or fire-fighting system.



---

# WHY THE NEED TO FINISH WITH OZONE

- Ozone acts as a Secondary protection in case of dynamic changes in Effluent flow-rate : If flow-rate becomes less or more than ETP Capacity, some effluents go away untreated, resulting in usage of excessive chemicals to make up the un-warranted increase in BOD/COD levels - eventually leading to more cost.
- Actual BOD/COD level not matching with calculated levels at input of ETP : In these cases, desired output levels can be reached by implementing Ozone at the post-treatment stage.



---

# WHY THE NEED TO FINISH WITH OZONE

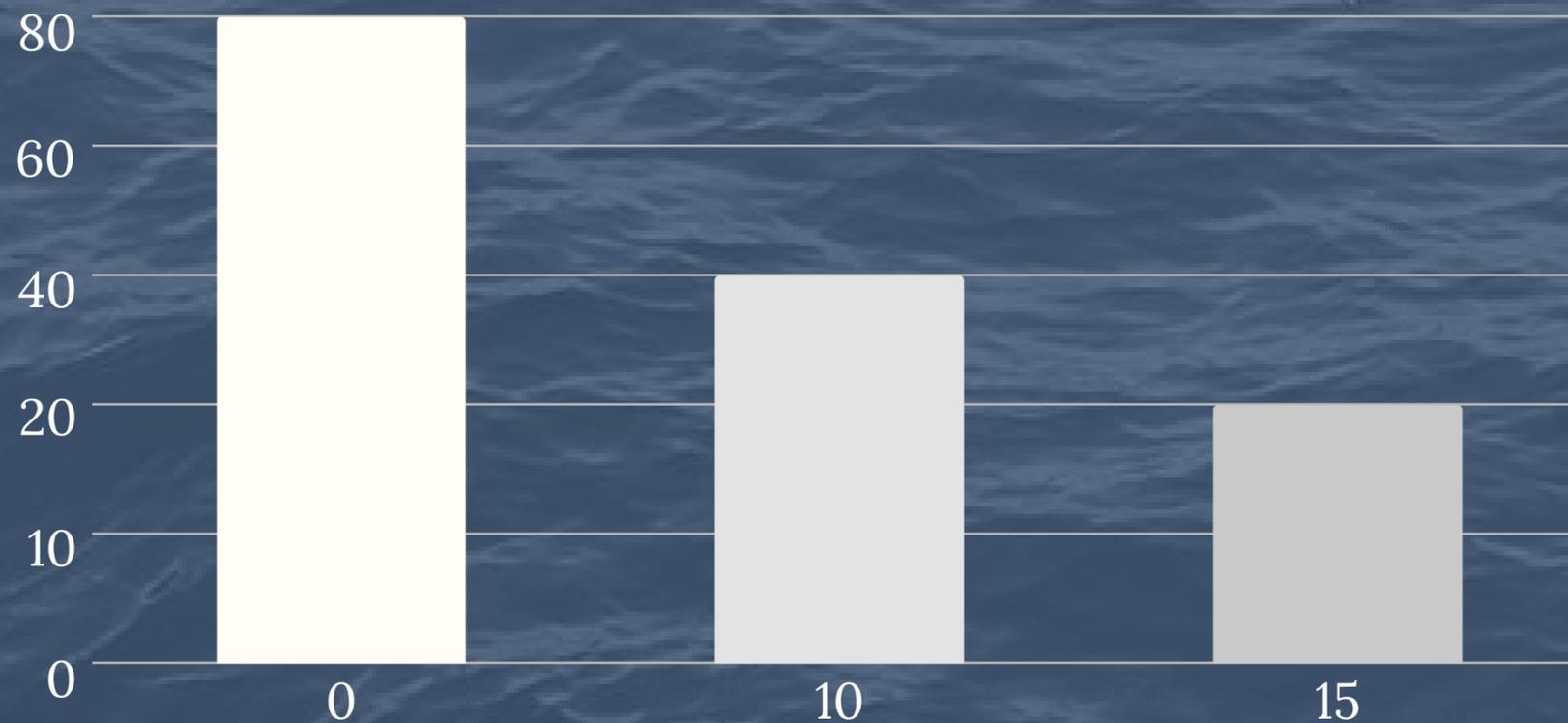
- Decrease in efficiency of ET Plant or wear-and-tear of any sub-system along the line : In such cases, there's a possibility of several litres of half-treated / untreated effluent at the output. Ozone can play a huge role in fulfilling the responsibility at the last stage.
- Many unforeseen and uncontrollable factors like weather dynamics are capable of not maintaining correct levels of BOD, COD. Ozone is used to balance the damages.



---

# OZONE FOR BOD/COD REDUCTION

*Graph of COD Level(mg/l)  
v/s Time(min),  
after Ozonization in post-  
treated Effluent*



**OZONE DOSAGE  
: 7 PPM**

---

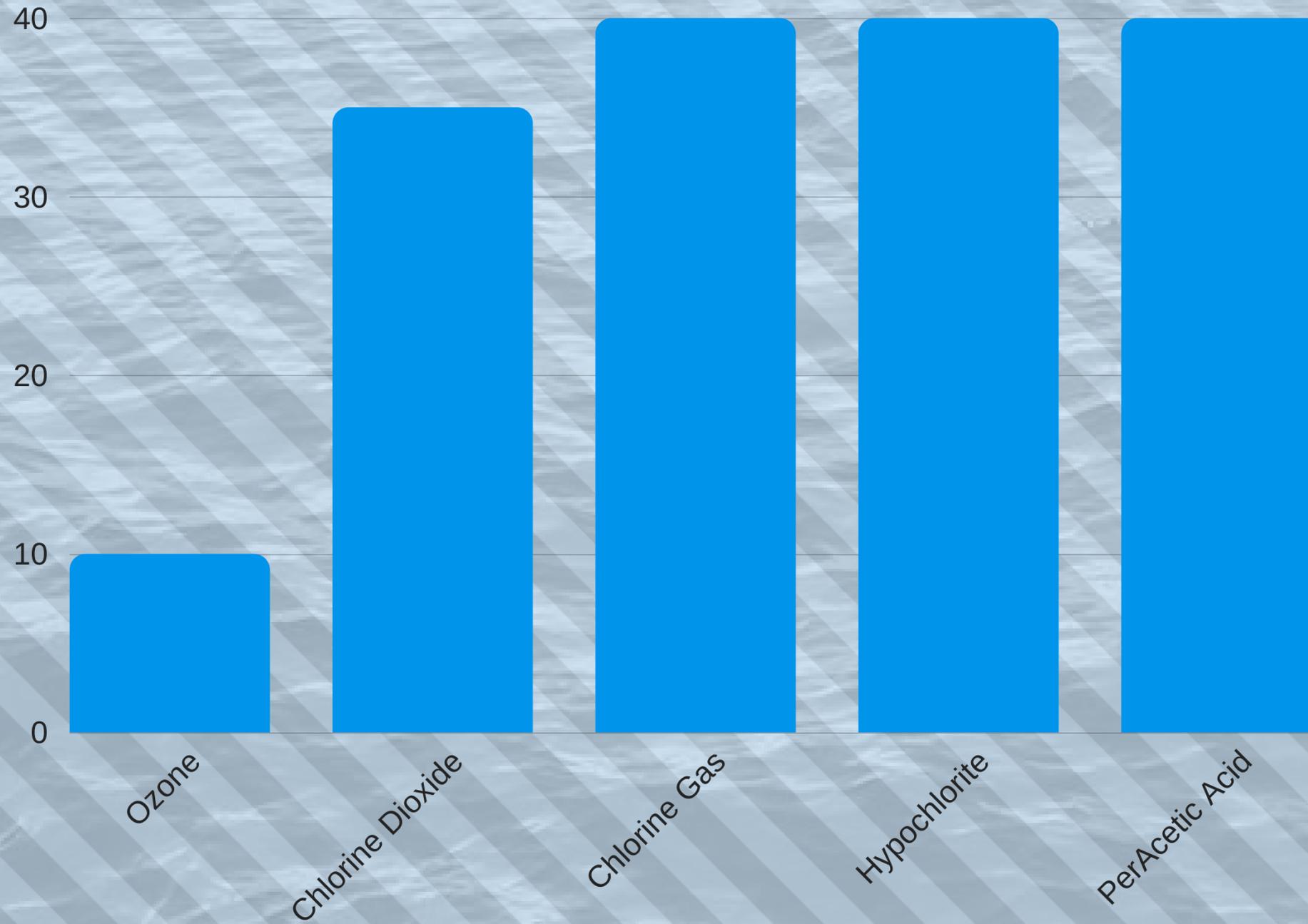
# EFFECTS OF OZONE TREATMENT

- Ozone improves the organic qualities of water with control of taste, odor and color as well as by imparting its germicidal action.
- No regrowth of micro-organisms, No toxic by-products after Ozonization and destroys all odour-creating compounds.
- Ozonization elevates the dissolved oxygen (DO) concentration of the effluent after destroying its toxicity.
- In addition, subjecting municipal waste waters or combined municipal waste waters or combined municipal industrial waste waters to a final ozone process, enables reuse for applications in industrial processing, in chillers, as wash-water, in irrigation and gardening or for fire fighting systems.



---

# ANNUAL INVESTMENTS FOR ALL TECHNIQUES





Team Waterhouse  
welcomes you to the  
advancement.

100%

Proven Success Rate

91%\*

Removal of  
BOD/COD Leakage

---

As per results  
from US EPA, CDC  
and WHO



---

# ROI

Ozone Generators  
are a one-time  
investment & results  
satisfy complete  
return on  
investment in just a  
few months.



effective, eco-friendly, leaving non-  
toxic by-products



THAT'S IT, MY FRIEND!  
THANKS FOR READING.

---

*You can contact us at +91 974 888 3459,  
or mail us at [info@OzonePedia.com](mailto:info@OzonePedia.com).*

**OzonePedia.com**