RECYCLE WASTEWATER IN FIBER CEMENT PLANT

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SAINT-GOBAIN

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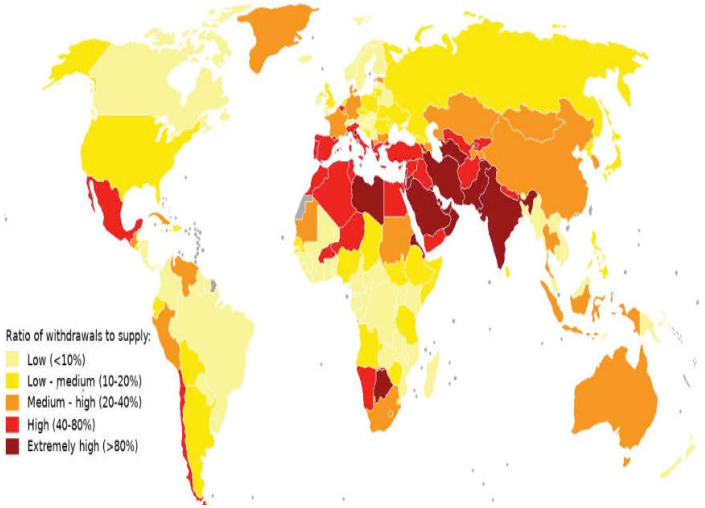
INTRODUCTION

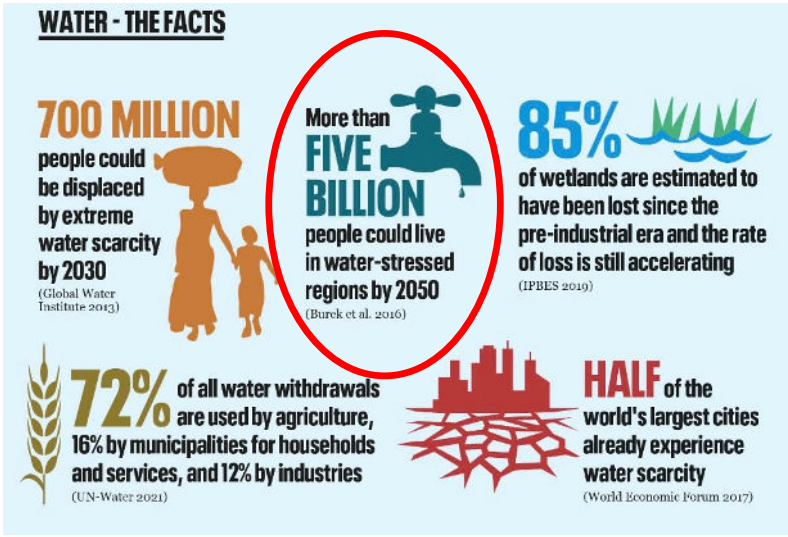
01

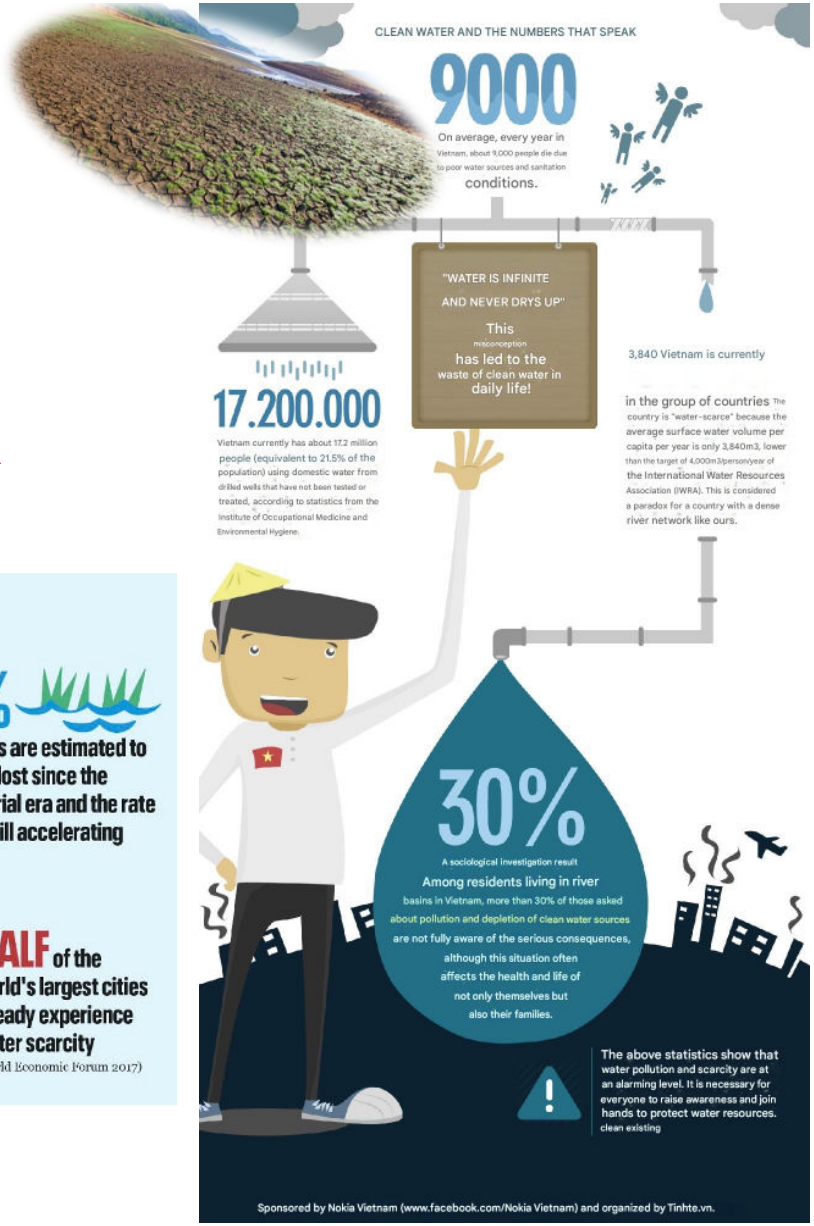
WHERE WE ARE AT THE CURRENT?

- The problem of pollution and depletion of water resources
- In Fiber cement plant - 1 production line – **wastewater discharge ~80 m3/day** ⇔ 2400 m3/month

80 m3/day ⇔ Water for 88 family (3 persons)/day







WHERE WE ARE AT THE CURRENT?

GROW & IMPACT

- With target of our Saint-gobain group for sustainability to:

Reduce 50% Industrial water for 2030

- **Solution for reducing water use :**
  - Optimizing machinery processes
  - Reducing leaking
  - **Using treated wastewater**

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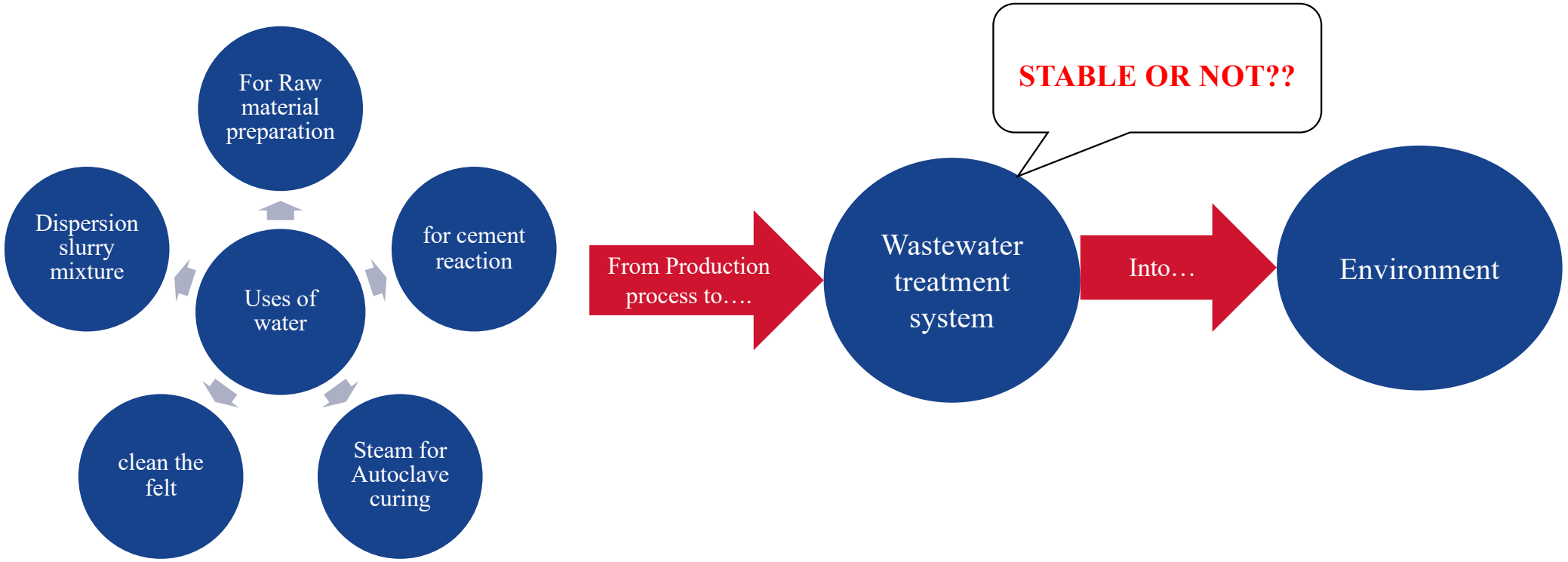
IDEA ABOUT RECYCLE WATER

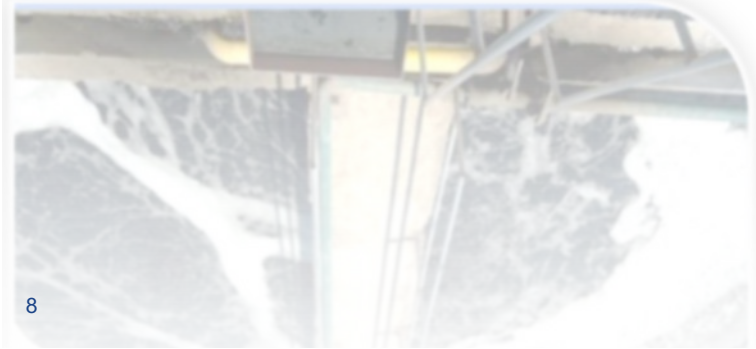
02

WATER AND WASTEWATER IN FIBER CEMENT PROCESS



=> Water is very important with fiber cement

THE ROLE OF WASTEWATER TREATMENT SYSTEM



Protecting water and organisms

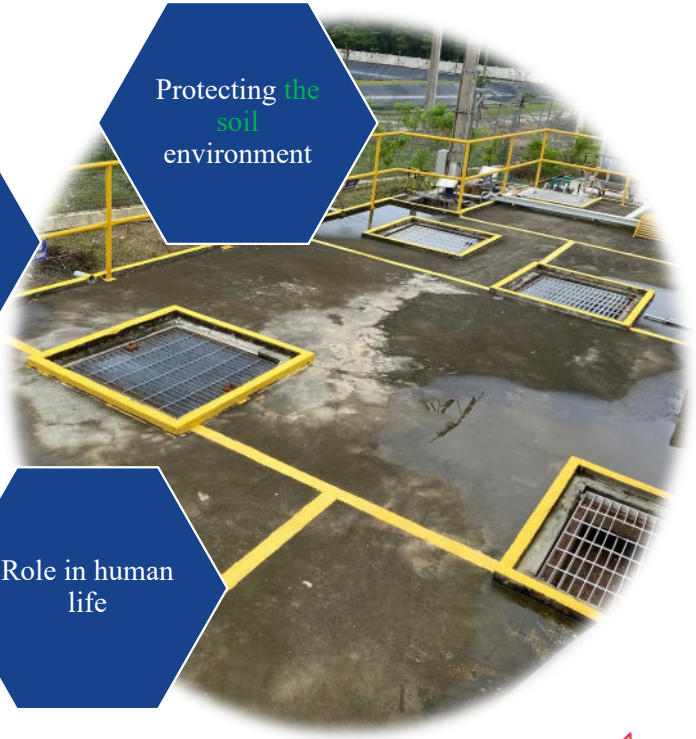
Helping to treat pollutants and chemicals in fiber cement plant

Waste water treatment system

Protecting the soil environment

Ensure wastewater quality for reuse

Role in human life



QUALITY WASTEWATER IN FIBER CEMENT PROCESS

➢ Define wastewater quality follow QCVN 40/BTNMT -> ensure control of wastewater after treatment

No.	Item	Unit	Wastewater before treatment	Standard	Test method
1	pH		11.5	> 6	>12
2	COD	mg/L	1000-2000	Max 150	SMEWW 5220D:2017
3	BOD5	mg/L	500-1000	Max 100	TCVN 6001-1:2008
4	TSS	mg/L	600	Max200	SMEWW 2540D:2017
5	Total Nitrogen	mg/L	70	40	TCVN 6638:2000
6	Total phosphorus	mg/L	15	6	US EPA Method 200.7
7	Mineral oil	mg/L	100	Max 1	SMEWW 5520B&F: 2017

TOO HIGH
OVER STANDARD

MUST BE TREATMENT TO ADAPT THE VIETNAM STANDARD

WASTEWATER TREATMENT SYSTEM - THE MOST IMPORTANT

THE IDEA OF REUSING WASTEWATER INTO THE PROCESS

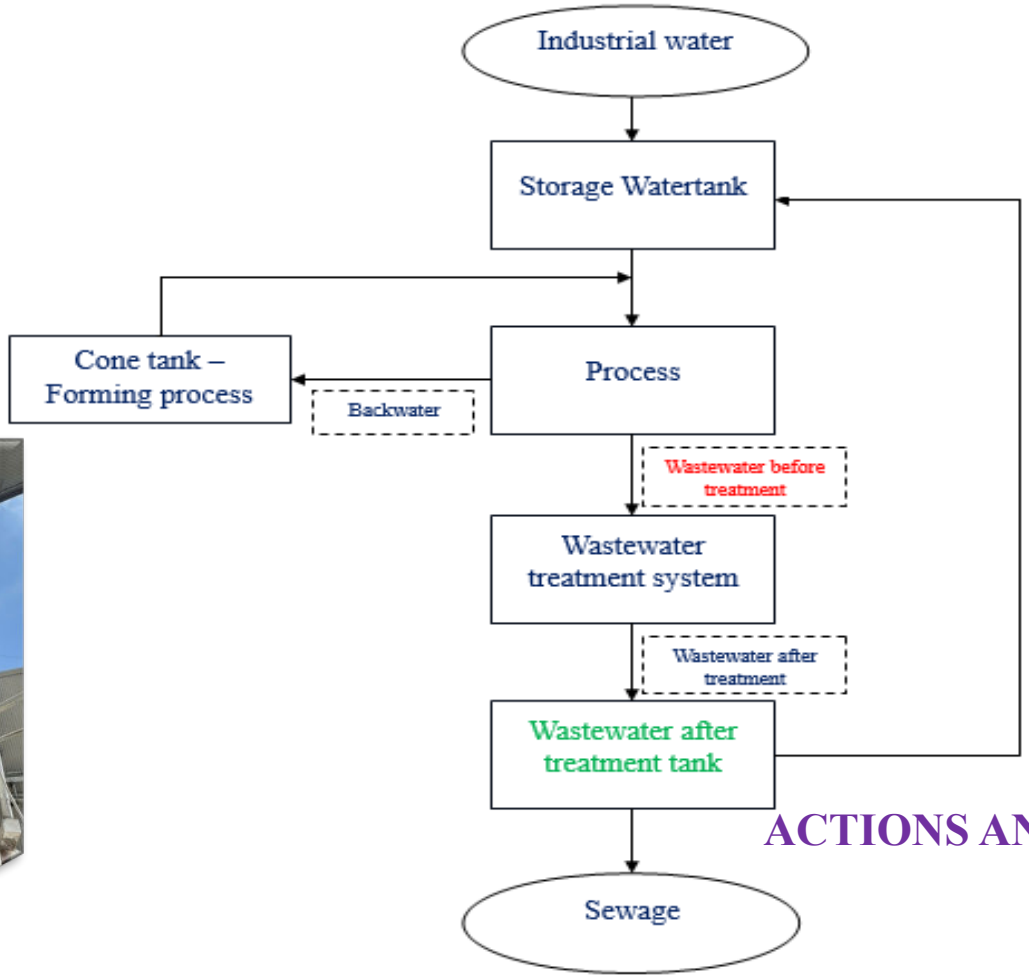
SOLUTION FOR: **TO** 2030

Reducing 50%
Industrial water

WASTEWATER TREATMENT SYSTEM - THE MOST IMPORTANT

REUSING WASTEWATER INTO THE PROCESS

With our idea, we will follow the water cycle process:

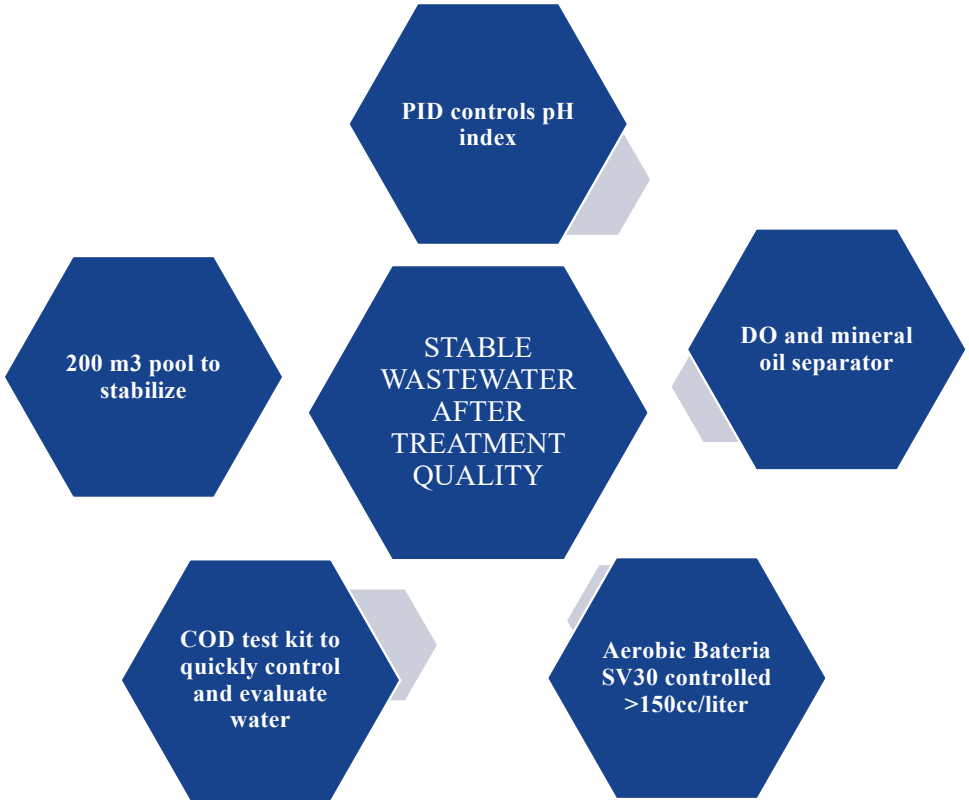


ACTIONS AND MONITORING MEASURE!!…

ACTIONS

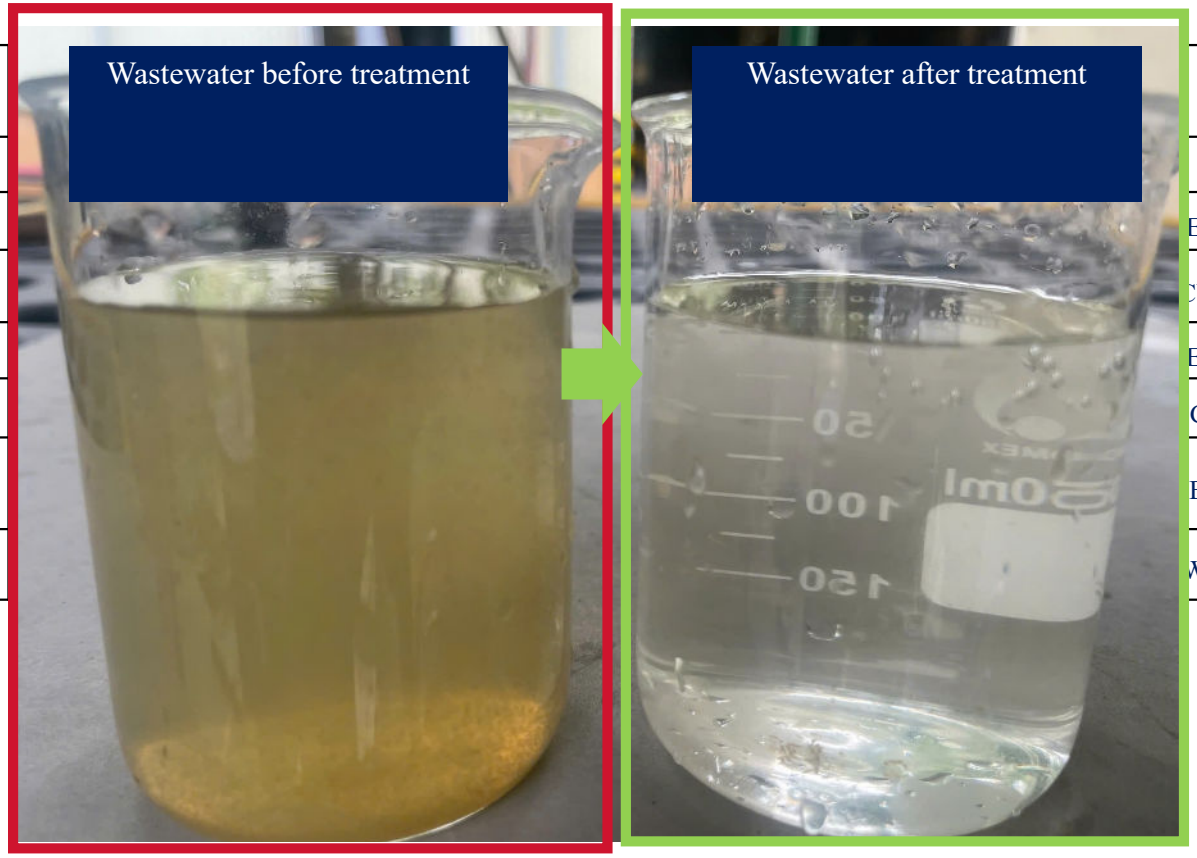
03

ACTION FOR STABLE QUALITY OF WASTEWATER AFTER TREATMENT



QUALITY OF WASTEWATER AFTER TREATMENT

No.		Test method
1		>12
2		EWW 5220D:2017
3		CVN 6001-1:2008
4		EWW 2540D:2017
5		CVN 6638:2000
6		EPA Method 200.7
7		WW 5520B&F: 2017

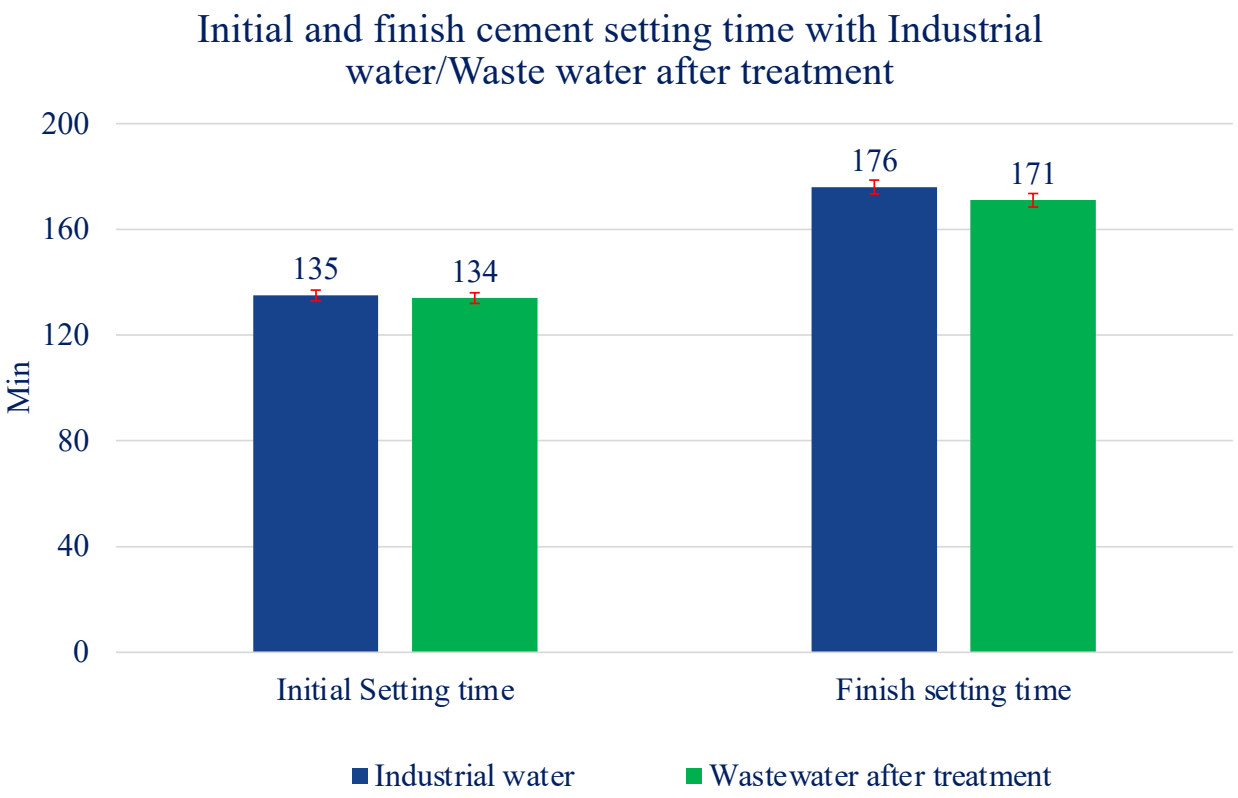


STABLE QUALITY MORE THAN 12 MONTHS

=> Confidence to apply use wastewater

to process

SURVEY IMPACT OF WASTEWATER AFTER TREATMENT TO CEMENT SETTING TIME



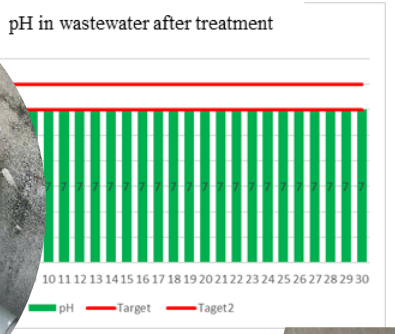
Similar setting time results

Basis for using wastewater after treatment in the production process.

RESULTS & CONCLUSION

04

APPLY AND RESULTS



PID controls pH index

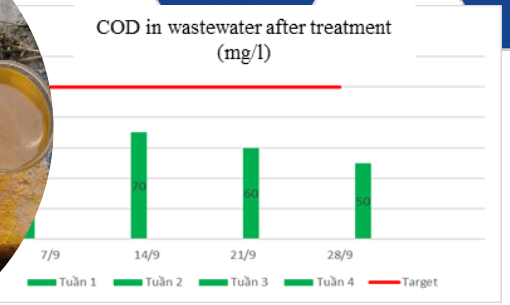
200 m3 pool to stabilize

STABLE WASTEWATER AFTER TREATMENT QUALITY

DO and mineral oil separator

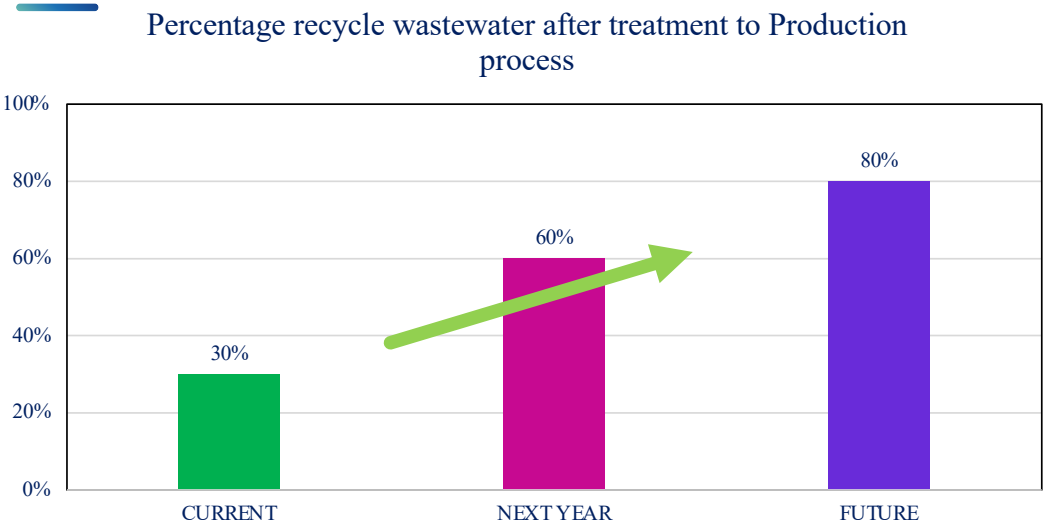
COD test kit to quickly control and evaluate water

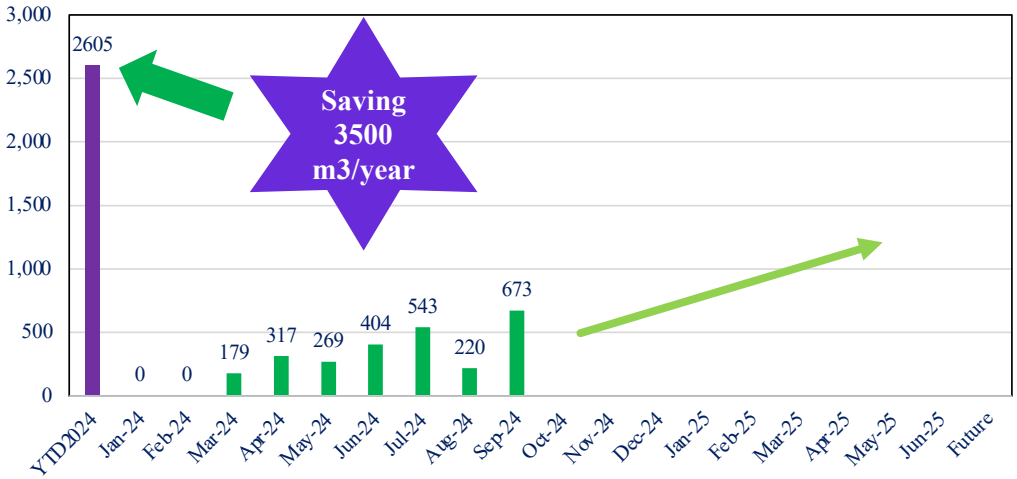
Aerobic Bateria SV30 controlled >150cc/liter



❖ Current quality on process and product: no abnormalities

APPLY AND RESULTS





UP TO NOW

REACH 30% RECYCLE WASTEWATER AFTER TREATMENT

Product Quality and Process performance maintain

CONCLUSION- OPPORTUNITY

WITH STABLE REUSLT OF WASTEWATER, CAN:

REACH 30% RECYCLE WASTEWATER AFTER TREATMENT WITH NOT AFFECT TO PRODUCT QUALITY – PROCESS PERFORMANCE

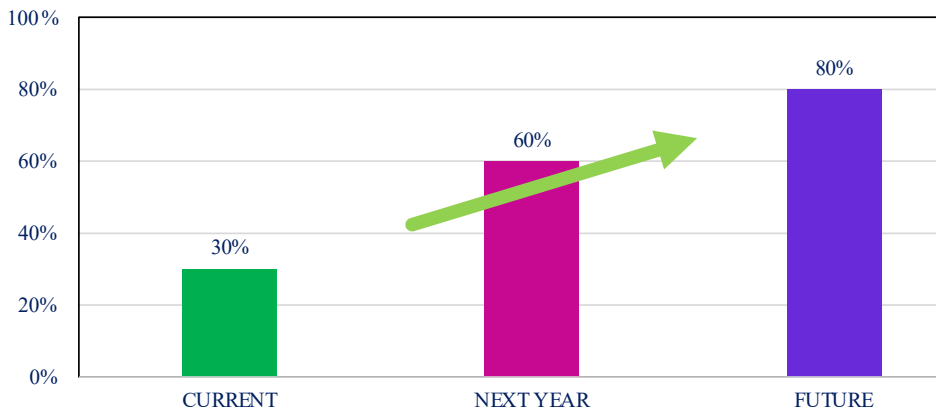
➢**Future application**

✓With this practical approach and step-by-step testing, we expect to 60% recycle wastewater on the process

✓ Even higher up to 100%

=> Closing the water circulation circuit **without discharging wastewater** into the environment.

Percentage recycle wastewater after treatment to Production process



CONCLUSION- OPPORTUNITY


GROW&
IMPACT
THANK YOU
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