# SUGAR INDUSTRY AND ENVIRONMENTAL CHALLENGES

## By

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**Sequence**

- Some global facts
- Introduction to Environmental issues
- AWSM water statistics
- Section wise effluent Quantitive comparison
- In house water management
- Fresh water saving at AWSM

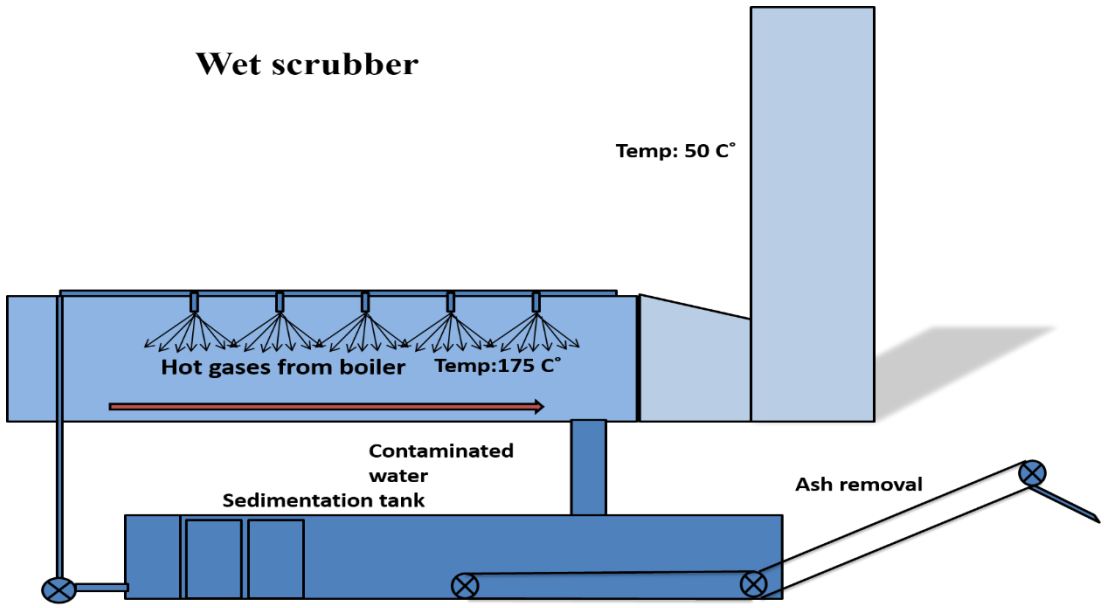
**Some global facts**

- The 2030 Agenda for Sustainable Human settlements, industries and agriculture are the major sources of water pollution.
- Globally, 80 percent of municipal wastewater is discharged into water bodies untreated, and industry is responsible for dumping millions of tons of heavy metals, solvents, toxic sludge and other wastes into water bodies each year.
- The resultant water pollution poses demonstrated risks to aquatic ecosystems, human health and productive activities.
- The amount of wastewater produced annually is about 1,500 km3, i.e. six times more water than exists in all the rivers of the world The International Water Management Institute - 2017

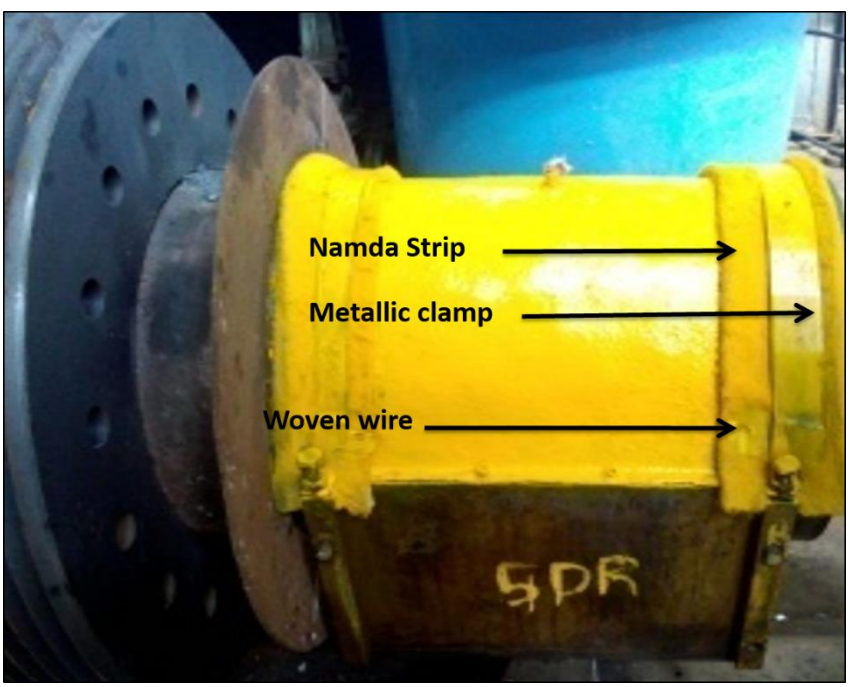
**Introduction to Environmental issues**

| Section | Pollution agents | Reasons | Suggestions |
|---|---|---|---|
| **Boiler house** | **High temperature gases, Blow down of high TDS and toxic ashes** | **Fuel combustion, anti-scalars and Ph booster chemicals** | **Installation of Wet scrubbers and ash removal system is the solution** |
| **Mills house** | **Oil & grease, Bagasse particles** | **Mill bearings & mill parts** | **Proper bearing sealing & economic lubrication can control** |

| | | | |
|---|---|---|---|
| | | lubrication and uncovered drains | lubricant spill over. TSS can be controlled by covering the drains |
| Process house | High BOD,COD containing effluent | vessels over flow, pumps and lines leakages | Keep recycling and reusing the water to reduce the load of biological treatment |




**Effective bearing sealing**



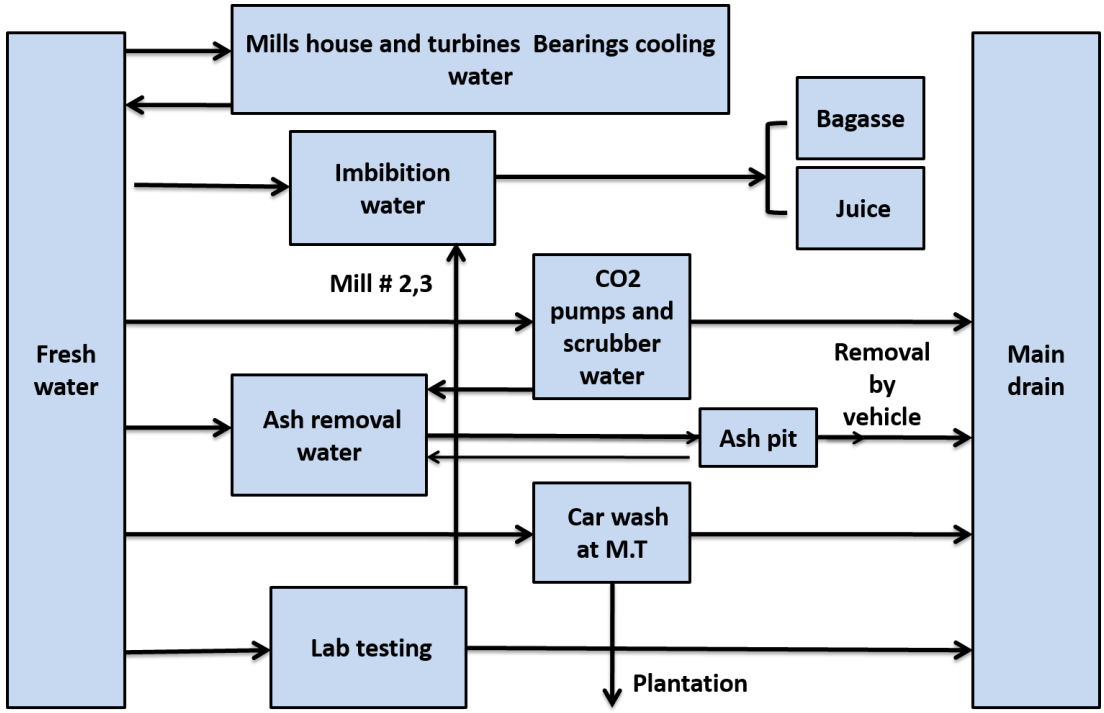
## AWSM water statistics (4000 TCD)

| Description | T/h | Percentage % | Remarks |
|---|---|---|---|
| Total water with cane | 110 | 70 | With respect to cane |
| Condensate consumed in process | 40 | 36 | W r to cane water |
| Water lost in spray pond | 20 | 20 | W r to cane water |
| Canal water make-up | 148 | 135 | W r to cane water |
| Effluent generated | 99 | 50 | W r to cane water |
| Share of Boiler house | 12 | 12 | of the effluent |
| Share of mills house | 6 | 6 | of the effluent |
| Share of process house | 81 | 80 | of the effluent |

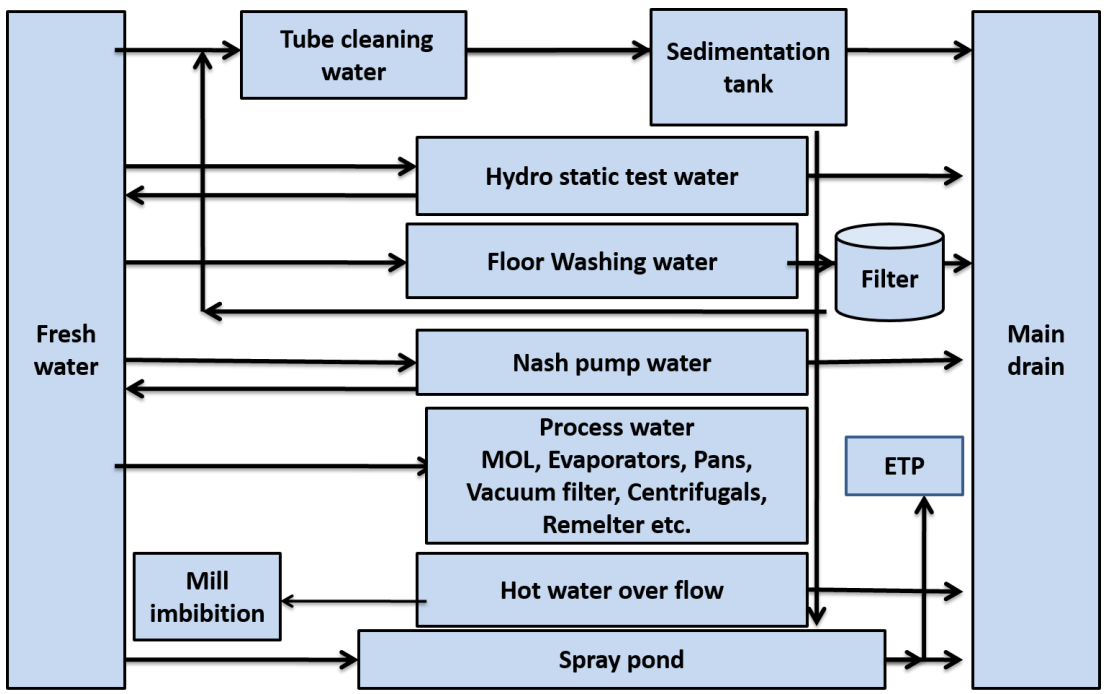
## Inter house comparison chart

| Para meters | Mills house | Process house | Boiler house | Final | NEQS | Treatable | Additional load |
|---|---|---|---|---|---|---|---|
| P.H | 6 | 7.1 | 8 | 6.1 | 6-10 | 6 | 93 |
| Oil & grease mg/ltr | 7 | 5 | 3 | 5 | 10 | 6 | 93 |
| TSS mg/ltr | 560 | 200 | 428 | 242 | 150 | 18 | 81 |
| BOD | 142 | 370 | 60 | 325 | 80 | 81 | 18 |
| COD | 225 | 1050 | 170 | 985 | 150 | 81 | 18 |

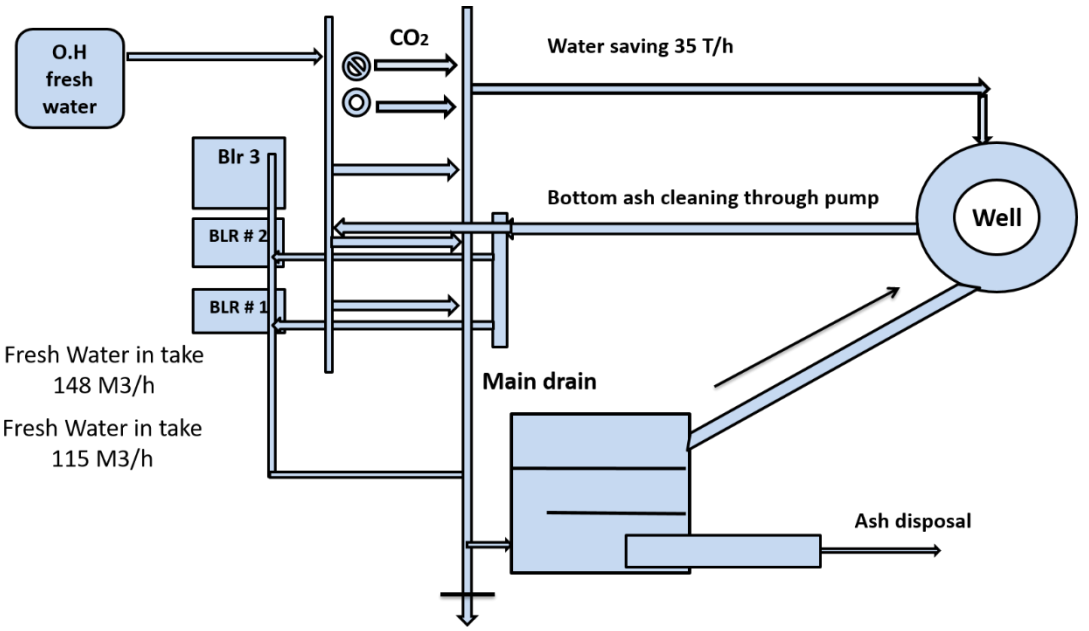
**AWSM Fresh water management plan**




**AWSM Fresh water management plan (Process House)**



**Fresh water saving**




**Responsibility of PSST**

Communal abundant efforts are obligatory instead of disparate deserted endeavor to evoke proficient and cost-effective solution for each plant, eager for.