



## “WASTE WATER RECYCLE “

### Waste Water Recycle ?



### Is it possible to reuse polluted waste water?

**M**any people probably do not know that water is a substance, which is always recalculated on earth. It can not be damaged, since the water molecule is very stable. Water will be only polluted and contaminated.

Clean water taken from deep well, river, water fall, spring water, rain water etc will be used by human being and polluted. After that it will be discharged to drainage and river or percolated into soil (back to earth). The nature will take the polluted water and regenerate it. Water will be

evaporated and cleaned up and come back a pure water in form of rain or snow.

**B**ut population is growing and growing, also the industry, agriculture, city etc consume a lot of water and water is polluted. Clean water becomes rare.

### Water consumption :

- One person in tropical country                      0,2    m<sup>3</sup>/day
- One person or room in 4 or 5 stars hotel    0,55    m<sup>3</sup>/day
- To produce one ton paper                              25        m<sup>3</sup>/ton
- To produce one ton cassava starch            20 – 30    m<sup>3</sup>/ton

### **How can we clean up water and reuse it?**

Our present technology is able to treat and handle the polluted waste water. The domestic and industrial waste water will be first treated by physical, chemical and biological process to meet the government of Indonesia's standard. It is the basic treatment. After this the



treated waste water can be further processed by membrane technology (ultra filtration and reverse osmosis) to clean to drinking or process water for boiler feeding.

The treatment process is suited to the required water quality. The cost to recycle and reuse the domestic waste water or sewer to drinking water is around Rp. 6.500 – Rp. 8.000,-/m<sup>3</sup>. It depends on volume of water to be treated and the process by ultra filtration (UF) or reverse osmosis (R.O.).

In Jakarta area (Jabodetabek) the price of water from the communal water works (PDAM) for commercial and business is Rp. 14.650/m<sup>3</sup>. Therefore the treatment and recycle of domestic waste water will generate profit. The government of Jakarta will also increase the deep well water tax from now Rp. 525,- – Rp. 8.000,-/ m<sup>3</sup> to Rp. 8.000 – Rp. 23.000,-/ m<sup>3</sup>

## **How to reduce the water cost?**

Water recycle and reuse will reduce the water cost, because the recycle cost of Rp. 7.000,-/ m<sup>3</sup> is only half of the clean water price from PDAM and one third of the underground water tax.



## **What are the benefits of water recycle?**

The benefits of water recycle are :

1. Water recycles and reuse will reduce the consumption of fresh and clean water.
2. It will give financial benefit, since the cost of water recycle is much lower than the price of clean and fresh water and underground water tax
3. Save the environment and avoid the sinking of Jakarta



## **Is polluted and contaminated water can be reused? Of course, YES!**

The present process and technology will guarantee that polluted and contaminated water can be cleaned up and reused. The treatment processes are adjusted to the quality of waste water and required quality of treated waste water.



**Ultra Filtration System**

### **The basic treatment processes are:**

- Biological treatment
- Coagulation and flocculation process
- Filtration by sand and carbon filter
- Refining by ultra filtration or reverse osmosis
- Further refining by demineralization plant for process or boiler feed water

*For further information and assistance please contact:*

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