

Wastewater – Most secure source of clean water for industries & mankind

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INDIA is all set to become the world's third-largest economy by 2030. As India develops, some of the most serious problems the country has to grapple with are the issues of water scarcity and environmental degradation. These seem to many to be the inevitable prices that have to be paid for economic growth, industrialisation, and the burgeoning population.

India, which is home to nearly 18% of world's population has only about 4% of world's water resources. The Niti Aayog's Composite Water Management Index June 2018 presents a very grim water situation in India. As per the report, currently, 600 million Indians face high to extreme water stress and about 200,000 people die every year due to diseases that are linked

Industrial Sector	Annual wastewater discharge (million cubic metres)	Annual consumption (million cubic metres)	Proportion of total water consumed in industry (per cent)
Thermal power plants	27,000.9	35,157.4	87.87
Engineering	1551.3	2019.9	5.05
Pulp and paper	695.7	905.8	2.26
Textiles	637.3	829.8	2.07
Steel	396.8	516.6	1.29
Sugar	149.7	194.9	0.49
Fertiliser	56.4	73.5	0.18
Others	241.3	314.2	0.78
Total	30,729.2	40,012.0	100.0

This table actually suggests a way out of India's conundrum. More than 2/3rd of water used by industries is drained as wastewater. So, why not think of wastewater as a secure source of water – as an asset?

in the rivers, groundwater, or the lakes, polluting these water bodies which are primary source of clean water for farmers, household and industries. It's estimated that nearly 70% of India's surface water is contaminated. This further worsens the already overstressed water situation. The contaminated water also poses a grave threat to the health of all living beings and agriculture. Hence, safe

Europe and some other countries. Social awareness about effective wastewater management is also increasing amongst the general public. The industry is also realising the importance of responsible wastewater management, and particularly the

new generation entrepreneurs are more committed and forthcoming in investing in environmentally sustainable technologies. Thanks also to the media, which too has been playing an important role in creating awareness of the perils of waste-

water and the inevitable need for wastewater treatment and recycling.

The wastewater treatment technologies have kept pace with the evolving requirements and today comprehensive technologies are available for the effective treatment and recycling of wastewater. The state-of-the-art wastewater treatment technologies available now are capable of recovering more than 95% of water from wastewater for reuse. The quality of the treated wastewater can be at par with potable water. Not only that the technologies can also produce useful byproducts such as biogas, bio-safe solids/soil conditioners, etc.

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Two main sources of wastewater are sewage and industrial waste

to inadequate access to safe water. The report goes on to say that the crisis is only going to get worse and by 2030 the country's water demand is projected to be twice the available supply, implying severe water scarcity for hundreds of millions of people and an eventual ~6% loss in the country's GDP.

Contributing significantly to India's water scarcity is the increasing generation of wastewater and its unsafe disposal. Two main sources of wastewater are sewage and industrial waste. It is estimated that around 62,000 million litre of sewage is generated in India every day (source: MakaanIQ, July 2017), while 13,468 million litre per day of wastewater is generated by industries in India (FICCI April 2013). A report published by Down to Earth in April 2016 shows that 78% of the sewage generated in India is untreated; similar statistics for the industrial wastewater are not readily available.

The untreated wastewater and sewage invariably end up

treatment and disposal of wastewater assume overarching importance in the overall water ecosystem.

If we look at the report published by IDFC in 2011, we see that industries are both major consumers of water and also sources of wastewater.

This brings us to the conclusion that treatment and reuse of the wastewater or treatment and compromise-free discharge of wastewater is one of the best solutions to mitigate the water crisis starting at the country. This would also help in protecting the health of all, ensuring agricultural productivity, and also ensuring availability of water for industry, thus leading to the long-term economic growth of the country.

India has made a number of policy initiatives to achieve the aim of providing equitable access to safe and affordable drinking water to all by 2030. It has established stringent norms for wastewater management which are at par or even better than

Wastewater management major challenge, imposes responsibility

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The economics of industrial wastewater is also changing, making treatment and recycling of industrial wastewater a viable proposition. The unavailability of fresh water as a primary resource, the prohibitive cost of non-compliance and the social pressure against of untreated disposal of wastewater is tilting the scale in favour of investing in the right wastewater treatment technologies.

There are a number of companies offering state-of-the-art wastewater treatment technologies and A.T.E. Huber Envirotech Private Limited (AHET), a joint venture between A.T.E., India, and Huber, Germany, has been in the forefront. AHET offers a comprehensive range of solutions for wastewater treatment, recycling and sludge management covering both industrial

and municipal sectors.

Huber, Germany, has over 175 years' experience in this field and has over 40,000 installations across 60 countries. AHET has close to 20 years' experience in this field and has successfully executed over 300 projects across 10 countries.

AHET believes that "wastewater is the most secure source of clean water". The wastewater disposal crisis and water scarcity can both be mitigated by effective wastewater management and recycling by leveraging modern treatment technologies offered by AHET for both industrial and municipal wastewater. The solutions offered by AHET minimise life cycle costs and do not permit any environmental problems to proliferate, be they excessive chemical usage, power usage or solid waste generation, all the while meeting



wastewater treatment norms. All their research and development is oriented towards enhancing the efficiency of wastewater treatment in a completely holistic manner that will help industries and mankind for years to come.

As a result of continuous process development, AHET has introduced several novel wastewater methods. The AAA

technology is a highly successful innovation that treats textile wastewater. AVR based biomethanation plants have been proven to handle difficult to treat effluents. To overcome the challenge faced by the API (Active Pharma Ingredients) industry in treating their wastewater, AHET has also developed a highly successful solution for API waste-

water treatment using anaerobic + aerobic biological treatment.

Wastewater management is a major challenge and imposes a great responsibility on the shoulders of the government and industries. Now the time has come for all the stakeholders – the government, industry, and people – to come together to meet this challenge. While the technologies are available, the government should focus through policy initiatives not only in enforcing the regulations that are already in place, but also in preventing over exploitation of ground water. Industry on its part needs to stop looking at wastewater treatment and recycling as a compliance requirement, and instead, take it as a personal and social responsibility.

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