



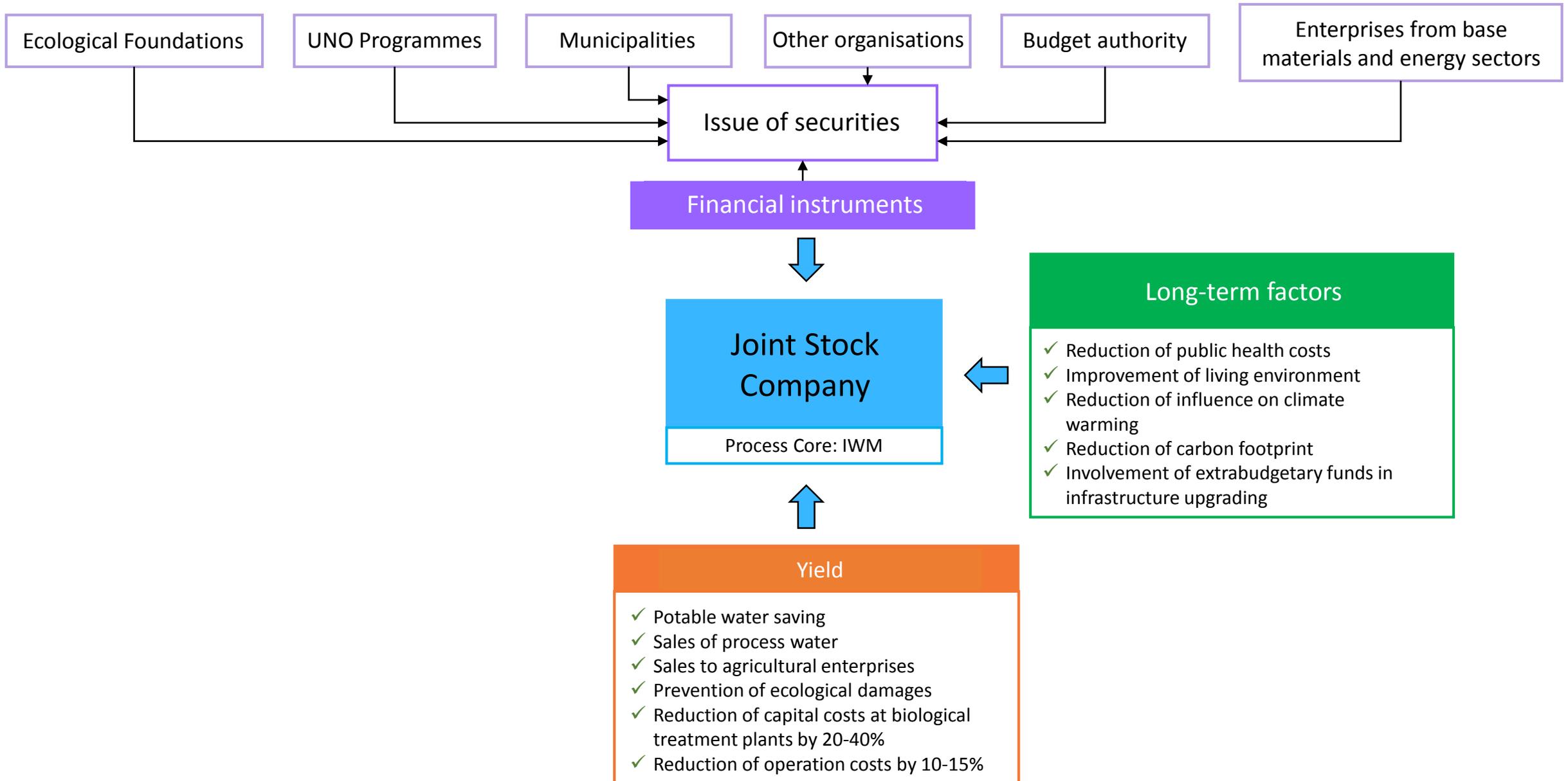
**MONDOFIN**  
FINANCIAL ENGINEERING

**IWM-Technology for Stock Market**



# Operational Setup Diagram

IWM TECHNOLOGY



Ecological Foundations

UNO Programmes

Municipalities

Other organisations

Budget authority

Enterprises from base materials and energy sectors

Issue of securities

Financial instruments

Joint Stock Company

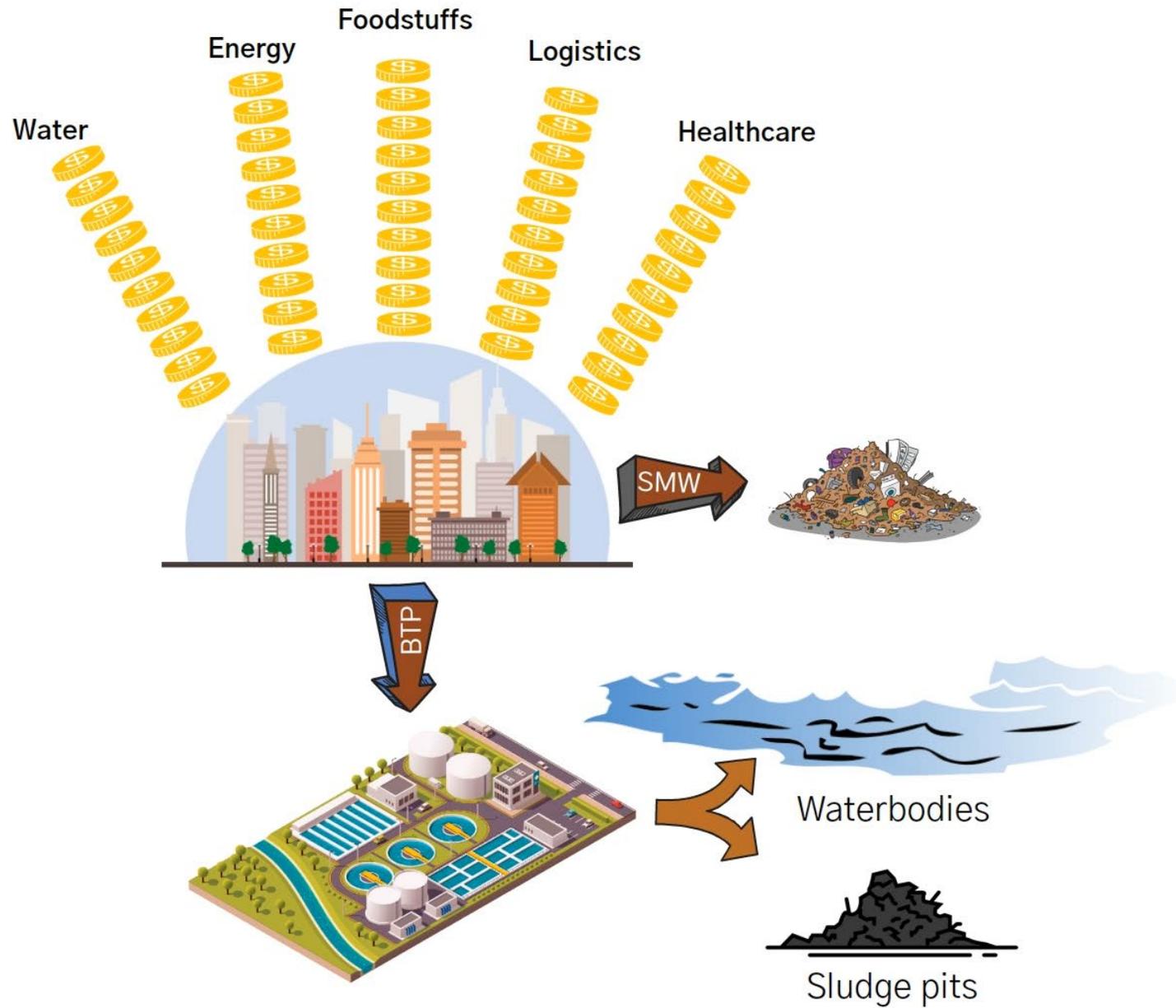
Process Core: IWM

Long-term factors

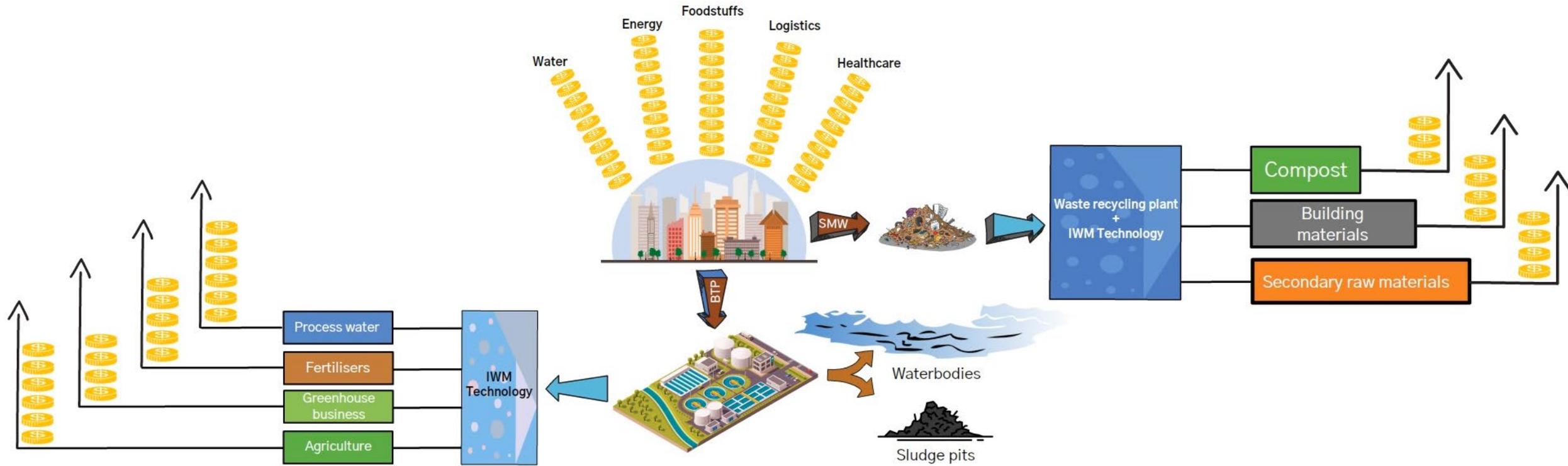
- ✓ Reduction of public health costs
- ✓ Improvement of living environment
- ✓ Reduction of influence on climate warming
- ✓ Reduction of carbon footprint
- ✓ Involvement of extrabudgetary funds in infrastructure upgrading

Yield

- ✓ Potable water saving
- ✓ Sales of process water
- ✓ Sales to agricultural enterprises
- ✓ Prevention of ecological damages
- ✓ Reduction of capital costs at biological treatment plants by 20-40%
- ✓ Reduction of operation costs by 10-15%



# Management of municipal secondary resources based on IWM Technology





Saving budgetary costs



Enhancing the stability of self-sufficiency of cities



Reducing the emissions of greenhouse gases (CO<sub>2</sub>)



Creating comfortable living environment

# Explanatory Note

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The changes in the composition of waste waters and the presence in such waste waters of considerable concentrations of bio-inhibitors, such as preservatives, household and industrial chemicals, pharmaceuticals, reagents, antibiotics, hormones, result in the biological unit of waste water treatment plants (i.e. microorganisms) being unable to fulfil their mission.

In this connection, biological treatment plants apply physical and chemical methods of treatment, i.e. expensive solutions (ultrafiltration, plasma chemistry, ozone treatment, coagulation, etc.).

Our technology does not need all of these solutions. The figures obtained with the help of our technology meet the requirements of Sanitary Regulations and Standards. Water, after its treatment with the use of our technology, can be re-used as a process (recycled/reclaimed) water for municipal and agricultural needs.

Application of our technology will help save capital investments at biological treatment plants by 20 - 40% and reduce operation costs by 15 - 20%.

# Explanatory Note

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For example, the figures for Biochemical Oxygen Demand (for well-performing modern biological treatment plants) make up, on average, 20-25 mg/l. In case daily capacity of a plant is 30 000 m<sup>3</sup>, it would cost some RUB 400-500 million to organise an additional stage of treatment that would use a membrane technology to bring these figures down to 2-5 mg/l.

In our case, there will be no need in spending this amount.

Another example is based on the use of efficient microorganisms (the leading producer is USA). Every 1 000 m<sup>3</sup> of waste water would cost a water company over US\$ 100. For a plant rated at 30 000 m<sup>3</sup>/day, its regular annual expenditures will exceed US\$ 1 100 000.

In our case, additional injection of microorganisms is not required.

Specially noted should be the possibility to introduce a funding mechanism, which would be based on the issue of income-bearing securities, which will have, on the one hand, the financial attributes and, on the other hand, an ecological attributes, expressed in carbon (footprint) units.

# Fundamental Differences Between IWM and Conventional Technologies for Operation of Biological Waste Water Treatment Facilities (BWWTF)

Conventional Technologies	IWM Technology
1. Require large capital investments	1. Helps reduce capital investments in BWWTF by 20-40%
2. Require design works	2. Does NOT require any design works
3. Introduce changes to standard operating procedures	3. Does NOT introduce any changes to standard operating procedures
4. Require application of additional physical and chemical methods of treatment	4. Does NOT require any additional methods
5. Require regular introduction of consortia of microorganisms to the treatment facilities for waste water treatment (\$100/1000m <sup>3</sup> )	5. Offers a one-time solution (NO need in repeated introduction of microorganisms)
6. Require the system of tertiary treatment	6. Does NOT require such system
7. Require service costs	7. Reduces service costs by 20-30%
8. Require removal of sludge residues to sludge pits	8. Reduces the volume of sludge residues by 40-60%. Does NOT require additional plots of land for sludge residues
9. Treated (reclaimed) water is discharged to water bodies	9. Provides opportunity to use treated (reclaimed) water in agriculture, industrial sector, and for municipal needs

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