Finnish water sector

Finnish Water Forum (FWF)

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FINNISH WATER FORUM

VISION

Clean water for everyone

MISSION

Finnish Water Forum’s mission is to create sustainable solutions for global water and climate challenges with Finnish know-how and technology jointly with local and international actors

Finnish Water Forum – who we are?

- Finnish Water sector association
- Non-Profit organization
- Members (>130) include
  - Ministries
  - Universities and educational institutions
  - Research Institutions
  - Associations
  - Private sector companies
- Members knowledge covers all areas of water

- FWF is the “one stop shop” to Finnish Water partners

SDG 6 clean water and sanitation

Finland was ranked number 1 in water quality among 122 countries (UN World Water Assessment)

There are 17 UN sustainable development goals and many of them are related to water

Good water quality

All these elements are needed to guarantee sustainability of Quality Water

FINNISH WATER SECTOR STRONGHOLDS

Risk management of water supply and sanitation

Water resources management and lake restoration

Flood prevention & natural storm water management

Modular off-grid water solutions

Waste water into energy, fertilizers and water re-use

Education and capacity building

Managed aquifer recharge for drinking water production

Dam safety – preparedness in long-term

Environmental monitoring and smart water

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WASTE WATER INTO ENERGY, FERTILIZERS AND WATER RE-USE

Finland is a forerunner in water-related circular economy.

Waste water is used as a resource for producing bio-energy, safe fertilizers and water for industry, agriculture and municipalities. Future solutions of waste water treatment already exist in Finland and can be implemented also elsewhere - protecting the environment and saving scarce water resources.

Solutions include:

- Design, planning, technology & construction of modern treatment plants
- Secured environmental safety and energy & resource efficiency
- Underground treatment plants for maximized land-use efficiency

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ARTIFICIAL GROUNDWATER FOR DRINKING WATER PRODUCTION ie. Managed Aquifer Recharge MAR

Artificial groundwater is the main water source of Finnish water utilities.

Using surface water to recharge aquifers is a very cost-efficient method for drinking water production, but requires good knowledge on the local conditions and high-level expertise for successful implementation. Finnish actors have wide experience of practical and sustainable solutions.

Solution includes:

- Geological and raw water surveys
- Feasibility studies, planning & design
- Measuring and monitoring technologies
- Construction supervision

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FLOOD PREVENTION
& NATURAL STORM WATER MANAGEMENT

Flood prevention is a critical issue on both rural and urban areas.

In rural areas, flash floods can be prevented with the support of advanced geological surveys, land use planning and identifying suitable areas for retention and infiltration. In urban areas, a successful solution can include thorough analysis of land use, use of evaporation areas and permeable surfaces.

Solution includes:

- Training, consulting, planning & design
- Monitoring & measurement technologies
- Policy development
- Small scale demonstrations for replication and scaling up

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MODULAR OFF-GRID WATER SOLUTIONS

Modular container solutions can be used in remote villages, holiday resorts and industrial applications to produce clean water and treating waste water

Also rescue and recovery from disasters and crises requires quick access to WASH.

All water can be made drinkable. Finnish innovations in water purification, wastewater treatment and recycling, together with water saving and managing solutions, can save lives in emergency and recovery settings.

Solutions includes:

- Comprehensive solutions for crisis management and WASH related challenges
- Deployable, modular and scalable solutions for field camps and other temporary or permanent needs
- Smart solutions for drinking and wastewater management to secure health, safety and efficiency

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EDUCATION AND CAPACITY BUILDING

Capacity building is also important for sustainability – we need competent and skilled staff at private and public sectors to adopt sustainable water solutions

Finland has helped in capacity building for decades. Finland is also known for good results in education, such as in PISA tests for school children.

In addition to education and capacity building, Finland can help with schools sanitation, waste water treatment and clean water. This is important to give good infrastructure for good learning.

Solution includes:

- Certified vocational training in water
- Tailored courses for engineers and authorities
- Degree courses in water management for MSc level
- Professional teacher education

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ENVIRONMENTAL MONITORING AND SMART WATER SOLUTIONS

Reliable real-time data is essential for modern water management

When contamination sources are identified in real-time, quick actions can be taken to prevent any problems. With novel sensor technologies, new parameters can be measured to improve decision-making of water resources management.

Smart water management solutions can be used to reduce water losses in potable, irrigation and waste water networks

Most sustainable way to produce water is to reduce water losses – there will be savings in energy, chemicals and water. Digital monitoring, access control to different fasilities and cyber security will guarantee safe operation of water network.

Solutions includes:

- Integrated technologies, sensor networks and monitoring
- Predictive monitoring system for comprehensive management
- Improved system performance with safe E2E connections, hydraulic models, GIS, open-data and various algorithms

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Thank You for Your attention!

You can find more information from

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