Current themes related to water safety and security in Finland

Johanna Herttuainen, Senior coordinator

Nordic-Baltic Drinking Water Meeting in Reykjavík, 22–24 October 2025

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Water services in Finland

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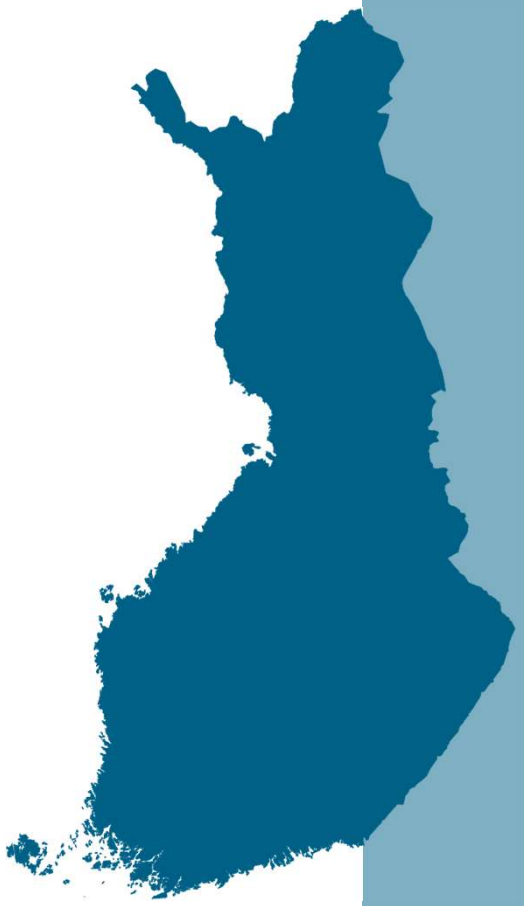
Water Services in Finland



Population in Finland

5.6 M

Population density in Finland (inhab./km^2)

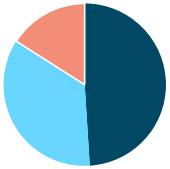
16.5

Average population density in Europe

112

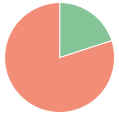
1 800 organisations providing water services

Raw water sources



- Groundwater, about 49%
- Surface water, about 35%
- Artificially recharged groundwater, about 16%

The **20** largest water utilities comprise **80%** of the services



- The 20 largest water utilities
- The rest

Population connected to

Drinking water network ≈90%

Sewer network ≈85%

Length of the networks

Drinking water network ≈114,000 km

Sewer network ≈60,000 km

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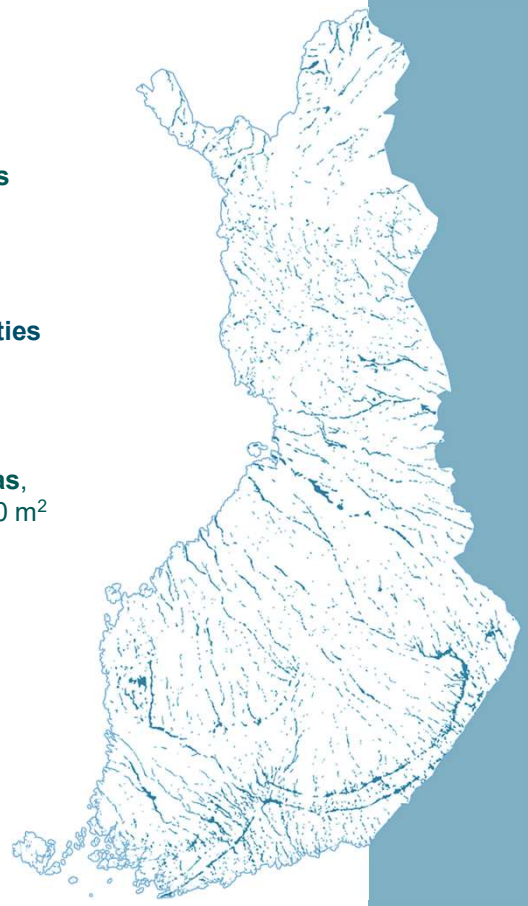
Water Services in Finland

- Groundwater areas
- Main water bodies
- Largest water utilities

5,000 ground water areas, totalling an area of 12,500 m^2



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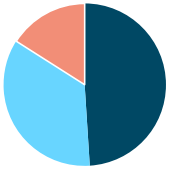

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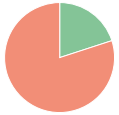

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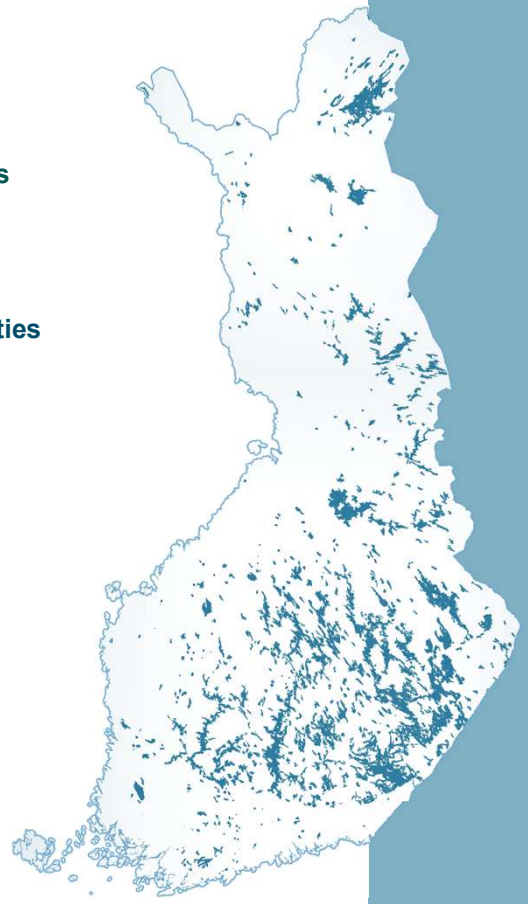

- Groundwater areas
- Main water bodies
- Largest water utilities

168,000 lakes
of at least 500 m^2 in size

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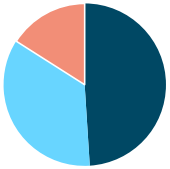

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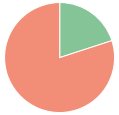

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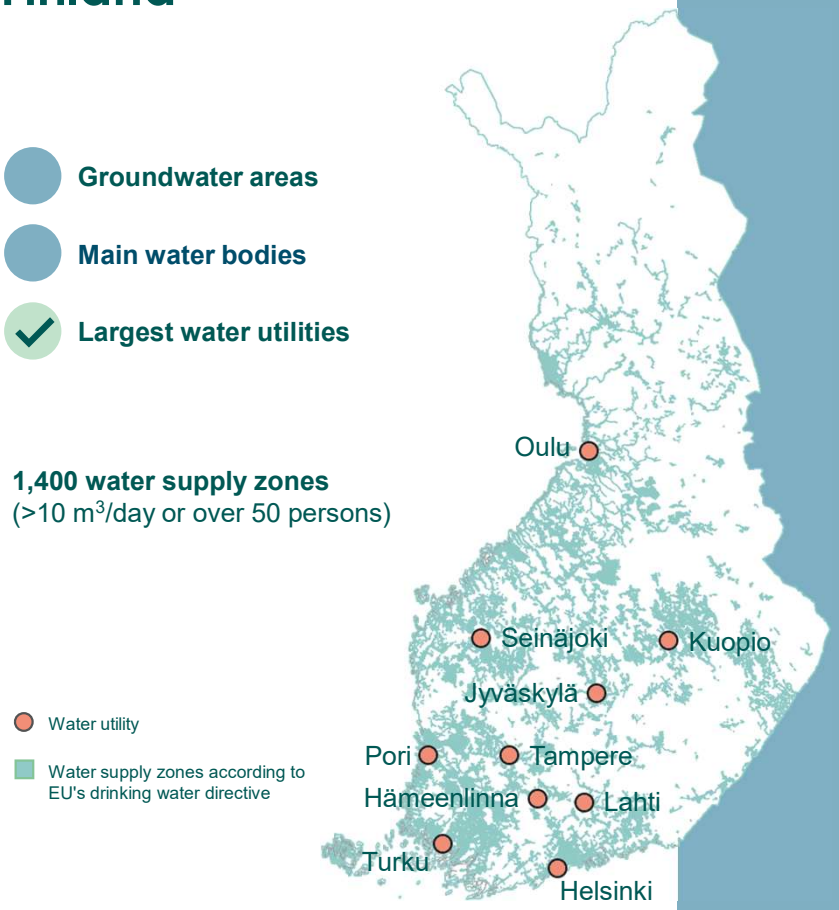

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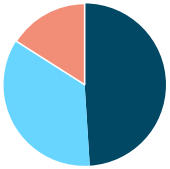

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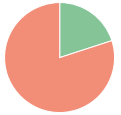

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Safe Water for All – research project

- Climate change, demographics, geopolitics, ageing infrastructure and the changed security environment are challenging Finland's ability to produce safe drinking water.
- The Safe Water for All project focuses on improving water safety and the resilience of water supply system from the raw water source to the consumer.
- The project will be implemented in 2024-2030
- https://turvallistavetta.fi/en/

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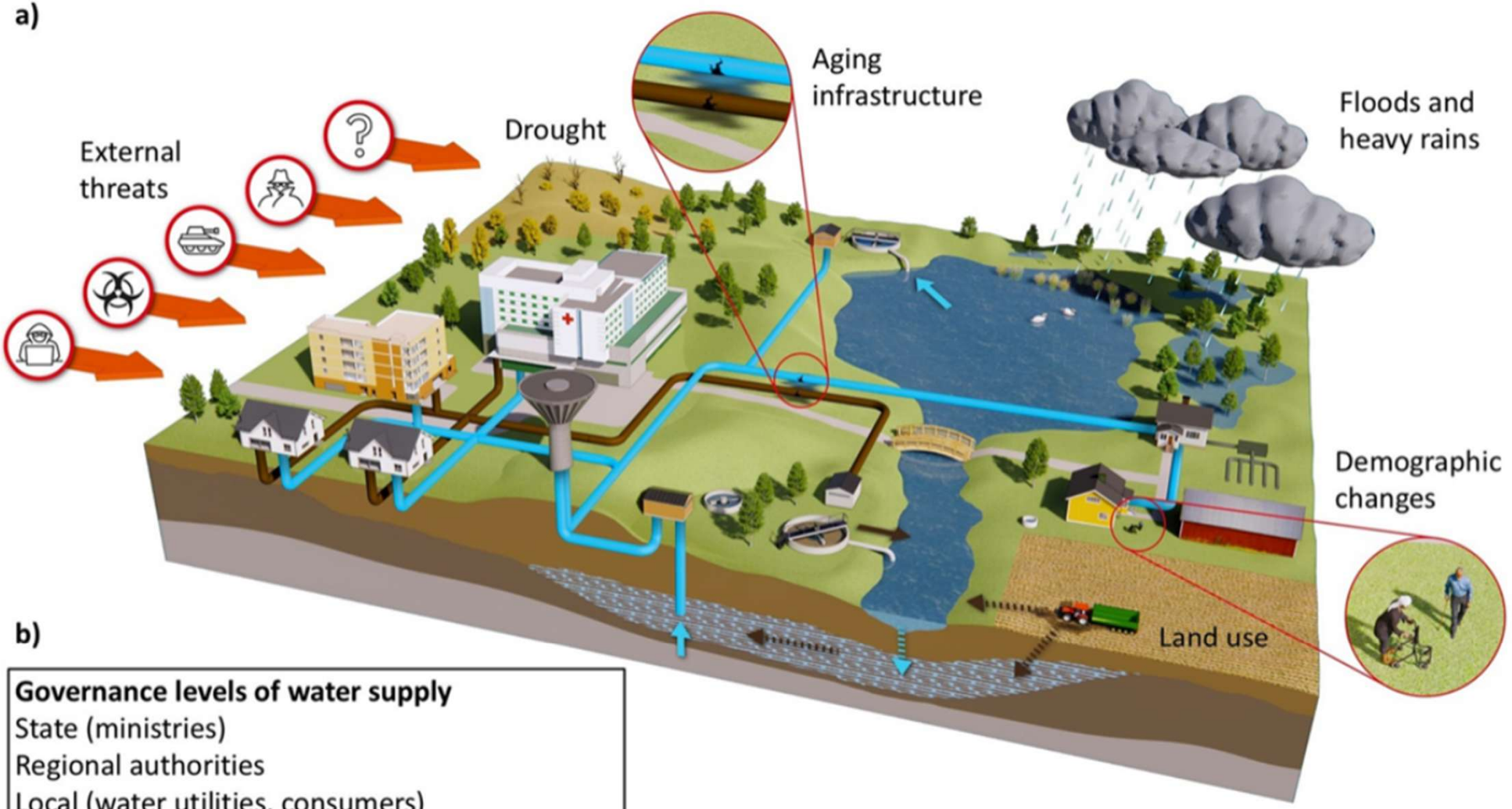
a)



b)

Governance levels of water supply
State (ministries)
Regional authorities
Local (water utilities, consumers)

Critical entities resielince, current themes (CER)

- The Act on the Protection of Society's Critical Infrastructure and Improving Disruptive Resilience entered into force on 1 July 2025.
  - In January 2026, the Government is due to approve a risk assessment of critical infrastructure and the resilience of critical operators, as required by the new Act and the Critical Entities Resilience Directive.
- National risk assesment under implementation
  - identifies risks with broad national significance and assesses their impact on the vital functions of society.
  - The purpose is to promote national preparedness and develop society's response to significant risks.
  - The new national risk assessment will include a risk assessment related to the protection of critical infrastructure and the improvement of resilience

Hybrid threats in water services?

- Several break ins to water utilities in 2024
- Break ins to water supply units did not impact security of supply
- No indication of foreign state intervention

- Current topics in preparedness:
  - Emergency stock piling
  - Projects related to physical security ongoing

Is Russia Trying to Poison Finland's Water?

Break-ins at water treatment plants are a prime example of gray-zone aggression. The Finns may never know who did it, but they must resist succumbing to fear.

By Elisabeth Braw, a columnist at *Foreign Policy* and a senior fellow at the Atlantic Council.

Finnish and Swedish units simulate a naval attack. Swedish and Finnish Amphibious Forces Take Part In NATO Military Drill "Baltops 22" In Stockholm Archipelago on June 11, 2022. JONAS GRATZER/GETTY IMAGES

Picture: https://foreignpolicy.com 26.7.2024

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Ownership of water utilities

- Practically all water service utilities are owned and operated by municipalities. Customer owned cooperations are owned by the residents.
- Until now: legal to sell utility and infrastructure to private sector.
- Water Services Act: all water service possession and the utility itself **has to be owned by the municipality**. At the moment evaluated by the Parliament, Constitutional Law Committee.
- Background: citizens' initiative in 2020.

- “An amendment to the Constitution that allows citizens' initiatives to be submitted to Parliament entered into force on 1 March 2012. At least 50,000 Finnish citizens who are eligible to vote can submit an initiative to Parliament for the enactment of legislation. Signatures must be collected within a period of six months.”

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Risk assesments at water utilities

Drinking water

- Decree of the Ministry of Social Affairs and Health on the quality requirements and monitoring studies of domestic water (442/2014)
  - **Health Protection Act** 1.1.2017 new §, updated in 2022.
  - Authority: Municipal health protection authority approves the risk management plan.
  - Ca 1400 water supply zones (DWD), 100 % risk assessments completed. 60 % use WSP-tool.

Wastewater

- **Environmental Protection Act** 6 §
  - Knowledge requirement: Operators shall have knowledge of the environmental impacts and risks of their operations, and of the management of these impacts and risks and ways to reduce adverse impacts (knowledge requirement).

CER
Article 12
Risk assessment by critical entities
Implementation in Finland:
14 § Risk assessment by a critical entities
If a risk assessment or document is prepared for a similar purpose under another law than this Act, the critical entities may use that assessment or document. This must be mentioned in the risk assessment or document.

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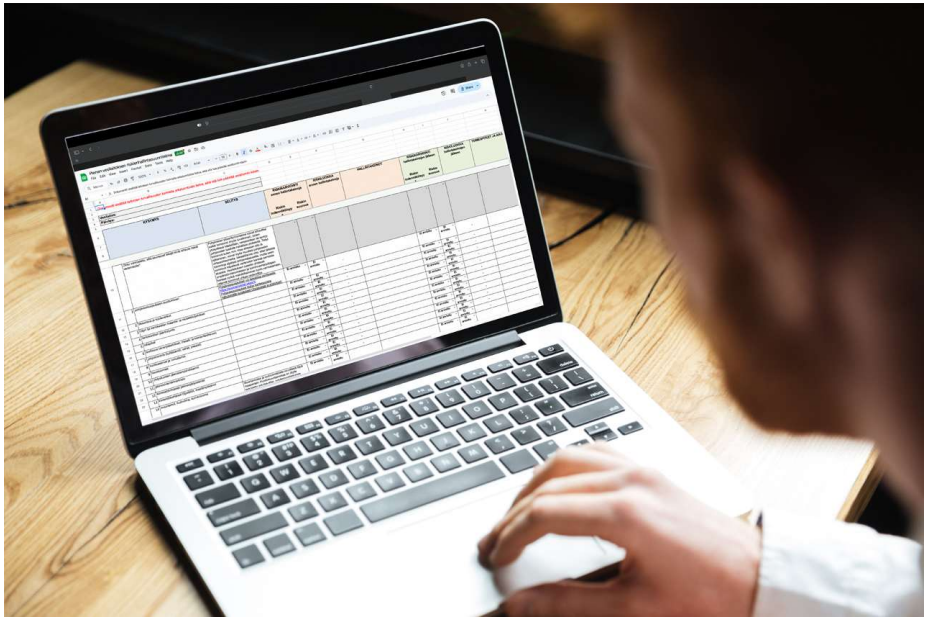
Water and sanitation safety planning

- Water safety plan and sanitation safety plan online tool available for water utilities since 2017, update in 2024
  - Risk assesment and management according to WHO guidelines
  - https://wspssp.fi/
- Simple excel wsp-tool now also available for small water supplies
  - https://www.vesi.fi/pienten-vesilaitosten-riskienhallintasuunnitelma-excel-tyokalu-latauslinkki-ja-ohjeet/



Resielience measures, preparedness and response in water services

- Water Services Act 119/2001, **to be updated in 2026**
- Water utility is responsible to provide services (-> temporary water delivery).
- A water utility shall draw up and keep up-to-date a plan on the preparation for incidents and undertake the necessary measure on the grounds of the plan. (2014)
- Changes in 2025:
  - Link to risk assesment
  - Requirements of the content (in a degree)
  - Requirement of training
  - Cycle of update
- Authority: Centre for Economic Development, Transport and the Environment (ELY)

CER
Article 13
Resilience measures of critical entities

Implementation in Finland:
15 §
Ensuring resilience and resilience plan

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Climate change adaptation

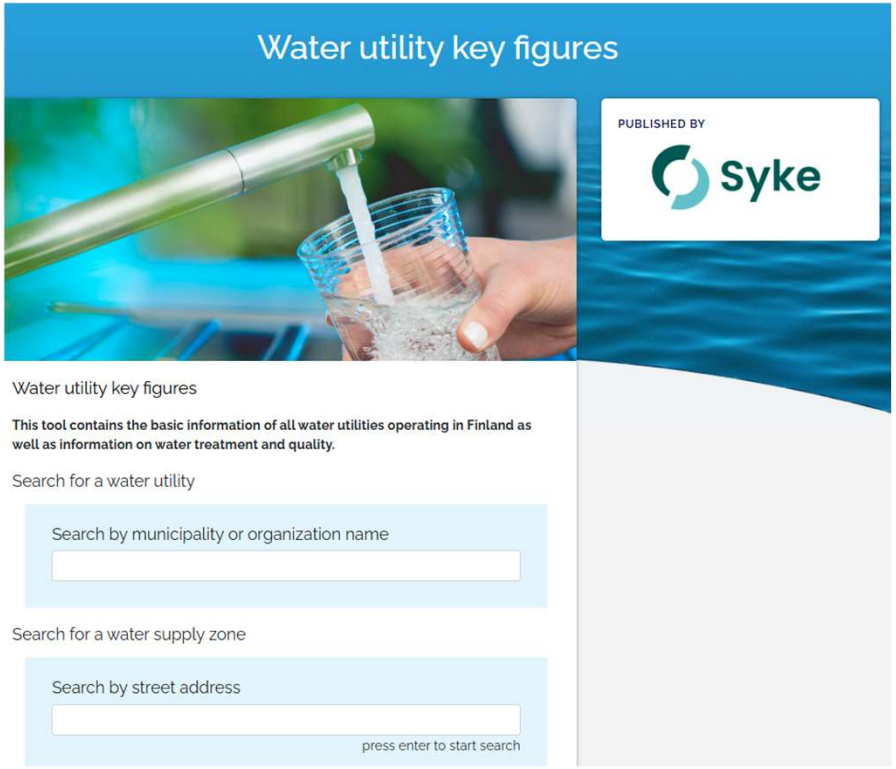
- Climate change affects all sectors in water services
  - Water abstraction and treatment → Drinking water network → Wastewater drainage and treatment
- New online tool available for water utilities to recognise risks related to climate change
- https://www.vesi.fi/vilso/

Vesi.fi (waterinfo.fi)

Access to information on water quality is important at all times

- Online information of water utilities to the public
  - A tool that gathers information on all water utilities operating in Finland, as well as information on water treatment and quality
  - Vati- and Veeti-databases provide information through interfaces
  - Digitalized water supply zones as a background information (address information)

  - https://vesi.fi/en/water-utility-key-figures/



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Thank you for your thirst for knowledge!

Johanna.herttuainen@syke.fi

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