

An aerial photograph of a lush, green forested landscape. A large, irregularly shaped lake with deep blue water is the central focus. The surrounding terrain is covered in dense green trees, with some brownish patches indicating cleared areas or different types of vegetation. The overall scene is natural and serene.

oo  
WASSER

**WE ARE WATER**

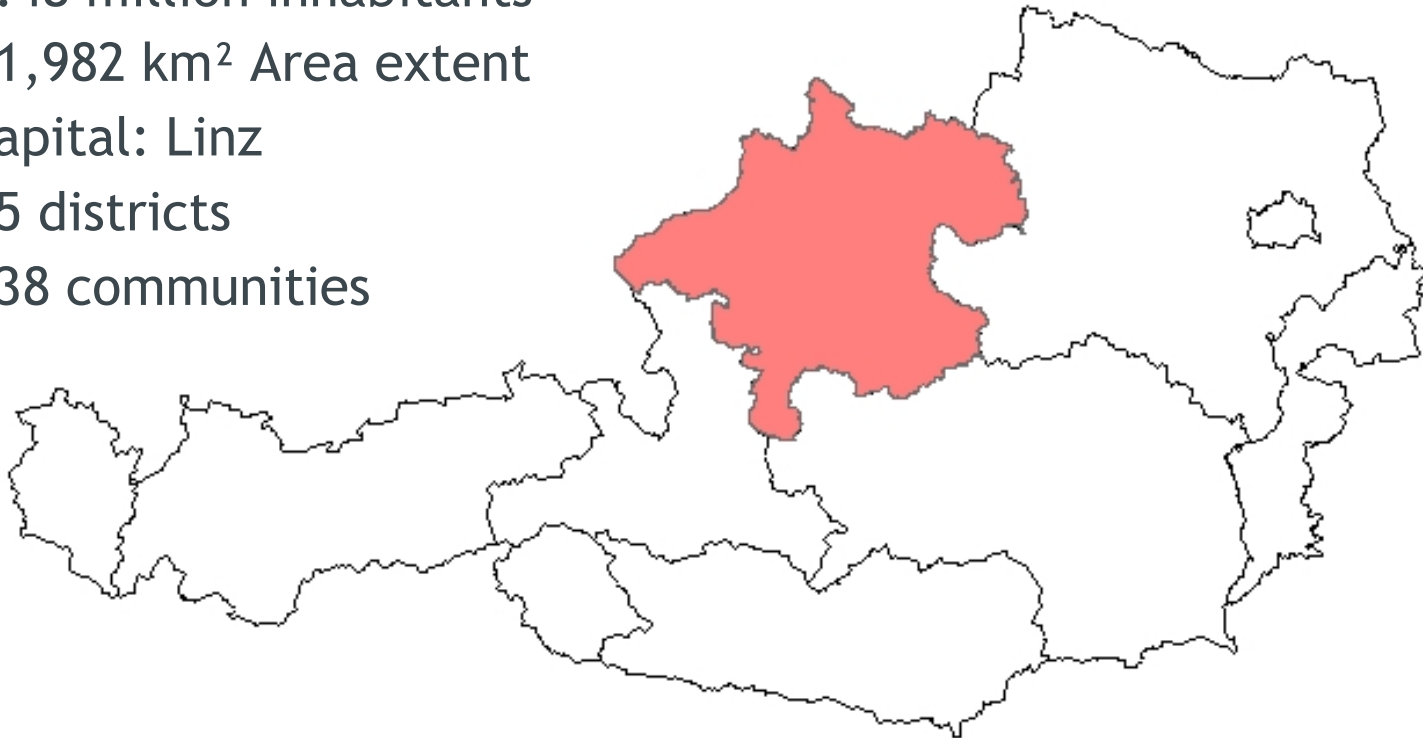


**Rural water supply and wastewater  
treatment  
provided by a water cooperative  
in Upper Austria**

**Dipl.-Ing. Florian Maringer**

# STATE OF UPPER AUSTRIA

- 1.48 million inhabitants
- 11,982 km<sup>2</sup> Area extent
- capital: Linz
- 15 districts
- 438 communities



# STRUCTURE IN UPPER AUSTRIA



- 438 communities
- 4,000 villages with less than 20 buildings
- Scattered individual houses
- Small agglomeration

# SOLUTION WATER COOPERATIVES



## Members Principles

- user
- bodies governed by public law
- responsible persons
- common property
- self-determined
- personal responsibility
- state of the art
- self-monitoring
- cost covering
- voluntary service

# WATER COOPERATIVES



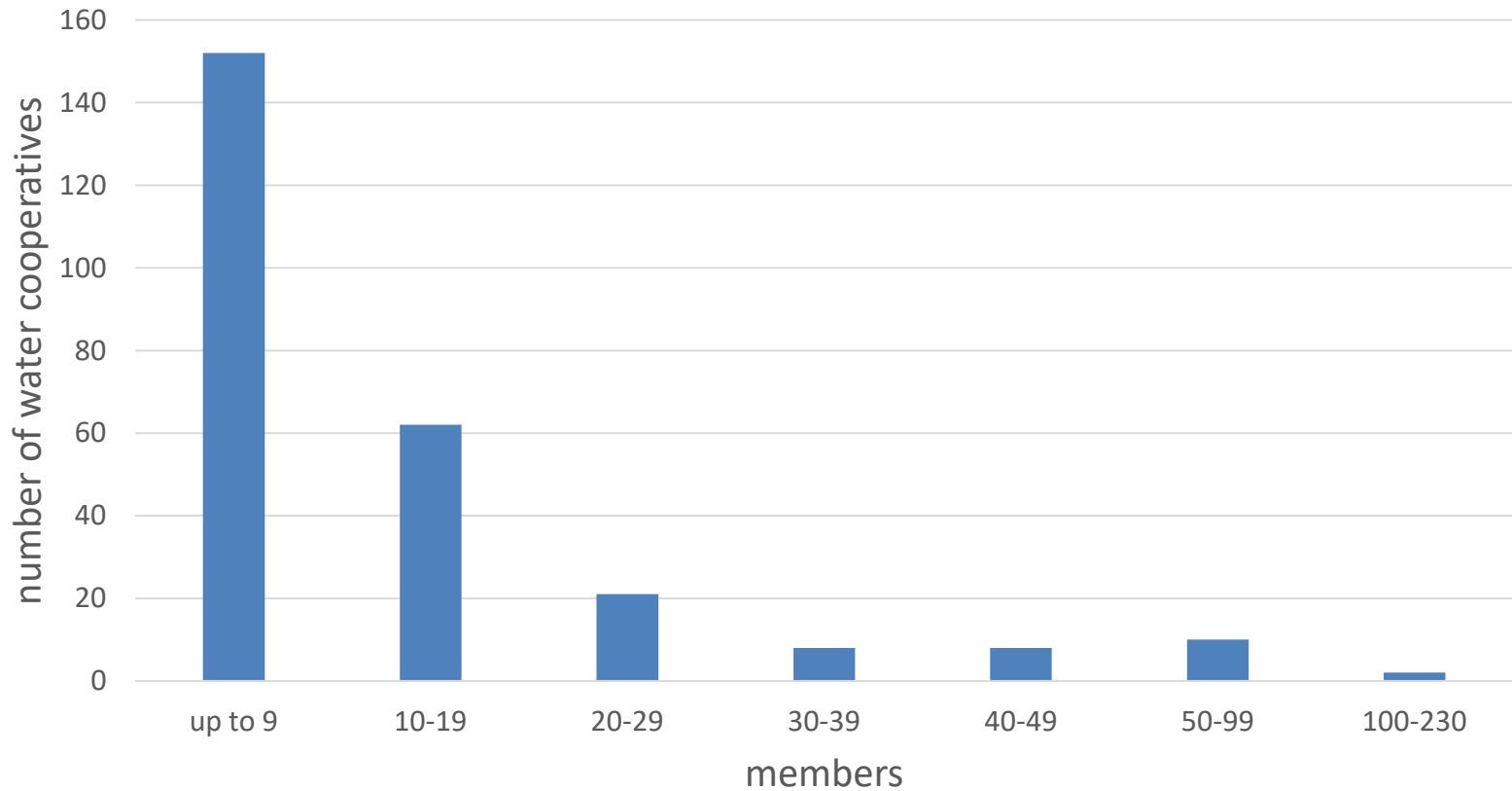
## Financing

- connection fee
- basic charge
- consumption charge
- subsidies
- credits and loans

# 263 WASTE WATER COOPERATIVES



membership structure

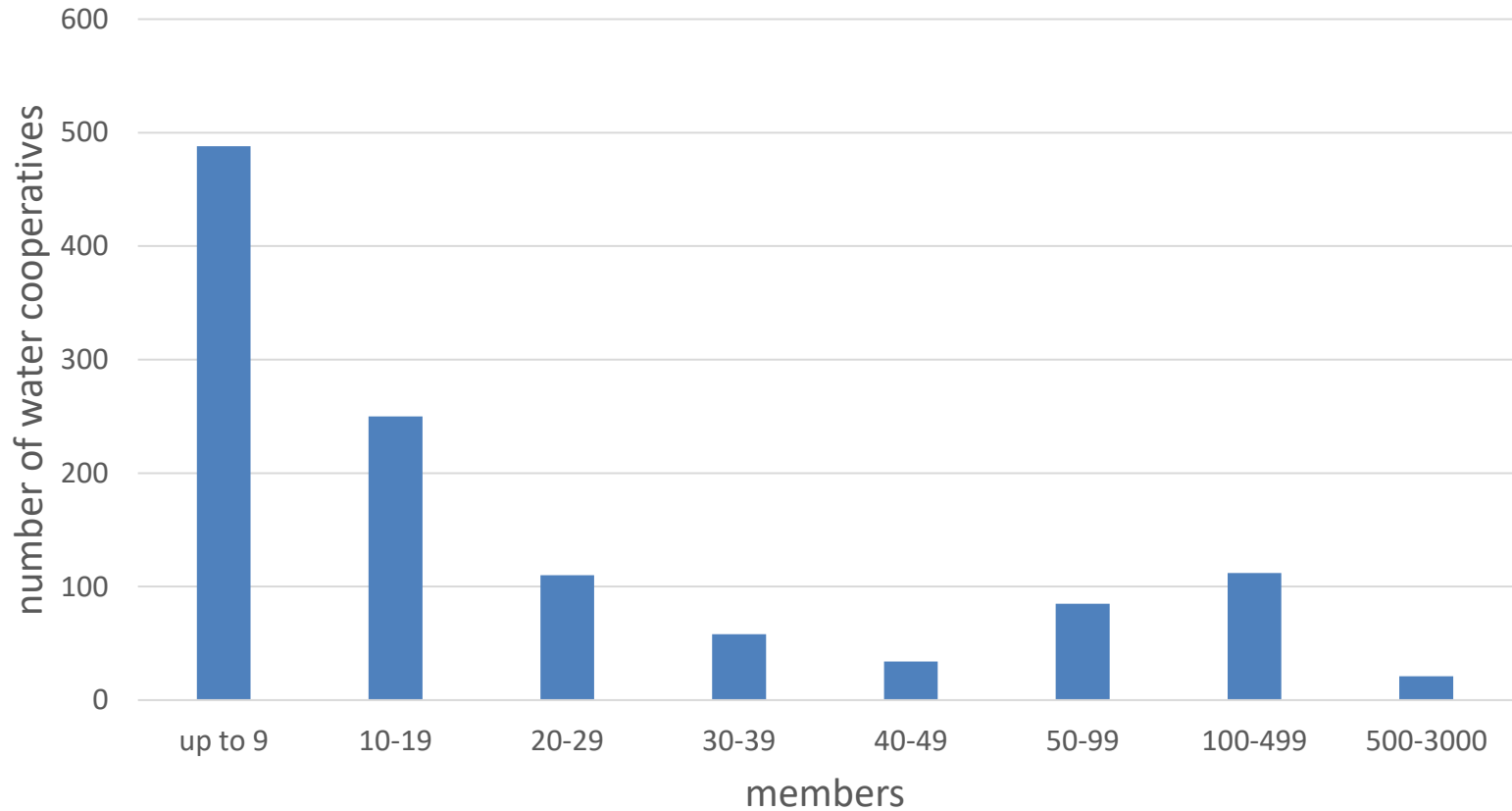


Stand: April 2024

# 1158 DRINKING WATER COOPERATIVES



membership structure



Stand: April 2024



# WATER COOPERATIVES IN AUSTRIA



- approx. 3,400 water-cooperatives

## Cooperative solutions

- predominant rural areas
- rural communitys, villages, settlements
- usually non-economical areas

# WATER COOPERATIVE DINGDORF



April 2024

Rural water supply and wastewater treatment provided by a water cooperative -  
Maringer

# WATER COOPERATIVES DINGDORF WASSER & DINGDORF ABWASSER



October 2006: Foundation of water cooperatives-23 members  
June 2009: Construction of the plants  
June 2010: Commissioning of both plants



# WATER COOPERATIVES DINGDORF - MOTIVATION

- Extreme drought summer 2003
- The community supplied the inhabitants whose housewells were dry
- But 2 km distance to the nearest public water supply
- Test drilling and pumping test 2006 and 2007
- Sinks and septic tanks in a village are not state of the art



# WATER COOPERATIVES DINGDORF - REALISATION



- Planning: Experienced consulting engineer
- Tendered constructing works: Construction company
- Building costs ~990,000 EUR
  - Wastewater: 660,000 EUR
  - Water: 330,000 EUR
  - Financed by connection fees, loan and subsidies
- Working costs per year
  - Wastewater: ~18,000 EUR
  - Water: ~14,000 EUR

# WATER SUPPLY

## Water extraction - drill well

- construction of the drill well in June 2006
- possible flow rate 25.9 m<sup>3</sup> per day (0.3 l/s)
- total depth 61.5 meters



# WATER SUPPLY

## cistern

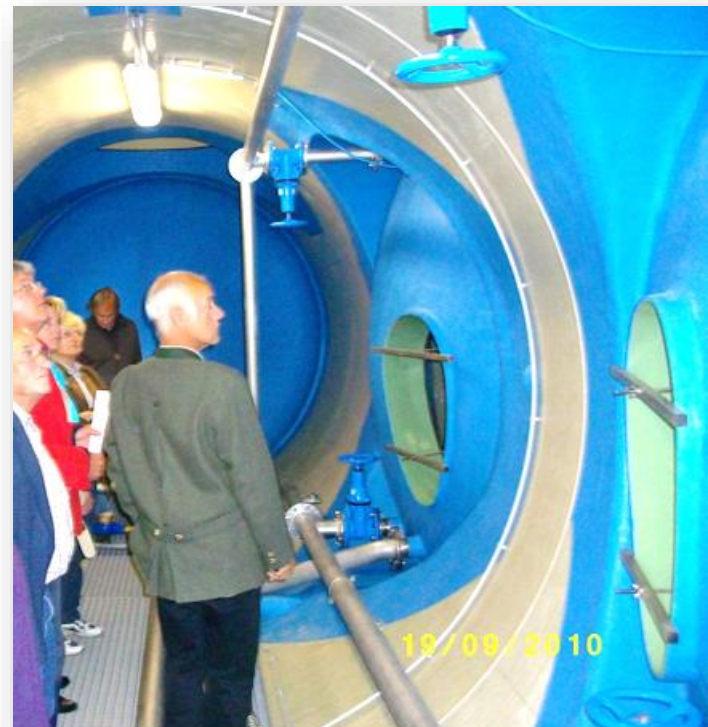
- 2x20 m<sup>3</sup> water tank
- space for fittings, water meter,...
- deacidification (+calcium)
- 2,460 meters of water pipes
- cistern is located above the village
- supplying all users without pumps (pressure reducing is necessary)



# WATER SUPPLY



Cistern / space for technology





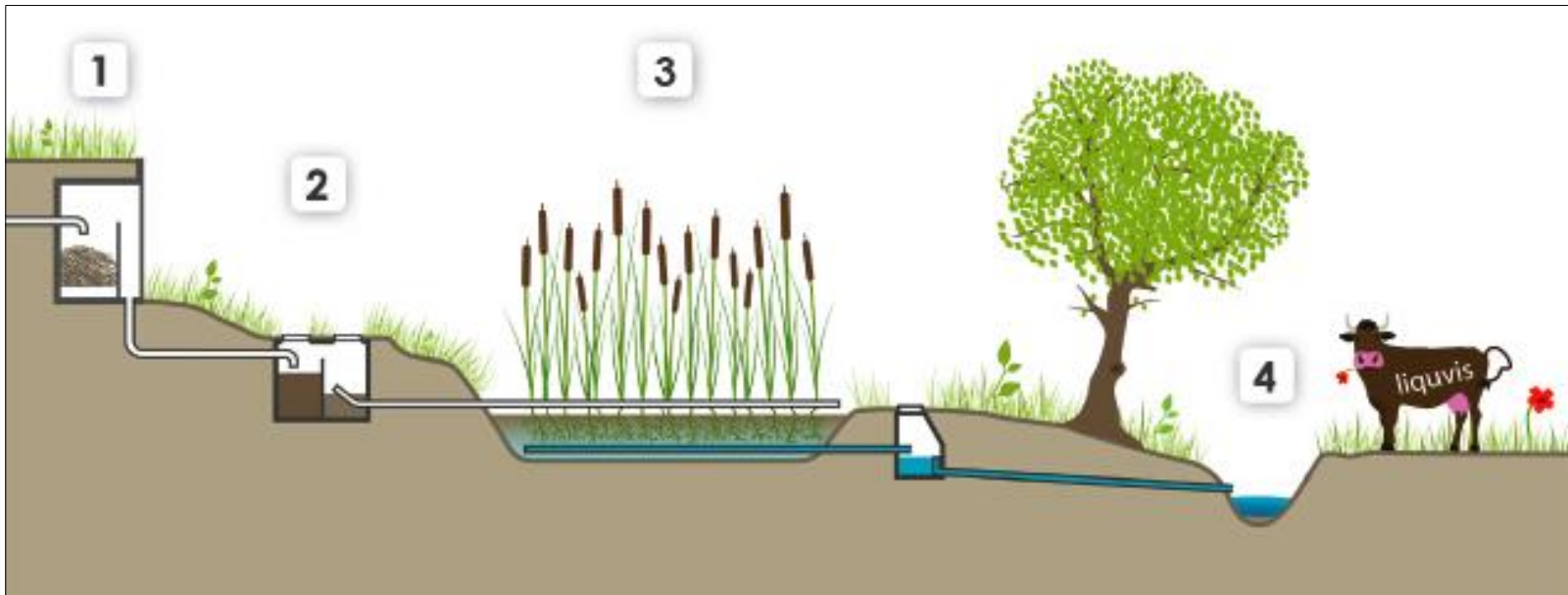
## SEWER SYSTEM - DISPOSAL

- 2,200 m PE-sewer installed
- terrain is cleverly used (the village is located on a hillside)
- the plant is below the village
- pumping stations are not necessary



# WASTEWATER TREATMENT PLANT

1. Rotting station
2. Pump shaft
3. Reed bed - Inspection shaft
4. After inspection - piping into public water



# WASTEWATER TREATMENT PLANT

## Commissioning distribution device - reed bed



# FINAL EFFLUENT TEST

## 3.2. Grenzwerte (maximale Konzentrationen) im Kläranlagenablauf

Parameter	measured value Messwert (mg/l)	limit value determined by authority Grenzwert (mg/l)
BSB <sub>5</sub> BOD <sub>5</sub>	0,9	25
CSB COD	22,4	90
NH <sub>4</sub> -N	0,079	*10
TOC	7,89	30

\* bei Ablauftemperaturen > 12° C

BOD<sub>5</sub> Biological Oxygen Demand → pollutant parameter of wastewater

COD Chemical Oxygen Demand → parameter for pollutants released into the wastewater

NH<sub>4</sub>-N Ammonium nitrogen in the wastewater is degraded by microorganisms to nitrate

TOC Total Organic Carbon → load parameter of the wastewater

# OPERATION AND MAINTENANCE

- Village community cares for soil filters
- Lawn care and straw management of the rotting station by all members (by an annual list)



# THE UMBRELLA ORGANISATION



- **Founding 1946**
- **"Foundation of an umbrella organisation for common guidance and support"**  
by an unanimous resolution of the Upper Austrian Parliament
- one-stop-shop of consulting, supporting and representing to the members

# UMBRELLA OBJECTIVES



- Teamwork **with one voice**, pool of ideas and resources for sustainability (technical and economic)
- Support foundation of water coops
- Help in procuring spare parts and equipment - **pooling**
- Organise and maintain **training courses** and **facilities for instruction**
- Act as an advocate **representing the interests** of members

# EDUCATION PROGRAMME

## Courses for

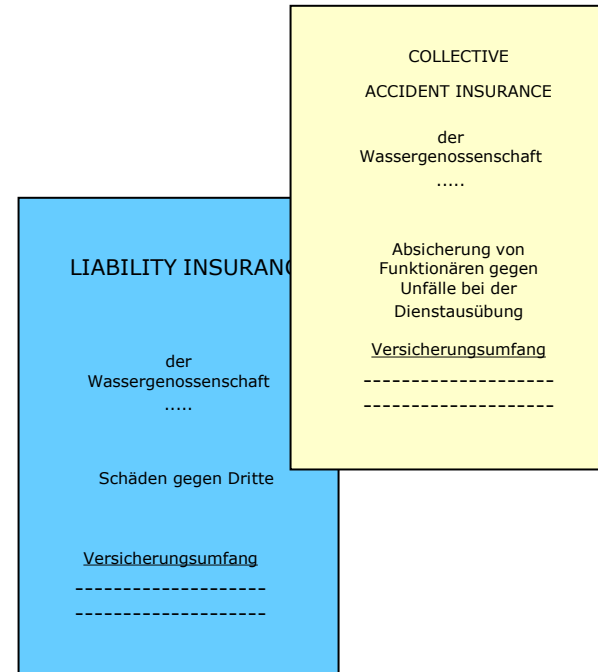
- chairpersons
- cashiers
- controllers
- water managers
- scheme operators
- public relation





# GROUP INSURANCE

- Group third-party insurance
- Collective functionary accident insurance
- Legal protection insurance
- Claims processing



# WEBSITE



## OÖ WASSER - Wir sind Wasser.

Unser Dachverband präsentiert die OÖ WASSER-Idee mit unseren Aktivitäten und bietet Ihnen auf dieser Website umfangreiche Informationen zum Thema Wassergenossenschaften und ihren Aufgaben.

[Zur OÖ WASSER-Idee](#)

<b>2063</b> Mitglieder gesamt	<b>1154</b> Wasserver- sorgung	<b>264</b> Abwasserent- sorgung	<b>511</b> Entwässer- ungsanlagen	<b>79</b> Gemeinden	<b>55</b> sonstige Mitglieder
-------------------------------------	--------------------------------------	---------------------------------------	---	------------------------	-------------------------------------

# UPPER AUSTRIA WATER



- water treatment state of the art
- self determinate
- cost effective
- local-based, independent, crises proofed
- adapted solutions
- long-time experience shows a sustainable model fit for the future



An aerial photograph of a large, irregularly shaped lake with deep blue water. The surrounding land is green and hilly. A white logo is centered over the lake. The logo consists of the text 'oö WASSER' in a serif font, with 'oö' above 'WASSER'. Below the text is a white, stylized wave graphic.

oö  
WASSER

**THANK YOU!**

Dipl.-Ing. Florian Maringer  
[florian.maringer@ooe.gv.at](mailto:florian.maringer@ooe.gv.at)