INCREASE AND DIVERSIFY WATER STORAGE FOR DROUGHT AND SERVICE DISRUPTION RESILIENCE

Policy Brief

Name of Indicator: Community water storage volume (cubic metres)
Field of Application: Preparedness

This policy brief is part of the ClimEmpower policy recommendations, available from climempower.eu. It translates evidence and project findings into practical guidance for regional and local policymakers seeking to strengthen resilience to climate and other systemic disruptions. It focuses on community water storage and the capacity to keep sufficient volumes available to households and critical services during droughts and service disruptions.

The main recommendation is to increase and diversify community water storage through a balanced mix of centralised, decentralised, natural and efficiency-based solutions. Storage decisions should be informed by climate risk assessments and long-term demand projections, so that sufficient volumes remain available under a wide range of climate stress scenarios.

Water Storage & Drought Preparedness

Key Challenges

- Demand projections often ignore compounding drought and service-disruption scenarios
- Storage systems rely on a narrow mix of solutions, limiting flexibility under stress
- Critical facilities are not always prioritised in storage and supply planning

Good Practices

- Balanced mix of centralised, decentralised, natural and efficiency-based storage
- Leakage control and demand reduction integrated with storage planning
- Emergency supply protocols tested and ready for activation

Priority policy actions

Assess water balance and drought risk
Establish a clear picture of current storage capacity, demand and drought exposure through water balance modelling and climate risk scenarios.

Identify storage capacity gaps
Compare existing storage against projected demand under a range of climate scenarios to determine where additional capacity is needed.

Prioritise critical facilities and vulnerable areas
Direct new storage investment first to hospitals, shelters and other essential services, and to the areas with the highest vulnerability.

Integrate leakage control and demand reduction
Combine new storage capacity with measures to reduce losses and consumption, maximising the value of every stored cubic metre.

Establish emergency water supply protocols
Prepare protocols for activating alternative and emergency supply during droughts and service disruptions.

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Implementation Roadmap

1

Phase 1 — Assessment and gap analysis

Conduct a water balance and drought risk assessment and compare existing storage against projected demand under a range of climate scenarios to identify gaps.

2

Phase 2 — Prioritisation and investment planning

Prioritise critical facilities and vulnerable areas, and translate priorities into an investment and permitting plan for new or upgraded storage capacity.

3

Phase 3 — Efficiency integration and emergency preparedness

Combine new capacity with leakage control and demand reduction, and establish emergency supply protocols for activation during droughts and disruptions.

4

Phase 4 — Monitoring and adaptive management

Monitor storage levels and drought performance indicators continuously, using the data to adjust storage strategy over time.

Funding

- **European Regional Development Fund (ERDF)**
  Can finance water infrastructure and storage capacity investments.
- **Common Agricultural Policy (CAP) / Rural Development**
  Can support on-farm and community water storage.
- **LIFE Programme**
  Can support nature-based and efficiency-based storage pilots.
- **Horizon Europe**
  Can fund research on drought risk modelling and storage optimisation.
- **National adaptation and civil protection funds**
  Can further support storage and drought preparedness measures.

Conclusion

Diversifying and increasing water storage ensures reliable access to safe water for households and for critical services such as hospitals and shelters during droughts and emergencies.

It also reduces abstraction pressure on ecosystems and improves overall water efficiency, lowering losses through better-integrated management of supply and demand.

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