

# MANAGEMENT PLAN FOR LJUBLJANA-IG

## Output factsheet: Strategies and action plans

Version 1

Project index number and acronym	AMIIGA
Lead partner	Central Mining Institute, Poland (LP)
Output number and title	O.T3.1.1 Management plan
Responsible partner (PP name and number)	Geological Survey of Slovenia (PP9) and VOKA SNAGA (PP10)
Project website	<a href="https://www.interreg-central.eu/Content.Node/AMIIGA.html">https://www.interreg-central.eu/Content.Node/AMIIGA.html</a>
Delivery date	31.10.2019

### Summary description of the strategy/action plan (developed and/or implemented)

The groundwater management plan for FUA Ljubljana - Ig was designed defining the priorities of contaminations and contaminants and setting up remediation and prevention actions, specifically from the waterworks perspective. We have effectuated 11 steps approach for four selected working areas and different significant contaminants as follows by the order of the risk ranking: desethyl-atrazine, chromium VI, new emerging organic pollutants in traces and boron plume.

We achieved to establish groundwater management plan in steps in certain time intervals: Framework and background, Draft of Management plan and Final Management plan. Structure contains following chapters: description of the initial situation (extension of the area, groundwater contamination with current state of contaminants and conceptual models, knowledge about contamination sources, affected receptors), definition of target values and goals, risk assessment from the perspective of water supply, setting the necessary measures - action plan. Measures defined are justified on the base of the EU and national legislations.

The groundwater management plan with its action plan was finished. Implementation of some measures from the action plan has already started. In the next steps implementation will continue with the promoting on the sectoral conferences in 2020 for reconciliation of work and needs on the city level Ljubljana, decree changes, through incentives for decreasing emissions of Cr and new emerging pollutants and executive design of intervention for DAT plume remediation.

Whole development of the groundwater management plan for FUA Ljubljana - Ig was monitored and supplemented by Regional Implementation Group (RIG), constituted from national to local authorities, higher education and researchers, infrastructure and service providers and local SMEs.

### NUTS region(s) concerned by the strategy/action plan (relevant NUTS level)

Strategy of the elaborated groundwater management plan is designed for medium scale level, thus higher than a local level contamination of individual site and individual community). Medium scale level requires reconciliation of actions between different communities, city core and its hinterland, and has to lever the funds on regional level.

### Expected impact and benefits of the strategy/action plan for the concerned territories and target groups

For the concerned territories and target groups is important information why do we need groundwater management plan, how to begin with the preparation of establishment of the groundwater management plan (strategy, milestones). It is important to know the complexity and that there is no unique solution. Crucial information for the concerned territories is the severity of the contamination, what are the consequences if do nothing, knowledge how to remediate the contamination, how much it costs and what are the costs resources. Very important role of the strategy and management plan is also rising awareness to the concerned territories and target groups.

The groundwater management plan of Ljubljana - Ig functional urban area addresses multiple point contamination sources in a complex hydrogeological situation, individual sources are not yet cleared up, two administrative entities are affected while the public was not yet aware of the extent and risks of contaminations, and also funding of remediation exceeds the competences of individual community.

### Sustainability of the developed or implemented strategy/action plan and its transferability to other territories and stakeholders

Developed and implemented strategy for establishment of the groundwater management plan with its action plan and measures is designed for the next decade. It involves also decision makers from the very beginning of the development and the discussion in the process (development targets, goals and threshold values) enable more efficient implementation.

Developed implemented strategy/action plan is transferable to all territories and stakeholder in our country. The elaborated groundwater management plan for functional urban area Ljubljana - Ig will be a demonstration case for elaboration of further management plans for contaminations of groundwater on the level of functional urban areas in the country.

The measures defined in the management plan have been included among the goals of the Program for environmental protection for the City of Ljubljana (2021-2027) and Program for drinking water supply of Municipality of Ig (2022-2025). For the next periods the programs will be upgraded according to the management plan.

## Lessons learned from the development/implementation process of the strategy/action plan and added value of transnational cooperation

The development and establishment of the groundwater management plan is long term process which can last several years, therefore setting a time schedule with milestones at the beginning is necessary. It needs constant work and collaboration of experts and researchers, national to local authorities, higher education and researchers, infrastructure and service providers and others.

AMIIGA enabled us to applicate experiences how to manage groundwater contamination and implement remediation measures form the countries where management plans on local and medium level are already in practice. The groundwater management plan for functional urban area Ljubljana - Ig is the first management plan on medium level in Slovenia.

Established expert panel within AMIIGA enabled an important exchange of knowledge from other partners, sharing of experiences and consultations.

## References to relevant deliverables and web-links If applicable, pictures or images to be provided as annex

Prestor, J., Jamnik, B., Meglič, P., Pestotnik, S., 2019. D.T3.1.3 Finalizing and approval of management plan for pilot sites and synthesis report for pilot sites on FUA Ljubljana - Ig. Project AMIIGA (Interreg, Central Europe). Ljubljana. - Abstract in English [Download](#)

Deliverable D.T3.3.7, 2019. Towards clean groundwater: from strategy to action. Groundwater Management plan. Project AMIIGA. [Download](#)