

HÁJEK (CZ)

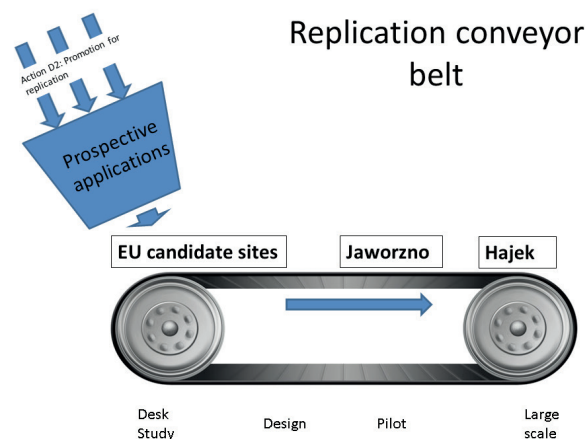


In the 1960s and 1970s, around 5,000 tons of HCH isomers were deposited at the Hájek dumpsite, which flow out and exceed the ecological limits.

JAWORZNO (PL)



In the 1960s-1980s, about 37,800 tonnes of HCH isomers (pesticides) were deposited in the valley of Wąwolnica stream in Jaworzno. In total, about 200,000 tonnes of hazardous waste containing POPs, such as HCH, DDT, DDE, DDD, dieldrin, and endrin from the chemical production of the company ORGANIKA-AZOT were deposited there in that time.



<https://cxi.tul.cz/lifepopwat>



Ministerstvo životního prostředí



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Innovative technology based on constructed wetlands for treatment of pesticide contaminated waters



LIFEPOPWAT



LIFE over POPs in WATER

WHAT IS LIFEPOPWAT?

LIFEPOPWAT is a European project in LIFE 2018 that promotes innovative technology for the treatment of pesticide contaminated waters. The treatment technology is based on the constructed wetlands system Wetland+.

Wetland+ offers a more robust, low maintenance, and sustainable treatment that is cheaper than conventional wastewater treatment methods and can be deployed in remote locations where access to infrastructure may be limited. It is based on integrated reactive zones with a wetland as a final treatment step.

The project will install the system at two pilot sites (Hájek and Jaworzno) with the aim to replicate it across the EU and globally. The system is intended for mega-sites because of their importance, but the approach is also down-scalable for smaller problem sites.

DURATION

Start date: 1 January 2020
End date: 31 December 2023

Cost

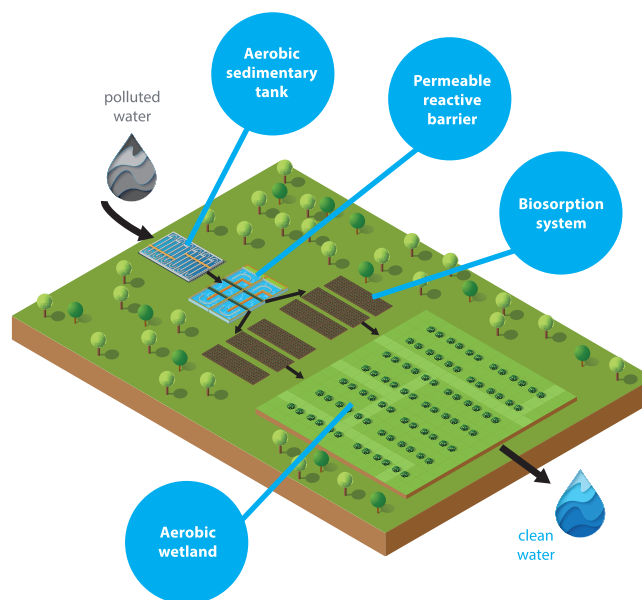
EU contribution 1,727,833 EUR
Total cost 3,167,290 EUR

PROJECT COORDINATOR

Technical University of Liberec (CZ)

CONTEXT

Hexachlorocyclohexane isomers (α , β , γ , δ , ϵ), their impurities and transformation products such as chlorobenzenes (CB) are a severe and persistent environmental problem at many sites. α , β & γ -HCHs are listed under the Stockholm Convention on persistent organic pollutants (POPs). Pursuant to EC Regulation No. 850/2004, the use of γ -HCH (lindane) was banned from the end of 2007. Past HCH production across Europe has led to over 40 mega-sites with total HCH waste exceeding 250 thousand tons.



Performance indicators:

- 130 thousand m³ of polluted water treated annually,
- 30 kg of HCH and 20 kg of CB annual removal,
- other POPs compounds treated,
- 0.5 ha of wetland created,
- biodiversity increase of 50 %.

OBJECTIVES

A large scale pilot Wetland+ prototype established at **Hájek (CZ)**, exhibiting system performance at a commercially relevant scale and provide an exemplar to support replication. Monitoring of key performance attributes, cost drivers and wider sustainability outcomes.

A field pilot deployment prototype at **Jaworzno (PL)**, exhibiting the site-specific replication pathway to other sites, taking into account different contamination contexts, hydrogeological conditions, microbial communities and local resources.

A specific **project replication process** established for a progression of candidate sites, including a business model, Technology Guide, newsletters, Laymen's report, and website.

Innovations in **performance monitoring** to improve replication and reduce management costs by tree biomass monitoring.

The use of renewable energy and resources for remote locations and optimisations for downsizing and potentially **extending the range of treatable contaminants**.

Targeted communication and dissemination **channelled to different audiences** and interest groups on a global basis, but particularly within Europe.

