Conservation and promotion of the coal mining heritage as Europe's cultural legacy: Ruhr area examples

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Extended Abstract

Converting former coal mining and industrial sites into hubs for new economic activities is a complex endeavor, marked by numerous challenges. To address these challenges, the CoalHeritage initiative, part of the Conservation and promotion of the Coal Mining Heritage as the EU's cultural legacy, has been established as a Research Fund for Coal and Steel (RFCS) accompanying measure. The World Bank has actively participated globally in mine closure and coal region transition, offering technical and financial aid. In their 2018 publication "Managing Coal Mine Closure: Achieving a Just Transition for all," they share experiences and recommendations. Just transition, gaining attention due to the climate crisis, focuses on distributional, procedural, and restorative justice. Despite support from various reports, convincing key actors to prepare for this transition remains a challenge (World Bank Group 2018; McCauley & Heffron 2018). The Coal Heritage's primary focus is on coal regions in transition within the EU and those that have either phased out coal mining or are close to this phase. The goal is to establish a robust interregional network dedicated to preserving and promoting coal-mining heritage in post-mining regions, ensuring both environmentally and socially accepted transitions towards a climate-neutral economy.
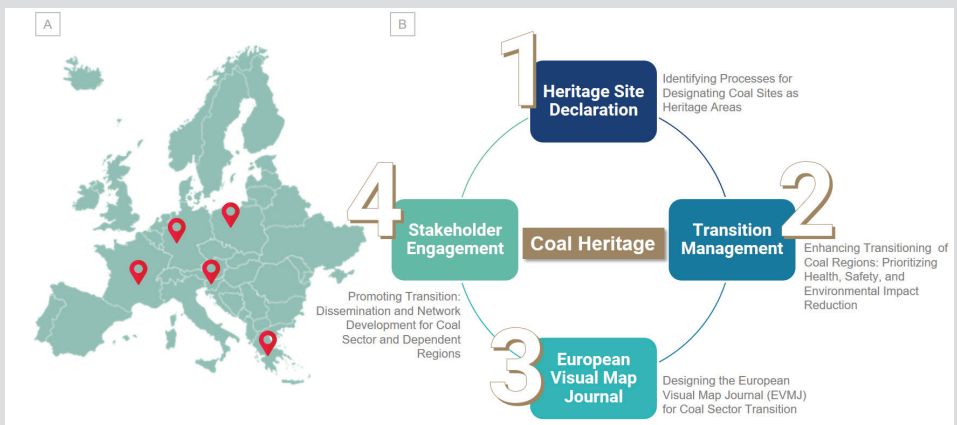
Figure 1 (a) Location of the 5 EU study countries (Greece, Germany, France, Slovenia and Poland) (b) Coal Heritage main objectives and description

Six partners (CERTH, KOMAG, GIG, BRGM, THGA, PV) from five EU countries (Greece, Slovenia, France, Poland, and Germany) (Fig. 1a) will define asset inventory characteristics based on their knowledge of coal mining legacies. Best practices will contribute to the European Visual Map Journal (EVMJ) platform, benefiting potential users such as the coal industry, cultural and environmental stakeholders, research organizations, and the energy sector, advanced material sector, socioeconomic organizations, policy makers, public health organizations, local authorities, and

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environmental legislation consultants. Through this project and its innovative approach to repurposing and protecting former coal mine regions, a novel concept will be introduced to benefit the local citizens and mine workers, who are among the most vulnerable groups affected by the ongoing transition. The initiative will facilitate access to re-skilling programs and job opportunities in emerging economic sectors, such as tourism.

The network's approach (Fig. 1b) encompasses the identification, inventory, and valorization of assets from selected coal mines. Building upon these foundations, a comprehensive strategy for their conservation will be developed, incorporating best practices and outlining the processes necessary for declaring coal-mine facilities as national heritage. Within the scope of this contribution, we aim to showcase the ongoing structural transformations associated with the German coal phase-out, including the evolving legislative landscape and socio-economic strategies geared towards the reactivation and transition of post-mining areas. Germany has put efforts on create frameworks that combine state support, progressive region development and environmental awareness (Marot & Harfst 2012). The Industrial Heritage Trail (Fig. 2a) includes 400 kilometers of tourist themed route connecting the most important and tourist-attractive industrial monuments in the Ruhr area. Any utilization of mining and post-mining potentials requires cooperation and coordination of several actors in order to establish good and coherent projects (Fig. 2b show the secondary use of a slag heap as touristic attraction in the area) (Fischer & Stranz 2011).
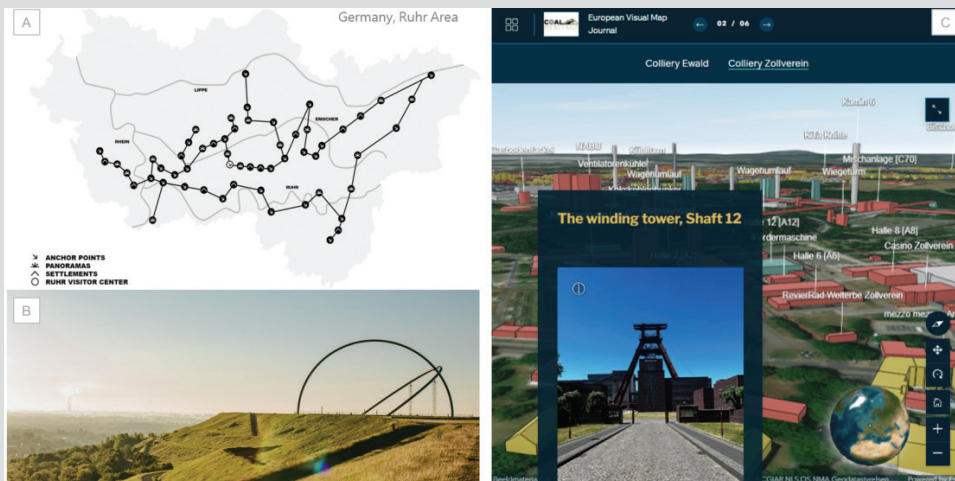

Figure 2 (a) Map of Industrial Heritage Trail "Route der Industriekultur" in the Ruhr Region of Germany (Modified from Route der Industriekultur, 2023). (b) The Hoheward landscape park in the green heart of the Emscher landscape park consists of two tips - the Hoheward and the Hoppenbruch tip – and is the largest slag heap of Europe. (c) Colliery Ewald, Germany, 3D demonstration of CoalHeritage on the EVMJ platform (designed and produced by CERTH (Pavlos Krassakis & Andreas Karavias))

The ultimate goal is to integrate all the findings into the European Visual Map Journal (Fig. 2c), with the intention of fostering collaboration with other industrial heritage networks. An online Geographic Information System (web-GIS) is currently employed to present innovative and user-friendly storytelling maps, aiming to provide: (a) customized interactive maps, granting users access to visually explore selected post-coal mining information, (b) visual appeal, and (c) a profound sense of the coal heritage of specific case studies. These studies correspond to post-mining areas with

diverse geographical, spatial, and descriptive characteristics. This collaborative effort seeks to amass knowledge, build relationships, and expand the initiative's reach to include additional sites. By doing so, we strive to promote the overarching goals of the CoalHeritage project and secure maximum engagement and consultation with stakeholders. This database aims to gather geospatial and text data from selected coalmines, guided by specific criteria. Through this joint effort, the interregional coal mining heritage network and the geodatabase will be incorporated as a dedicated theme route within the European Route of Industrial Heritage (ERIH).

Acknowledgments

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