

The implementation of sustainable and socially just investments in transition regions, which are also in line with the key priorities of REPowerEU, become more necessary than ever. Firstly, the drafting and assessment by the European Commission of the Territorial Just Transition Plans - a prerequisite for the disbursement of funds from the Just Transition Mechanism - is fully underway.

In parallel, the energy price crisis, which has intensified since Russia's invasion of Ukraine, renders independence from fossil fuels a top priority, as reflected in the REPowerEU plan that was recently presented by the European Commission.

In this situation, it is important to build on the experience we gained so far. Green Tank's new report titled *Just Transition in Practice: Sustainable projects in coal regions*, presents projects that can serve as a guide for the design of Territorial Just Transition Plans aimed at the sustainable transformation of local economies in coal regions.

The report categorised the projects according to distinct investment categories and it contains many great examples from the CEE-SEE region as well.

Renewables

There are projects that preserve the energy character of coal regions but at the same time transform them into large and small renewable energy hubs.

A great example is the 204.3 MW solar park of Hellenic Petroleum S.A., situated in Kozani, Western Macedonia, Greece, near the retired Kardina lignite-fired power plant, which was inaugurated in April 2022 and is currently the largest one in Greece and the Eastern Mediterranean, and one of the largest ones in Europe, consisting of 18 individual solar plants and 509.000 bifacial panels.

In Poland, a 5 MW solar park was built in 2020 in the country's second-biggest coal-fired power generator, Jaworzno I Power Plant. State-owned power company Tauron constructed the plant under its Green Return program, a broader photovoltaic development program implemented in post-industrial areas belonging to the Tauron group.

Energy storage

Storage systems can save excess electricity generated by renewables and be used to keep grids running smoothly on days when fluctuations in generation are high. We can find various storage projects such as thermal storage, batteries, pump-hydro energy storage and hydrogen which transformed coal regions.

Despite their present-day relatively small capacity, batteries have great prospects of increasing the penetration of battery storage technologies, due to both the advancement of technology and the massive reduction of costs. They have also become increasingly appealing as an energy storage solution in regions of former lignite mines and power plants. In Greece, there are two large-scale energy storage facilities under the names "Ptolemaida Battery Energy Storage System" and "Arcadia Battery Energy Storage System", each with a capacity of 250 MW/1000 MWh which are currently being planned in the country's former

lignite regions in Ptolemaida, Western Macedonia and Megalopoli, Arcadia.

Tourism

Mining and power generation facilities constitute an integral part of the industrial heritage of coal regions in transition. As prime examples of engineering, they are often characterized by technological innovation and evolution, while being part of the social history of the regions. As such, many former lignite sites and their infrastructure are protected under the UNESCO World Heritage convention and are transformed into cultural hubs, museums and educational centres.

A former coal mine Anselm in the Czech Republic is now housing the Landek Park and a Mining Museum. The mine contained the oldest mining well in the city of Ostrava (Moravia-Silesia). Visitors can also go down to the mining shaft and board an old mining train from the 1960s and learn about the history of mine transport. The project won the Henry Ford Award in recognition of the revitalisation of degraded areas, respect for the environment and cultural heritage.

Sustainable mobility

Green mobility also constitutes a significant investment and policy pillar for the transition of coal regions. Again the Czech Republic, with the help of EU funds launched a programme to purchase hydrogen buses by the city/county urban transport operators in transition regions. It also includes the construction of hydrogen filling stations linked to existing hydrogen production facilities.

In Poland, the Silesia Automotive & Advanced Manufacturing cluster, an initiative of the Katowice Special Economic Zone, which was developed as the result of the restructuring of the Katowice coal region supports research and development in the automotive and advanced manufacturing industry by creating a strong platform of exchange and cooperation between companies, science and education institutions.

Reskilling

The creation of new jobs for the people in the regions that are most affected by the transition is one of the biggest concerns in the Just Transition process. While experienced workers in the coal and lignite industries can be useful for other industrial and industrial sectors, it is often the case that new economic activities require the development of new skills. Hence, reskilling, upskilling, vocational training and capacity-building projects and initiatives constitute basic pillars of Just Transition policies and plans.

Slovakia launched a project to provide education, training and re-training, mentoring and coaching opportunities on entrepreneurship and business development to the workers linked to the coal industry in the region of Upper Nitra. The project also covers training, mobility, relocation, as well as subsistence allowances, with funding from European funds.

Economic zones, innovation

Finally, the economic transformation of the former lignite regions is the most effective and efficient when the privileged location, experienced workers and existing infrastructure can be utilized in renewed ways. Economic zones constitute a framework for organizing such new economic activities and contribute to the economic regeneration of the transition regions.

There is a project in progress in Poland, which aims at forming a testing zone for drones and unmanned aerial vehicles (UAVs) as well as at addressing issues of legislation, education, production and services in the Silesian Voivodship in the Katowice region, in Poland.

“In order to successfully address the unprecedented and urgent need to transform the entire economic and social model of coal regions in transition, in the midst of the energy crisis and war in Europe, it is important to build on the experience gained so far,” says Nikos Mantzaris, Senior Policy Analyst at Green Tank.

The report aims at creating a pool of examples and best practices from which regions and interested investors can draw ideas to adapt and develop their planning according to the characteristics of each region.

“In this way, the available resources will be used effectively to achieve the common European REPowerEU objectives, while ensuring that no one is left behind in Europe’s path of independence from fossil fuels”, says Nikos Mantzaris, CEE writes.