



Romania and European coal regions

For Europe to reach climate neutrality by 2050, the consumption of coal for energy generation needs to be phased out –ideally in the next ten years. Romania has a long-standing tradition of coal extraction and, although it has not set an official phase-out date for coal, the sector has been shrinking rapidly over the past 30 years. Beyond environmental pressures, inefficiencies of the coal mines and their dependence on state aid mean that much of the sector became uneconomical during the industrial restructuring in the 1990s. Many former coal mining regions were left with weak economies, an ageing population and high out-migration.

As part of the European Green Deal, disadvantaged regions that depend on coal mining for employment and economic activity are to receive support to help diversify their economies and to reskill workers. Reskilling and redeployment of former coal industry employees in the renewable energy sector could provide at least a partial solution. This approach has particular scope in countries such as Romania and Bulgaria that have a high cost-competitive potential for wind and solar energy generation. In Romania, the renewable energy sector has been successful, placing the country in a strong position to increase this sector as power generation changes.

Overview

In 2018, the Romanian coal sector employed 16,000 people, and is currently the third largest coal sector in terms of employment in the EU-28, after Poland and Germany.⁸⁸ This is down from around 171,000 workers in the hard coal sector in the 1990s.⁸⁹ Besides mining jobs, in 2015 it also provided 10,000 additional jobs through indirect employment.⁹⁰ Around 80 per cent of the coal sector workforce is represented by production and auxiliary staff, which include roles such as equipment operators, electricians and mechanics. The remaining coal mines in Romania show some of the lowest outputs per employee in Europe as well as being among the most polluting.⁹¹

Interactions with megatrends

Romania has a declining and ageing population and net negative migration. Between 2000 and 2018, total population in Romania decreased by 13 per cent, with an average of 0.5 per cent of the population leaving the country each year. The coal regions present a more extreme variation of the national picture: with some seeing

population decreases of more than 20 per cent and an average net negative migration of 0.7 per cent per year.⁹²

The economy based on coal mines had deep environmental consequences such as land deterioration, excessive land use and water pollution.⁸⁹ The phase-out of coal in Romania could be compensated by greater investment in renewable energy technologies. It is estimated that coal regions in Romania have a technical potential of 10–25 GW for wind and 20–80 GW for solar (ground-mounted) photovoltaics (PV). Offshore wind could also contribute with an additional capacity of 8 GW.⁹³ This could in principle transform the economic model of the coal regions away from mining into a more diversified and sustainable one.

The closure and conversion of coal mines into wind and solar PV farms could have several advantages, including the restoration of the environment; the recovery of extensive areas of land; a positive impact on the local economy through new employment and re-employment opportunities, especially in the construction phase; and better acceptance of renewable energy farms, which could be placed in closed mining sites instead of valuable land.⁹¹

Implications for jobs and skills

The European Green Deal clearly sets out the aim to phase out coal in Europe completely and build an energy sector based entirely on renewable and other low carbon sources.⁹⁴ Romania will be one of the beneficiaries of the European Commission's Just Transition Fund, which will allocate €7.5 billion to help regions impacted by the transition towards climate neutrality, including coal regions.⁹⁵

The government is now expected to draw up regional plans for transition to a climate neutral economy, focusing on local economy diversification, reskilling of workers and ecological transformation of the areas previously used for coal and oil extraction.⁹⁶ This could also present a partial solution for energy poverty in Romania as it would encourage investment in energy efficiency.⁹⁷

The phase-out of coal means that workers will have to adjust. For example, they will have to decide whether to search for an occupation in the same sector (eg mining of gold, silver, salt or copper, in which Romania is rich⁹⁸) to update their skills to work in another sector, or to move

to other regions. For example, a coal industry worker could stay in the energy sector, with the same skills and in the same region as a power plant operator working in a biomass power plant, assuming some of the existing coal power plants were converted to biomass. At the other extreme, an industrial electrician could retrain to become a technician on a wind farm in another region.

The wind and solar industries demand highly skilled engineers and technicians, and have been identified as suitable redeployment options for coal workers through reskilling and upskilling.⁸⁹ However, some regions, such as Oltenia, are considering replacing the coal generation capacity with gas units, which tend to be less labour intensive to maintain and would therefore mean fewer employment opportunities than the development of renewables.^{99,100}

Developing a local renewable energy sector could boost the local economy and provide considerable environmental and health benefits, especially if this is in conjunction with a long-term development plan. Although employment increases in wind and solar energy in the coal regions are currently not expected to be sufficient to substitute all coal-related jobs,¹⁰¹ energy efficiency interventions could be capable of absorbing a significant proportion of the remaining workers.⁹³

However, transitioning from a coal-based economy to one based on renewables will not be easy or quick. Interventions will need to be comprehensive and timely, to mitigate the risk of the current diversified and educated workforce leaving the region. There should be a focus on implementing training programmes, developing entrepreneurship and strengthening the role of universities and connectivity of the area.¹⁰²



Romania and European coal regions

The coal sector is rapidly shrinking.

Developing a local renewable energy sector could boost the local economy.

Reskilling and redeployment of former coal industry employees in Romania and Bulgaria that have high cost-competitive potential for wind and solar energy generation could transform the economic model of coal regions into a more diversified and sustainable one.

Case Study

Transforming Bulgaria's Maritsa East region into the 'Energy Technology Valley of Southeast Europe'

The future plans for the Maritsa East (ME) region could see 240 km² of open cast lignite mines transformed into an economic zone that would combine clean energy generation technologies with industrial and R&D enterprises associated with the regional and global energy transition. The three key principles of the redevelopment proposal for ME include: (a) preserving the 3.3 GW power generation capacity of the region, using a combination of technologies including various renewable energy technologies, to protect Bulgaria's energy security; (b) preserving and increasing the number, quality and pay grade of employment in the region; and (c) retaining and increasing the economic output of the region. The redevelopment would also increase the number of high-skill jobs in the region and thus help reverse brain and youth drain, which are currently depleting the population.