

Can this next round of Romania's energy sector changes and closures be managed in a smoother way, with less damage to the local communities? Are there opportunities for small towns and villages in the Jiu Valley to survive and to build up another, sustainable future? Our drone reveals an apocalyptic landscape of industrial decline: abandoned mine buildings as far as the eye can see. This is Jiu Valley, in south-western Romania, a six-hour drive from the capital Bucharest: it's Romania's famous coal heartland. But it now finds itself at a crossroads, as Europe's coal regions transition away from this fossilised fuel to more environmentally-sustainable energy sources. The first mine here opened in 1840 and Jiu Valley became the region's economic powerhouse. Since then, it's relied on the extraction and processing of this fossil fuel. As a result of this reliance, it has lived through periods of unprecedented growth and deep socio-economic crises. It's from these fluctuations that it received its nickname 'the valley of tears.' Many are still resentful of the mining closures of the 1990s. This triggered violent protest movements, including miners' marches to the capital, Bucharest. The violent clashes led to governmental changes and significant demographic adjustments: in other words, disillusioned people left the region to find work elsewhere. Jiu Valley has had a glorious past; but can it have a glorious future? Will the European Union be able to set the course for a sustainable relaunch? In the communist era, sixteen coal mines were busy in the Jiu Valley; twelve of them are now closed. Locals have seen employment in coal going down from 50,000 in the 1990s to around 4,000 today. Former miner Cătălin Cenușă suffered severe lung damage from his years of hard toil at the Petrila mine:

"I worked in the mine for 27 years. Down there, underground, we never had enough air to breathe, the oxygen concentration was too low.

"Together with other gases and dust, this triggered lung diseases for everybody; all former miners suffer from pulmonary problems. Their life-expectancy is shorter.

"There was a recent study, showing that ex-miners die between 56 and 65 years, in the Jiu Valley, because of lung disease and silicosis."

Livezeni is one of the coal mines that's still open. On the morning that we visit, miner Gabriel Radu and his colleagues have just learnt of a decree signed by the Romanian Minister of the Economy, announcing the closure of two more mines in the Jiu Valley, a process beginning in 2024. The decree is part of the Just Transition Mechanism, by which the European Commission's Green Deal is trying to ease the phasing-out of coal across the bloc, via a multi-billion Euro support package. Coal still plays an economic role in 108 regions of the European Union; an estimated 240,000 people are working in this sector. For the next seven years, the European Commission has already earmarked €40 billion of the

EU budget specifically for the Coal Regions In Transition scheme. The Commission wants this money to be multiplied by also involving the European Investment Bank, private investors and EU budget funding streams such as Invest EU. Altogether, this could add up to over €150 billion. Gabriel Radu is referred to by some of his colleagues as a ten tonnes a day coalminer; his work gallery is typically 500 metres below the surface. Sometimes he has to walk four kilometres underground, just to reach his work position. Several years ago, his leg was crushed by falling beams in a tunnel. In a few months, he'll be eligible for his pension. Looking back on his professional career, he's proud of his work as a miner, but he says he wouldn't make the same decision again if he could go back. Yet mining's a family tradition; the couple's son currently works there too.

But Gabriel realises the industry's days are numbered:

"For my part, I would like to have the coal mining to be ongoing and all those kids to have a job. But if this is what the European Union wants - to close the coal mines - well, then.....

"What a shame... I regret that they won't continue coal mining in the Jiu Valley..."

His wife Mariana is even more emphatic:

"Besides mining, there's nowhere to work around here. And when you look at the money you get, it's never enough.

"There's no future around here. Most of the young people are leaving, they go abroad where they can make some money.

"There are no jobs around here, where should we go to work? Everything's closed. Should we all go working in a pub? There's nothing else left.

"My opinion is that if all the coal mines close, then the whole Jiu Valley will close too. I think the mines should not close, they should go on working, they should invest in them - and go on working." The Hunedoara Energy Complex is a state-owned network of coal mines and power stations; the insolvent company steers Jiu Valley's remaining coal mines and power plants towards 'restructuring'.

Trade union leader and former miner Cristian Rosu has to navigate the body's considerable debts in his new role as a special administrator, an often thankless task:

"We still have four active coal mines in the Jiu Valley and two of them - Lupeni and Lonea - are undergoing closure soon.

"The other two mines, Vulcan and Livezeni, don't have any fixed closure date. They go on working, like coal the mines elsewhere in the European Union, in particular in Germany and Poland.

"As long as German and Polish mines continue to extract coal, Vulcan and Liveseni will do the same. We have to keep in mind that there are no other places around here where people

could go and work, there are no other industries.

“For instance, my own family: my parents, my grandparents, my great grandparents, they worked in the coal mines here. It's the same family history for all the families living here. We are tied to the mines by an umbilical cord.”

The Paroseni coal-fired plant, together with the nearby Mintia-Deva thermal power plant, generate around 5 % of total Romanian electricity production. Dating back to 1956, Paroseni is the oldest coal power plant in Romania. The country has figured prominently for years among Europe's top air polluters. The European Commission pushed Romania to close some of the worst units. Romanian thermal power plants use outdated technologies and most of them risk not complying with tougher environmental conditions imposed by the European Commission, beginning in 2021. The average age of coal-fired facilities in Romania is 42 years and most are no longer profitable. However, one of Paroseni units was recently upgraded with the support of a Japanese company. It was equipped with state-of-the-art filter techniques – a €200 million investment. Limestone is now used to get sulphur oxides out of the coal emissions, but this doesn't solve the CO₂ issues which contributes massively to global warming. Nevertheless, Doru Visan, Paroseni's Director, hopes to keep it open as a reserve unit, to cope with sudden energy consumption peaks:

“Today, this unit is compliant not only with the environmental requirements of today, but also with the even more restrictive ones coming into force next year.

“There are other factors to be taken into account, such as the lifetime of the equipment – which is around 28 to 30 years maximum – and also the quantity of coal coming out of the mines: both will come to an end at the same time.

“When it comes to a decision about the future energy-mix, we have to pay close attention to our energy supply safety.

“My opinion is we need to invest in renewables, we need to invest in natural gas because it's important for the safety of the energy supply system. And last but not least, we need to invest in nuclear energy.”

The non-profit organisation Bankwatch Romania, which scrutinises public finance institutions, is keeping a close eye on taxpayers' money and the country's energy mix. The organisation's Just Transition coordinator Alexandru Mustață is unsatisfied with the government's Energy & Climate Plan, which he considers unambitious. He believes more should be invested in renewables – instead of servicing the financial black hole of the loss-making fossil fuel industry:

“The coal from Jiu Valley is very expensive. Mining is very expensive. The equipment is dated, it's 30 years old.

"Also, there've been a lot of accidents because there were no modernisations of the mines in recent decades. Secondly, the modernised Paroseni coal power plant is still very polluting.

"It's one of the most polluting facilities in the country. And despite the fact that it was modernised, it's still not efficient in terms of costs: the company operating these power plants, the Hunedoara Energy Complex has debts of close to one billion Euros!

"It's insane. For the last four years they weren't paying for the pollution they produced. It's a mystery how this company is still functioning today, considering the debt it's accumulated over time."

When I spoke to Virgil Daniel Popescu, Romania's Minister of Economy and Energy, he confirmed that no new coal power plants will be built in the country. I asked him, however, why two of the Jiu Valley's coal mines that were meant to shut in 2018 were still operational:

"They're still open because the last government didn't take into consideration the big quantity of coal that's in these mines and there's a big risk of combustion in there."

I asked him how the € 4.4 billion from the Just Transition Mechanism would be utilised:

"First of all, you have to know that we are committed to supporting the European Commission's Green Deal. And if we are committed to supporting that, we have to make the energy supply transition.

"And transition from coal to renewables through a transitory fuel is a priority for us. We are already working on a project to make the transition from coal via (natural) gas."

"We have the money, we have the finances and the know-how; we'll do it!"

He insisted that in 30 years from now, there would be no more coal mining activity in Romania at all. Colourful murals in Petrosani depict Jiu Valley's mining past - but also a vision of a more sustainable future. It's a vision that Tiberiu Iacob-Ridzi, the recently re-elected Mayor of Petrosani and himself a former mining engineer, believes in. He convinced towns across the valley to sign a common memorandum in Brussels, an agreement with the European Commission that the Green Deal needs to be locally applied:

"The work places of the future in Jiu Valley aren't going to be found in coal extraction any longer, but in the areas of tourism, of services and of renewable energies.

"It's important what's going on in Brussels - they created this platform for Coal Regions In Transition - and for the first time, they put the human being and families as the priority - not only economic profit or only the environment - but the human being.

"The President of the European Commission, Ursula von der Leyen, said nobody will be left behind. The countries sharing those common coal mining problems will go through these big changes together, with the full support of the European Commission."

Nicolae Dumitrescu is another former miner. After leaving the mine at Petritu, he worked for many years in Italy. But the desire to be his own boss brought him back home where he launched his own small construction company. He says that construction work will be an important part of the valley's future, including energy efficiency renovations:

"The building infrastructure in cities is evolving, even in villages. On top of that, there will be investments in Information Technology, we already have some nice IT companies around. "But all those changes need to be supported by the European Union. The small and medium enterprises and start-ups that are going to be created need help to enable them to make things move."

Among the other options being examined for the valley is a possible future as an all-year-round tourist destination. This is something being worked on by Emil Părau; he made his money in the timber trade - and re-invested the profits locally in the creation of the Straja ski resort:

"This isn't just about ski tourism. Our region has breathtaking beauty. In a few years we'll have thousands of cycling tourists coming to our valley.

"By next year, hopefully we'll have finished some 500 kilometres of mountain bike trails. On top of that: we have probably one of the best regions in Europe for caving.

"We're organising it so that 500 people can work here in Straja during the ski season; that's already the employment level of a small mine.

"So why not imagine that in the future, we'll have thousands of people employed in the tourism sector along the Jiu Valley?" Perhaps yet another element in the valley's future can be found in the work of Marius Surlea; Europe certainly needs electric-charging stations and he's developing them.

Unsurprisingly, he also started his career in a coal mine. Having launched his innovative company Euroelectric with just three people, he now employs 65 and is still expanding. Marius says the expertise of former miners combined with new graduates:

"The development of our company was based on the qualified workforce available from the mining sector here in the Jiu Valley, and - on top of that - thanks to the qualified young people coming from the local university.

"Thanks to some European funding, our company was able to speed up development - that explains our success."

The University of Petrosani, which has provided these graduates, is a key player; having started decades ago as a mining school, it has evolved into an institution offering all kind of studies needed to build up technical and management capacities. To attract direct investors from other regions and also from abroad, the university even offers tailor-made study

curriculum, adapting to the specific technical needs of individual companies. Mihai Radu, the university's Managing Director sees the Jiu Valley as Romania's future Silicon Valley: "It also has a future as an energy valley - because we have the potential, we have the skills and specialised workforce here.

"We can train top experts at our university. I think the future of our valley will be a mix of tourism development, cutting edge technology companies, but also some remaining conventional technologies."

Catalin Cenușă knows that the cultural heritage of the valley's mining history needs to be preserved amidst this new era. Together with other former and current miners, local artists and architects, he set up an association, called Planeta Petrila. Cenușă has dedicated three years of his own efforts to set up the initial exhibits in a still unofficial mining museum, the Saviour's Memory Museum, including the reconstruction of a site from an old-style mine. These are the highly promising but still early stages of a project-in-the-making that the Petrila Planet team hope could eventually have genuine international impact, attracting tourists from all around the globe to this unique place. Cenușă has architect colleagues from Planeta Petrila based in Bucharest, Timisoara and Paris. They were motivated by plans to raze to the ground all of the old mine buildings in Petrila. Working quickly, they were able to play a role in saving at least some of them from destruction. In the Jiu Valley, they then set up meetings to gather proposals on how to transform the Petrila mine into something completely different.

A Bucharest-based member of the team, Ilinca Păun Constantinescu says the ideas were inspiring:

When we had our first meeting with the citizens of Petrila, some of them had the idea - and this opened our eyes - to build swimming pools there, for instance, because these cones here used to be reservoirs of water for washing the coal. "So you are going to have a leisure space at the top of the building, with a nice view of Petrila and of the whole mining area. "Then, an exhibition taking place in the other large cone was an idea coming from (local artist) Ion Barbu where he proposed having this circular ramp that would enable one to explore this very particular space. "The fact that the whole building complex is connected to the railway, to Petrosani, this is why this building is a very good starting point as it is a node of circulation that would bring people into that new adventure."

But this vision of a tourist hot-spot, boosting the valley's economy towards sustainable development creating jobs, hope and a future - is under threat. Only a few of the mine buildings have special protection status so far and there's an ongoing struggle about how much of the mine will be transformed. In the past two years, some 10,000 visitors have

come here.

Cenușă remains optimistic:

“My dream is that in ten years time, this will become a tourist spot, with a theatre scene performing drama, with open-air cinema. There is a real potential for tourism here on the site.

“The end of coal mining should not mean the end of the Jiu Valley, not at all.”

Innovative business start-ups, tourist projects, investments into green technology: Jiu Valley does have the power to rebuild a new sustainable future, emerging from the ruins of an outdated, fossilised past.

Source: [euronews.com](https://www.euronews.com)