

UNECE JUST TRANSITION STUDY 2023



Mirëdita

2nd Workshop on 4th of April 2024

Tirana



Overview

1. The study project
2. Final Report
 - Approach
 - Findings
 - Recommendations
3. Discussion

The Study Project



UNECE
Technical, principle-based guidelines
for designing and implementing
a programme for efficient, safe
and environmentally conscious
mine closure in Albania and Serbia



UNECE JUST TRANSITION ASSESSMENT ALBANIA A Sector Decarbonization and Just Transition Framework Applied to Coal Mining



The Study: ACKNOWLEDGEMENTS

THANKS TO ALL ALBANIAN PARTICIPANTS IN THIS STUDY – IN PARTICULAR THE SUPPORT OF AKBN

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The document was developed under the supervision of **Michal Drabik**, secretary of the UNECE Group of Experts on Coal Mine Methane and Just Transition and with the support of **Oleg Dzioubinski**, Regional Adviser at the UNECE Sustainable Energy Division.

The study was reviewed and edited by **Michal Drabik** and **Raymond Pilcher**, Chair of the UNECE Group of Experts on Coal Mine Methane and Just Transition, with a contribution by **Dario Liguti**, Director of the UNECE Sustainable Energy Division.

The UNECE Group of Experts on Coal Mine Methane and Just Transition also discussed and approved the document at its 18th session on 18th March 2024 in Geneva, Switzerland.

Approach

- Framework for a continued transformation of post-coal mining areas
- Description of Albanian coal sector and post-coal mining communities
- Assessment of Just Transition Readiness of the Coal Sector in Albania
- Stakeholder dialogue and practical recommendations

Framework for a continued transformation of post-coal mining areas

Case Study: Buffalo (United States of America)

Case Study: Buffalo, New York – from grain, steel and car production ... to a location for solar energy and finance



- 1970s "death" of the steel industry, loss of ~78,000 jobs
- Loss of the logistical advantage of the waterfront location (construction of the St. Lawrence Seaway, cut off from the canal)
- Delays in public investments to increase the attractiveness of the tourism location
- Population decline from 580,000 (1950) to 290,000 (2006)

- 1 bn € investment from NY State
- 812 new and added companies, 11,000 jobs 2013-15
- University of Buffalo (29k students), focus bioinformatics and life sciences
- Investment in Buff. Medical Innovation and Commercialization Hub and Buff Niagara (\$50M, 250FTE) and the Buff Institute for Genomics (\$50M, 500FTE)
- Focus on solar technology: production facility of SolarCity (~\$750M)

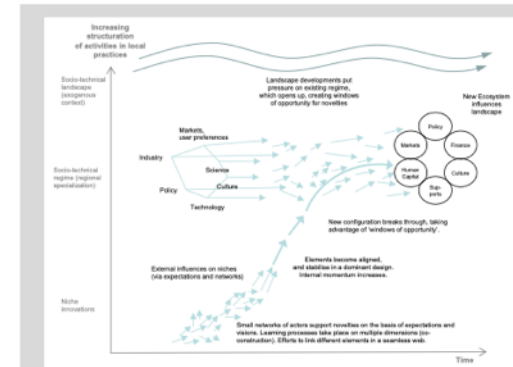


- Training center for requalification, Industry 4.0 and industrialization of RE
- Joint investment by NY State (~\$29 million Buffalo Billion) and the NY Power Authority (~\$15 million)
- Training concepts developed with the State University of New York
- Model "clean energy" factory and another for Industry 4.0 applications
- Operated by the Economic Development Group initiative

- Production and innovation center on former steel production site
- SolarCity (Tesla, Panasonic) solar panel production; creation of 5k jobs (3k in Buffalo, 2k in the surrounding area)
- Technology startup hub with New York State University
- Investment by NY State (~\$350 million from BB, US\$150 million through tax abatement, US\$250 million from other New York funding) and SolarCity (~\$5 billion) in infrastructure

Selected insights into socio-economic transitions:

- Massive investment (1 billion dollars) State of NY, particularly in infrastructure
- Efficient use of funding and cooperation with local companies
- Strengthening of local ecosystems through investment in education and research
- Focus and commitment towards a new industrial specialization

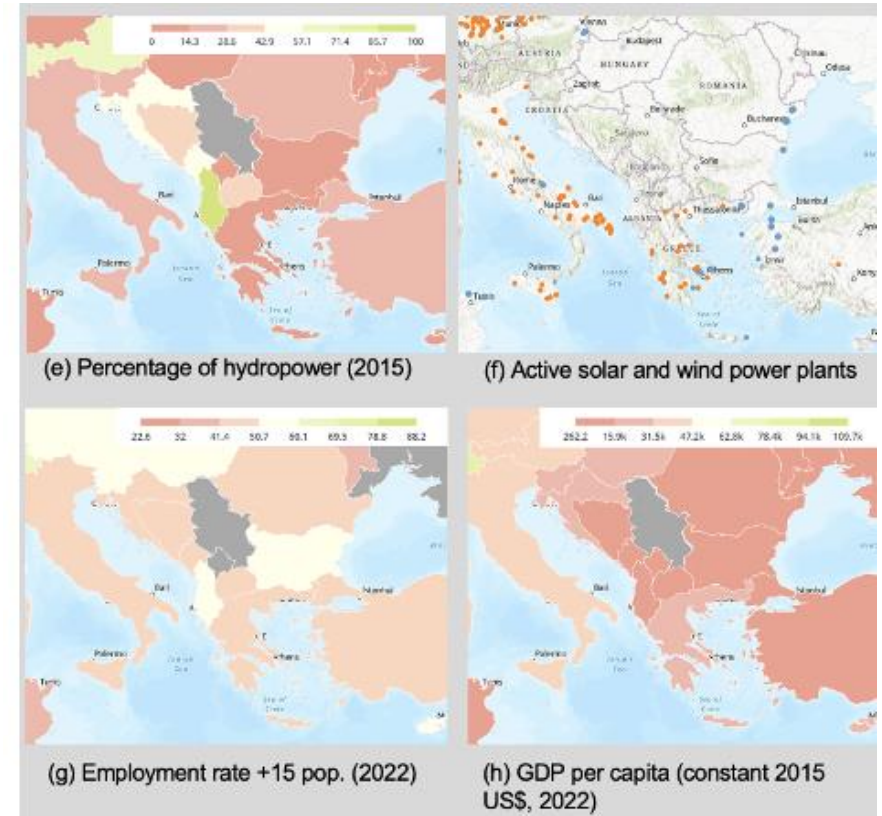
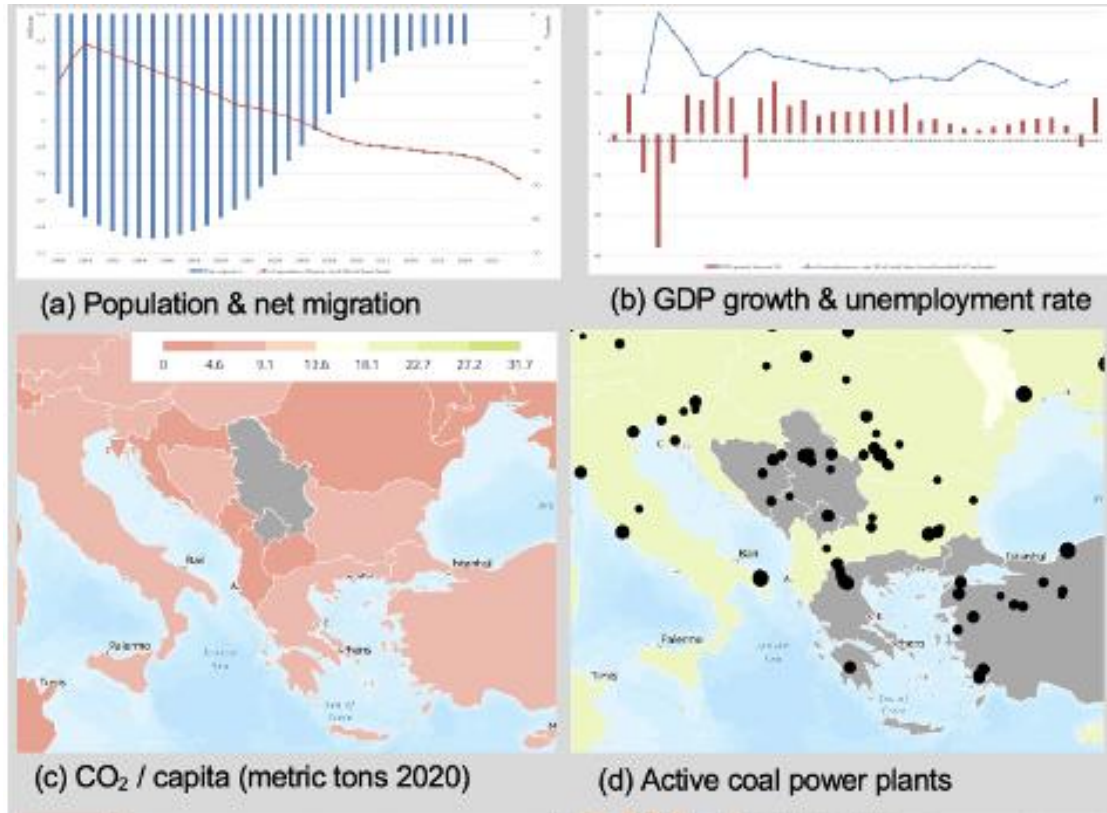


(a) Socio-economic transitions



(b) Entrepreneurial Ecosystem

Description of Albanian coal sector and post-coal mining communities



Description of Albanian coal sector and post-coal mining communities


Case Study: Mining Communities Krrabë and Mushqueta




Description of Albanian coal sector and post-coal mining communities

Mining Community: Tirana


Coal Mines: Priska, Mushqeta & Krrabë




governance



people




transition



digital

**Just
Transition
Readiness
Score**



Krrabë

Transition Story

- Wider metropolitan area of the capital Tirana
- Historical (1938) and socialistic mine openings (1968, 1980)
- After 1995 predominantly urban

Activities & Projects

- Central government
- Public Universities
- Private Universities
- Industry
- Tourism
- Culture


Social: Inhabitants **Miners**

	Inhabitants	Miners		Miners
1979	189.000	1980	2092	
1989	238.057	1995	628	
2001	343.078	2001	6	
2011	418.495	2011	n.n.	

Agglomeration 895.042 (2008)

Ecological

Mine closure: 1996, 2001 (90%)
 Methane: Krrabë
 Water: Krrabë
 Renewable Energy:
 Climate risks:



Economical
 Inhabitants/km² : 805
 Car: 10-30 km to Tirana, 0:40 h
 Public: bus

No.	Mine	First Exploitation Date	DeCM date on Mine Closing	AKBN Register Date	Production (ton)	Estimated Reserves (ton)
1	Mikoni	1968	No 024, dated 04.12.1996	No.2978/2001	1.435.320	1.435.000
2	Mushqeta	1968	No 250, dated 26.09.1996	No.2978/2001	2.300.000	5.365.000
3	Krrabë	1968	No 101, dated 02.01.2001	No.2978/2001	1.658.270	6.500.000
4	Priska 2	1980	No 250, dated 26.09.1996	No.2978/2001	374.067	2.982.000
5	Priskë	1980	No 101, dated 02.01.2001	No.2978/2001	—	2.490.000

The coal mine of **Priska** is in east of Tirana, approx. 8 km from the national road Tirana-Dejt. The coal basin extends as a belt at the base of the Dejt mountain range starting from the villages of Surrol and Priska up to the village of Përrolosh in south. Climate is Mediterranean. From the geological point of view the most interesting are the Tortonian depositions, directly related with the coal bearing capacity. This formation is divided in three sublayers: Priskë, Skutëri and Ibi. These sublayers are very complex. Layers I-IV do not represent any interest for the industrial exploitation. Only layer V represent industrial interest. The average thickness is 52 cm. The calorific heat is 3570 kcal/kg. Ash is 34,6%. This mine started the production in 1949 and until 1959 was produced 120 000 ton of coal and were performed 2 000 m³ of mining works. The mine restarted the production and until 01.10.1996 are produced approx. 374 000 ton of coal with calorific heat 3 500 kcal/kg. In total were performed 11 325 m³ of mining works. The coal supplied the TPP of Tirana, cement factory of Fushë-Krujë etc. For the mining activities were excavated the Traver banks at the quotas of +540 m; +480 m and +380 m. The second phase continued with the excavation of the Traver bank at the quota +480 to +80 m; +288 and the shaft (+288 to+80). The hydrology is very complex. The water mineralization is very high (0,8 g/l), and strength of 22° German scale, but the are not corrosive). The water flows at 2 lit. The tailings volume is estimated: 11326 x 5,2 x 1,2=70 670 m³ for mining works and for the production of 374 000 ton are estimated to be (374 000 x 0,3)/1,8= 62 330 m³.

Mushqeta mine is located in the southeast of Tirana, along the Tirana-Elbasan highway, approx. 20 km from Tirana. The coal basin cover and extended area including the northeastern side nearby the village of Pëllumbaj, Kryeë, coal mine of Krrabë, whilst in the southwestern part is in bounder with the villages of Mushqeta, Bërzhitë and Dobrosht. The relief is very complex and represent a hilly chain very hard to pass. Hydrologic system is mostly composed by river of Zall and creek of Lera. The climate is Mediterranean. Flora is very advanced and mostly with bushes. Orchard, wineries and olives are also present in the region. The mining activities commenced on 1968 with the first Traver bank at the +425 m and quota III the quota +530 m. In a second was excavated the second Traver bank +339 m and +240 m. The first phase of the mine development includes the works at the horizon +240 m to +530 m, whilst the second phase below the horizon +240 m to -30 m via a three levels shaft (+150, +60 and -30 m). The designed capacity of the mine was 100 000 t/year, for 30-years. Until 1994 the total production is estimated to be 2,2 million tons. In total were performed 8 400 m³ of mining works. The calorific heat is estimated in the range of 2 500 kcal/kg. The geological formations are mainly Tortonian depositions. The basin is part of the Tirana synclinal. The industrial interest was related only with the layers of Krrabë, Mushqeta, Bërzhitë, Pëllumbaj, Erzeni and Kryeë, precisely with the layers 1^a, 1 and 2.

- Layer 1^a extends for approx. 7 km (the thickness is 20-10 cm, inclination is 25°-50°);
- Layer 2 extends for 5 km (unstabile aluvionites. The layer thickness is about 50 cm);
- Layer 1 extends for 2,8 km.

The coal mine represent and artesian pond composed by the aquifers of Tortonian and Helvetian. The Tortonian represent 7-8 sandstone aquifers isolated by clays in proximity of the layers 2 and 1b. Helvetian represent the coal bearing floor of the coal basin. Tailings from the mine excavation activities are estimated to be 63 000 m³ and from the mining activities 244 000 m³.

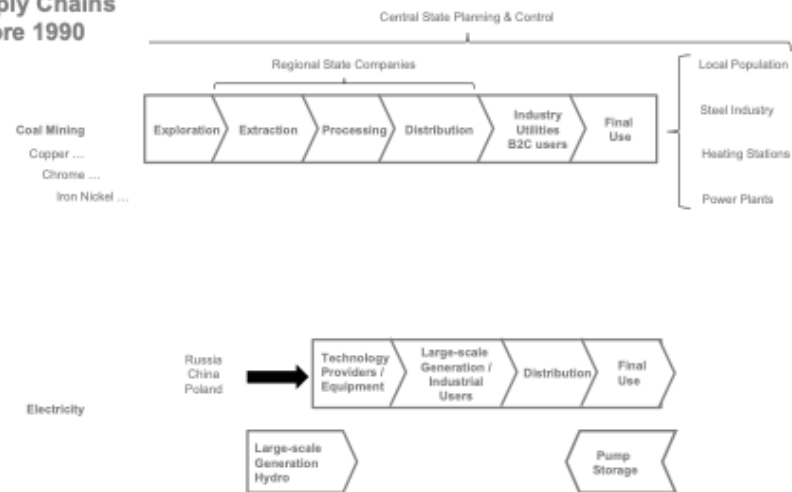
The coal mine of **Krrabë** is 25 km in southwest of Tirana, in proximity of Tirana-Elbasan highway. The coal basin extends on northwest of villages of Pëllumbaj-Kryeë, in east has boundary with the village of Skutëri and in southwest with Mushqeta. The geological formations are mainly Tortonian to middle Miocene. There are found also some quaternary depositions represented by alluvions and deluvions of the Erzeni and Zall riverbeds. The coal bearing formations interest all the aquifers of the Tortonian complex and Helvetian. Industrial interest is presented only by the layers 1 (composed by shale, clays and aluvionites - thickness 0,3-1,5 m) and 2 (composed by compact aluvionites - thickness 0,5-0,61 m). Until 01.01.2000 were produced 1 658 270 ton of coal with calorific heat 3 474 kcal/kg. The mining works are estimated to be 97 762 m³. The mining works tailngs are estimated to be: 97 762m³ * 5,2m³ * 1,2 = 610 000m³. The production tailngs are estimated in the range of (1 658 270 * 0,2)/1,8 = 184 262 m³.

Assessment of Just Transition Readiness of the Coal Sector in Albania

Socio-Economic Transition Phases		smart specialized	shock disruption	entrepreneurial exploration	regime reshaping	smart specialized
Albanian Phases of Development		„Socialistic Coal Mining System“	„Political Disruption & Coal Exit“	„Adaptation“	„EU Ascension“	„Just Transition achieved“
Socio-Economic Levels	Landscape	Central Mining Administration	89/90 Toppling of government International Closure Consultants	International Institutions New Mining Law 1994	UN Program EU Candidate 2014 West Balkan Six 2014 Paris Agreement Ratification 2016	National Emission Reduction Targets EU and regional integration Programs
	Regime	Miner Commuting / Mining Town Business Model Decentral Mining Schools	Fragmented Privatization Central Divestment Agency Communal Land Redistribution	International Investors (Copper, Chrome, Coal?) Infrastructure projects	Climate & Sustainability National Programs Regional Governance Statistics & Planning Power Market 2014 Admin. Reform 2015	Projects Anchor Firms New Smart Specializations
	Niche		Stop of Mine operation Private Operating Licences Companies 1 st wave of emigration	Mine Closures Inner Albanian Migration & Urbanization	Ideas 2 nd wave of emigration	Initiatives
		1944 - 1989	1990– 1994	1994 –2014	2014 –2023	2023 – 2035
						transformation time

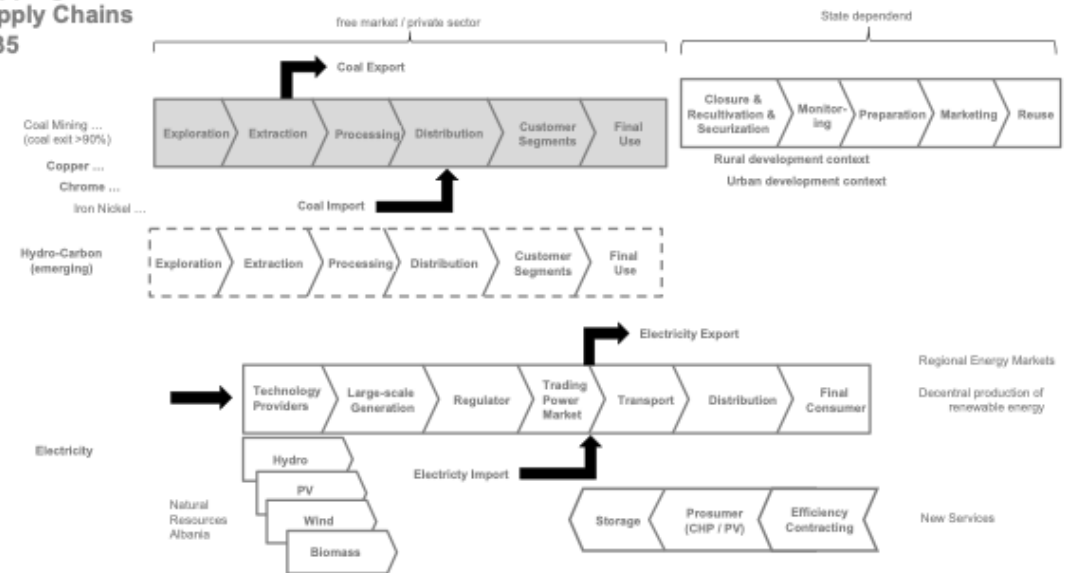
Description of Albanian coal sector and post-coal mining communities

Mapping of Supply Chains Before 1990



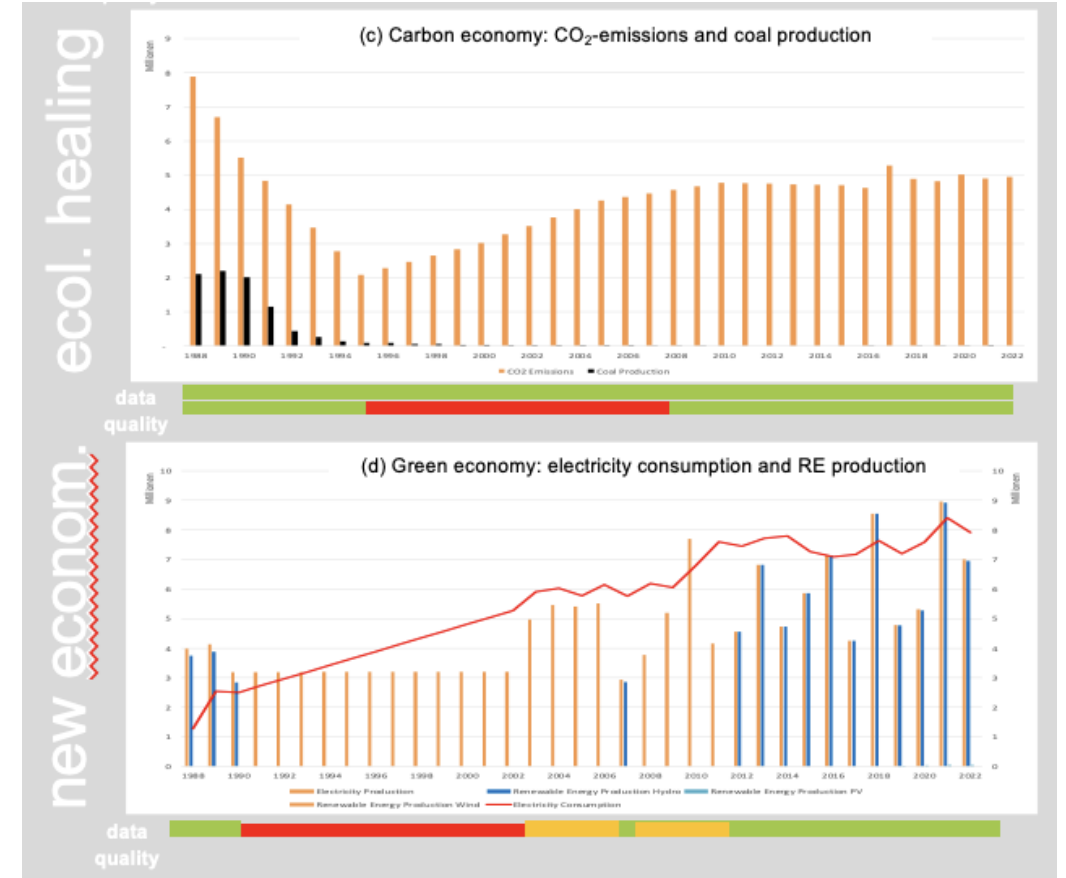
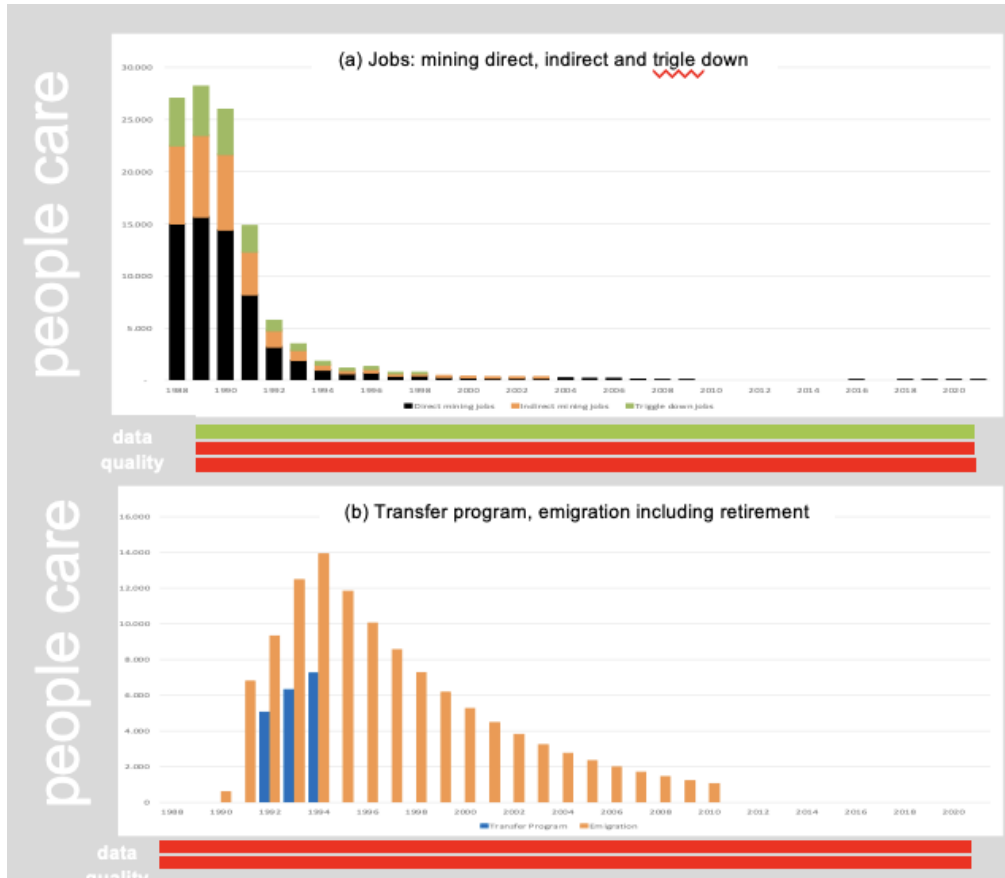
(a) Industrial Coal Mining and Energy Supply Chain (before 1990)

Mapping of Supply Chains 2035



(b) Emerging Energy Supply Chain (Horizon 2035)

Description of Albanian coal sector and post-coal mining communities



Assessment of Just Transition Readiness of the Coal Sector in Albania

Just Transition Maturity Albania	Neutral	Basic	Managed	Defined	Established
Governance	X#	O+			
Regional Agency	Xo+	#			
People Care		O+#	x		
People Develop	Xo+#				
Ecological Healing	O#	X+			
New Economy		Xo+#			
Data Transparency		Xo+#			
Digital Cooperation	X+	O#			

Table 7: Maturity Assessment (Expert 1: x; Expert 2: o; Expert 3: +; Expert 4: #)

Stakeholder dialogue and practical recommendations

Observations

- 1. A first part of this socio-economic transition of coal mining in Albania is already completed:** the exit of coal mining as a business has been finished in the wake of market liberalization within less than 5 years after 1990. The challenging and immediate task of relocation of employees from closed mines has been solved by time.
- 2. A window of opportunity opens to finish the unfinished mine closure of the 1990s:** Closed mine securization, land-reuse and new business development are still an open end of Albania's coal mining exit. Attention and efforts of international institutions like UN and EU on a decarbonization of the Western Balkan could provide government attention and financial resources to support a Just Transition program centered around a second securization program of the post-mining areas.
- 3. Albania has a unique opportunity to position itself as an ambitious European first mover towards a net zero economy.** Blessed with a considerable geographical potential for renewable energy and a legacy of significant installed hydropower capacity the country has a pole position amongst European nations to become a green economy leader. An ambitious program of solar and wind power farms could fill the widening gap between renewable power production and increasing power consumption. Such a program would not only boost local business and energy production, but it could serve as a modernization drive in higher education institutions, start-up communities and targeted foreign investment attraction.

Recommendations

Create participatory process and governance for „Just Transition & Coal Exit in Albania“

Win stakeholders on a national level

Set up a robust multi-lever process, centrally coordinated governance supporting the identified areas of action on the decentral, local level.

Leverage EU driven institutional renewal: Invest in Governance, Policy Frameworks and Local Entrepreneurship.

Modernize into a Competitive Green Economy

Carefully phase out fossil fuels (smart end of use strategy, CO₂ risk management)

Build and invest in competitive infrastructure (grid, regional integration, power exchange) for a green, sustainable economic development of Albania

Build markets for expanding usage of renewable energy and local resources

Reinvent local business models and foster smart specialization of communities

Foster and accelerate adaptation via modernization of higher education institutions and research, international learning networks and practical cooperation on local, national and regional level

Private sector and local initiative mobilization

Private sector and local initiative support framework on a central level

Just Transition Innovative Project Award 2025

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Just Transition Innovative Project Award 2025



Just Transition Innovative Project Award 2025



2025 Award

- Donation of 333 EUR by Jürgen Lange & Son for the 1st Price
- Top 3 projects presented at UNECE 03/2025 (via video)

Award Jury and Assessment

- Mixed Jury of Experts (UNECE / region)
- Competition of at least 5 projects
- Project Presentation (max. 20 PPT-Slides)
- handed in by 31.01.2025

Project Assessment Criteria

- Post-Coal-Mining Project for the Next Generation
- Value Creation in the Regional Mining Community
- Simplified Business Plan of the Project Idea
- English Presentation as the world learns together

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Just Transition for Coal Mining Regions Albania

PROPOSITIONS

UNECE Study 2023



An Outstanding Opportunity

Just Transition & Coal Exit Albania – Suggested Areas of Action

1. Create participatory process and governance for „Just Transition & Coal Exit in Albania“

- Win stakeholders on a national level and build a shared and methodological sound perspective on the „Just Transition & Coal Exit“
- Set up a robust multi-lever process and centrally coordinated governance via the identified areas of action
- Leverage EU driven institutional renewal: Invest in Governance, Policy Frameworks and Local Entrepreneurship for the Mining Sector, Former Mining Communities and related Education

2. Modernize into a Competitive Green Economy

- Carefully phase out fossil fuels (smart end of use strategy, CO2 risk mgt)
- Build Infrastructure (Grid, Regional Integration, Power Exchange) for a green, sustainable economical development of Albania
- Build markets for expanding usage of renewable energy and local resources

3. Reinvent local business models and foster smart specialization of communities

- Foster and accelerate adaptation via learning networks and cooperation on local, national and regional level
- Private sector and local initiative mobilization
- Private sector and local initiative support framework

Just Transition Albania: Just Transition Road Map (Workshop 04.04.24)

Work in Progress

Vision:
Use Just Transition process to leverage EU accession modernization for building a green economy

AA1: Project Set Up	AA2: Government & Governance	AA3: Empower Local Activities	AA3: Green Economy Infrastructure
M1.1	M2.1	M3.1	M4.1
M1.2	M2.2	M3.2	M4.2
M1.3	M2.3	M3.3	M4.3
M1.4	M2.4	M3.4	M4.4

Program:

Component 1: Just transition process to complete mine closure and coordinate activities

Component 2: Reinvent smart specialization in the Communities in a decentral approach

Component 3: Enabling Sustainable Economic Growth by creating infrastructure and preconditions for green economy

Just Transition Albania: Just Transition Road Map (Workshop 04.04.24)

Work in Progress



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Mirupafshim



Faleminderit

