OECD Rural Studies

Mining Regions and Cities in SAŠA and Zasavska, Slovenia

A Regional Approach for a Just Transition Away from Coal

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BETTER POLICIES FOR BETTER LIVES

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Foreword

Coal is the most carbon-intensive fossil fuel, and reducing its use is necessary to reach climate goals. The European Union is moving towards climate neutrality by 2050, phasing out coal and investing in secure, low-carbon energy systems. This shift has direct effects on places where mining and coal-based power have long shaped local economies, societies and identities. In this context, a place-based approach to policy design and implementation, grounded in the engagement of local stakeholders, is important to support a fair and lasting economic transformation of coal regions.

Slovenia has committed to exiting coal by 2033, setting a clear horizon for the transition in its two coal areas: the Savinjsko-Šaleška (SAŠA) subregion and the Zasavska region. The two regions start from different positions. Zasavska completed its coal-mine and thermal power-plant closures in 2014 and has since undergone a long period of adjustment. SAŠA still hosts an active coal mine and thermal power plant which will close in the coming years. This requires planning for economic diversification while managing the social impacts linked to the forthcoming closure.

The policy framework for this transition is set by Slovenia's Integrated National Energy and Climate Plan, the National Strategy for the Phase-out from Coal and the Territorial Just Transition Plans adopted by the European Commission in 2022. These instruments enable access to EUR 258 million from the European Union's Just Transition Fund for investments in both regions over 2021-2027, with eligibility until 2029, as part of the wider Just Transition Mechanism.

Both regions possess assets for a forward-looking transition, including extensive green areas, industrial sites and research capacity. For instance, Zasavska is developing new business zones on rehabilitated brownfield sites. SAŠA is preparing alternatives for district heating and the future use of the TEŠ thermal power plant, alongside flagship energy-related projects. Despite this progress, the report identifies priority actions to secure a just transition and prepare for planning after 2027. In the short term, advancing the implementation of projects is essential, as administrative checks and permitting processes have contributed to delays. Strengthening capacity at the municipal and regional levels, together with more regular senior-level co-ordination, can help shorten approval timelines and clarify procedures for applicants. Within existing national selection frameworks, a more systematic approach to project preparation is also needed, so that proposals move beyond the concept stage with basic feasibility work in place. Over the longer term, diversifying funding sources and improving enabling conditions can help sustain the transition beyond the current EU support period and generate lasting local benefits.

This report sets out 7 recommendations with 27 actions across 4 thematic areas to guide an inclusive and implementation-focused transition in SAŠA and Zasavska. It draws on insights from two field missions in November 2024 and February 2025 and three stakeholder workshops in May, October and November 2025, which brought together national, regional and local government representatives, enterprises, researchers and civil society partners. This work is part of the OECD Mining Regions and Cities Initiative, which supports policies to enhance the competitiveness and well-being of mining areas within the OECD regional development agenda. The report was developed as part of the Programme of Work of the OECD's Regional Development Policy Committee (RDPC), served by the Centre for Entrepreneurship, SMEs, Regions and Cities (CFE), and was funded by the European Union via the Technical Support Instrument. The report was submitted for comment to the OECD Regional Development Policy Committee (CFE/RDPC(2025) 40) on 24 November 2025.

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The report was co-ordinated by Fernando Riaza under the direction of José Enrique Garcilazo, Head of the Regional and Rural Policy Unit in the Regional Development and Multi-level Governance Division, led by Dorothée Allain-Dupré. The report was drafted by Bridget Donovan (Chapter 1), Andrés Sanabria and Paul Baker (Ecorys) (Chapter 2), and Fernando Riaza (Chapter 3 and Chapter 4). The report benefited from input and comments provided by Maria Varinia Michalun, Josh Wood, Geoff Upton and colleagues within CFE and other OECD directorates, as well as peer reviewers. The publication process was led by Jack Waters, the report was edited by Romy de Courtay and communications support was provided by Roxana Glavanov. The OECD also thanks Paul Baker (Ecorys) for participation in field missions and technical support during the project implementation.

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and the TEŠ union), and civil society organisations and community representatives from the Savinjsko-Šaleška and Zasavska coal regions.

The report benefited from discussions held during two missions and three workshops conducted between December 2024 and November 2025, which brought together stakeholders to reflect on transition challenges, share practices and develop recommendations. The OECD thanks all participants for their contributions.

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Abbreviations and acronyms

CF	Cohesion Fund
CFE	OECD Centre for Entrepreneurship, SMEs, Regions and Cities
DA SAŠA	Development Agency SAŠA
DUBT	Centre for Development, Demonstration and Training for Carbon-Free Technologies
DRR	Regional Development Agreement
EC	European Commission
EARS	Environmental Agency of the Republic of Slovenia
EIB	European Investment Bank
ERDF	European Regional Development Fund
ESF+	European Social Fund Plus
EU	European Union
EUR	Euro (European single currency)
FDI	Foreign direct investment
GDP	Gross domestic product
GVA	Gross value added
HSE	Holding Slovenske Elektrarne Group (Slovenian power utility)
IMAD	Institute of Macroeconomic Analysis and Development
JTC	Just Transition Centre
JTF	Just Transition Fund
JTM	Just Transition Mechanism
LQ	Location quotient
MCRD	Ministry of Cohesion and Regional Development (Slovenia)
NECP	Integrated National Energy and Climate Plan
NGO	Non-governmental organisation
NUTS	Nomenclature of Territorial Units for Statistics
OECD	Organisation for Economic Co-operation and Development
PMO	Prime Minister's Office
PONI	Podjetno nad izzive entrepreneurship training programme
PPP	Public-private partnership
RDA	Regional development agency
RDP	Regional development programme
RDPC	Regional Development Policy Committee (OECD)
SAŠA	Savinjsko-Šaleška subregion
SG REFORM	Secretariat-General, Directorate-General for Structural Reform Support (European Commission)
SORS	Statistical Office of the Republic of Slovenia
SPIRIT Slovenia	Public Agency for Entrepreneurship, Internationalisation, Foreign Investments and Technology
SPOT	Slovene Business Point (enterprise one-stop-shop and online portal)
SRIP MATPRO	Strategic Research and Innovation Partnership "Materials as End Products"
tCO_2e	Tonnes of carbon dioxide equivalent

TEŠ	Šoštanj Thermal Power Plant
TL2	Territorial Level 2 (OECD large regions)
TL3	Territorial Level 3 (OECD small regions)
VET	Vocational education and training
SME	Small and medium-sized enterprise
ZSRR	Zakon o spodbujanju skladnega regionalnega razvoja (Act on the Promotion of Balanced Regional Development, Slovenia)

Executive summary

Slovenia's commitment to phasing out coal by 2033 places the Zasavska region and the Savinjsko-Šaleška subregion (SAŠA) on distinct but connected transition paths. Zasavska, where coal mining closures started in 1994 and ended in 2014, has experienced three decades of adjustment. Gross domestic product per capita remains below the national average, but business creation has increased and demographic decline has slowed. SAŠA, by contrast, still hosts an active coal mine and thermal power plant employing over 2 000 workers and continues to attract labour inward migration. It faces a dual task during the remaining operating period, namely, to build alternative economic activities while managing the social impacts of the forthcoming closure. Both territories benefit from European Union (EU) and national support; research and innovation assets; and established regional development institutions, namely, the Regional Development Agency of Zasavje (RDA Zasavje) and the Development Agency of SAŠA (DA SAŠA).

The national framework for this transition is well developed. The Integrated National Energy and Climate Plan, the National Strategy for the Exit from Coal and the Restructuring of Coal Regions, and the territorial just transition plans (TJTPs) set the strategic direction and enable access to the Just Transition Fund (JTF), with EUR 258.7 million in EU resources. National co-financing comprises EUR 21.2 million from the state budget for public-sector beneficiaries, with an additional EUR 24.5 million expected from private-sector beneficiaries. TJTPs form part of Slovenia's 2021-2027 EU Cohesion Policy programme and are implemented alongside regional development programmes (RDPs), which integrate just transition objectives into wider regional priorities. Just transition centres (JTCs) hosted by the RDAs/DAs act as operational contact points for applicants and stakeholders.

However, progress in implementation is uneven. By late 2025, a significant share of JTF resources had been allocated to selected operations but disbursements lagged behind, particularly in SAŠA. Stakeholders point to administrative complexity, the sequencing of regulatory checks, and delays between technical assessment and ministerial approval as factors that can slow delivery. At the same time, the future resourcing of JTCs beyond 2029 is uncertain, as much of their current income comes from EU technical assistance. These conditions frame the analysis of this report and the areas where adjustments could help improve the just transition efforts.

A first area concerns strategic vision and project preparation. In both coal regions, key planning elements for the transition are spread across several instruments, including TJTPs, RDPs, sub-regional programmes and draft acts. A consolidated long-term vision, rooted in regional identity and aligned with the forthcoming National Regional Development Strategy, could help bring these elements together. Such a vision would set a small number of measurable objectives for 2025-2030, 2030-2040 and beyond, providing a stable reference when public and private actors choose and sequence projects across funding cycles.

Stronger project preparation and pipeline support can help connect this vision to implementation. Slovenia already applies a public and binding set of cohesion policy selection criteria, prepared by the managing authority and approved by the monitoring committee (Merila 2021-2027 and related guidelines). Within this framework, regions still face challenges linked to the maturity and feasibility of some proposals, especially where technical studies, financial plans or permitting steps are not yet in place. A streamlined, pre-application stage led by JTCs and RDAs can support municipalities and other applicants in bringing proposals to a more advanced stage before they enter formal calls, with early checks on alignment with TJTP and RDP priorities, documentation quality and basic financial planning.

A second area relates to strengthening governance mechanisms for effective transition delivery. Interministerial co-ordination already operates through cohesion policy steering structures, with the management and control system setting clear roles for the managing authority, the intermediate bodies and the programme monitoring committee. Even so, complex operations that require several ministerial confirmations can experience slower approval once technical work is complete. Scheduled high-level meetings at the state secretary level could help confirm timelines and resolve cross-ministerial issues. In parallel, JTCs would benefit from a longer-term mandate and more stable funding sources. To support this governance, robust data and monitoring frameworks are essential. Currently, SAŠA lacks separate statistical status, making it harder to track outcomes. Expanding data availability for SAŠA municipalities and strengthening the territorial tagging of projects would help monitor trends more closely. Developing a permanent "transition well-being" scorecard, tracking indicators on employment, investment, emissions, health and education, can support dialogue with stakeholders and help adjust policies as conditions evolve.

A third area concerns strengthening conditions for regional growth and local long-term development. Zasavska and SAŠA both have industrial know-how, research and innovation facilities, and natural assets that can support new activities. Zasavska has established the Carbon-Free Technologies Centre (DUBT) and has a high share of green areas that can be used for sustainable tourism and nature-based activities. SAŠA benefits from the Velenje Technology Park, Hydrogen Valley plans, the tech hub and the relocation of the Faculty of Energy. However, links between these anchor projects and local small and medium-sized enterprises (SMEs) remain limited, and training offers are fragmented. More structured co-operation between anchor projects, local SMEs, and education and training providers can help retain more value in the regions and prepare the workforce for future opportunities in energy, advanced manufacturing and services.

Finally, a fourth area focuses on improving enabling factors for project competitiveness and regional liveability. Beyond direct business support, the physical environment plays a crucial role in attracting investment and talent. Improvements in land-use planning to mobilise degraded sites, along with upgrades to transport and energy infrastructure, are necessary to boost competitiveness. Ensuring these enabling factors are in place will allow the regions to not only implement transition projects effectively but also enhance the quality of life for residents, helping to attract new workers and mitigate demographic challenges.

On this basis, the report sets out seven recommendations grouped into four areas: anchoring the transition in a shared long-term vision; strengthening governance and co-ordination for effective delivery; reinforcing innovation, SME integration, workforce support and social inclusion; and improving land, energy and infrastructure conditions so that transition projects can generate lasting local development benefits. Detailed recommendations are presented in the next chapter, with a specific action plan in Chapter 5.

Table 1. Areas of recommendations

Anchoring the transition in a shared long-term vision
1. Strengthening the vision and strategic coherence
2. Project prioritisation and quality
Strengthening governance mechanisms for effective transition delivery
3. Governance and co-ordination
4. Monitoring, branding and investment attraction
Strengthening conditions for regional growth and local long-term development
5. Innovation and SME integration
6. Workforce and social inclusion
Improving enabling factors for project competitiveness and regional liveability
7. Land, energy, infrastructure

1 Assessment and recommendations

This overview chapter synthesises the study's main findings and policy recommendations for advancing the just transition in Slovenia's Savinjsko-Šaleška (SAŠA) and Zasavska coal regions. Chapter 2 outlines the economic, social and environmental performance of both regions, drawing on quantitative evidence and diagnostic assessment of transition outcomes. Chapter 3 examines the institutional policy framework and enabling conditions required to support the coal phase-out, proposing strategies to strengthen governance, innovation ecosystems, labour markets and infrastructure. Finally, Chapter 4 highlights priorities to accelerate implementation, and proposes policy actions to reinforce governance frameworks that support both project competitiveness and community well-being during the transition period beyond 2027. Chapter 5 presents an action plan that operationalises a selected set of priority recommendations, identified through stakeholder consultation. The action plan sets out practical steps, responsible actors and indicative timelines, aligned with existing institutional and financial frameworks. Taken together, these chapters provide evidence-based guidance for policymakers, regional authorities and stakeholders committed to ensuring that Slovenia's coal transition delivers lasting benefits for residents, communities and the broader economy.

Assessment

Coal mining has shaped the identity and economy of Zasavska and SAŠA, with both regions today navigating a transition to a post-coal future.

Coal has shaped the economic and social fabric of Slovenia's Zasavska region and SAŠA subregion for over a century. Currently, the two coal regions find themselves at different stages of transition (see Table 1.2), each offering valuable lessons:

- **Zasavska region**, Slovenia's smallest statistical region, began closing coal mines in 1994 and completed the closure of coal-based energy production in 2014. This early transition was challenging, but positioned the region to rebuild. The region lost around 5 000 jobs between 2000 and 2019, and socio-economic metrics remain below national averages. In 2023, Zasavska's gross domestic product (GDP) per capita was EUR 16 456 (euros). This was among the lowest in Slovenia – 13% below Slovenia's average and about 25% below the average of European Union (EU) coal regions. The unemployment rate in Zasavska was 4.7% (the second-highest nationally). However, recent indicators point to stabilisation. Population decline has levelled off in recent years (-1% over the last decade) and mental-health outcomes show some resilience, with a depression prevalence of 6.2% (vs. 7.5% nationally).
- **SAŠA subregion**, by contrast, continues to operate an active coal sector and thus remains in the preparatory phase of transition. The Velenje coal mine and Šoštanj thermal power plant directly employ 2 177 workers, with an additional estimated 1 500 indirect jobs through supply chains. In 2023, the mine produced 2.4 million tonnes of lignite, contributing to the GDP per capita of the broader Savinjska region (EUR 26 110), which ranked third nationally. This current economic position provides SAŠA with a relevant window of opportunity, and greater resources and

workforce capacity to invest in economic diversification before the expected mine closure in 2033. Gender disparities in workforce participation (comprising 44.7% female workers, versus 45.5% in Zasavska and 43.4% nationally) present both a challenge and an opportunity for inclusive skill-development programmes. With 8.2 graduates per 1 000 people, the region's tertiary education attainment compares favourably with Zasavska's 6.8 graduates, although slightly below the national average of 8.3 graduates.

Table 1.1. Key socio-economic indicators for SAŠA and Zasavska

Indicator	SAŠA	Zasavska
Status of coal industry	Active mine (Velenje) and thermal plant (TEŠ); planned closure by 2033.	Coal industry closed by 2014; post-coal economy.
GDP per capita	No data available for SAŠA. Approximately EUR 26 110 in Savinjska (2023), among the highest in Slovenia (Gov.si, 2023[1]).	Approximately EUR 16 456 (2023), the lowest in Slovenia (Gov.si, 2023[1]).
Jobs directly in coal sector	Nearly 2 200 direct workers (mine and power plant, 2022) (European Commission, 2022[2]) and 1 500 indirect jobs.	0 (coal jobs eliminated by 2013); approximately 5 125 jobs lost over 2000-2013 (RDA Zasavje, 2025[3]).
Total employment trend (all sectors)	Stable pre-transition (approximately 4% unemployment in 2024), yet likely job losses following coal-mine closures.	Declining post-coal (jobs down by approximately 30% 2000-2019); unemployment rate approximately 4.7% in 2024.
Population change, 2000-2023	Slight growth 3.3% over 2015-2025 (on par with national population growth) (Stat.si, 2023[4]).	Population decline of 8.53% over 2000-2023 but stabilising between 2015 and 2025, with a decline of 1.1% (Stat.si, 2023[4]).
Land and environmental conditions	Ongoing mining causing subsidence; large brownfield sites under rehabilitation.	Post-mining environmental damage being remedied; limited flat land for development.
Primary revenue sources of regional development agencies	Highly reliant on EU funds (60% of regional revenue) yet more diversified than Zasavska, with 11% of revenue from Ministry of Cohesion and Regional Development. Municipalities do not fund specific projects, but contribute to core development activities (10%) (Slovenia Ministry of Cohesion and Regional Development, 2025[5]).	Highly EU-dependent (74% of funds), with minimal national or local revenue, indicating strong reliance on external funds and limited fiscal autonomy (Slovenia Ministry of Cohesion and Regional Development, 2025[5]).
Just Transition Fund (2021-2027) allocation	Approximately EUR 174 million for projects related to clean energy, retraining, small and medium-sized enterprises (SMEs) and land rehabilitation (Gov.si, 2023[6]).	Approximately EUR 75 million for projects (economic diversification, skills, green infrastructure) (Gov.si, 2023[6])
Progress in using transition funds	44% of funds dedicated to selected operations as of October 2025.	60% of funds dedicated to selected operations as of October 2025.

A global trend in which Slovenia and several analogous EU regions are phasing out from coal

Coal phase-out is part of a wider European commitment to decarbonisation under the European Green Deal and the Just Transition Mechanism (since 2021). Several member states (e.g. Spain, Germany, Czechia, Romania and Poland) are managing similar processes through the EU Coal Regions in Transition Initiative (since 2017), with technical assistance available through the Just Transition Platform. The common challenge is to diversify regional economies, support workers and remediate environmental legacies. SAŠA and Zasavska also face these issues.

Slovenia's policy framework for the coal transition was set in 2022 with the National Strategy for Phasing Out Coal and Restructuring of Coal Regions. This was followed by Territorial Just Transition Plans (TJTPs) for SAŠA and Zasavska, adopted by the European Commission in December 2022. The TJTPs are concrete, operational plans linked to Just Transition Mechanism financing, including the Just Transition Fund.

The preparation and implementation of the TJTPs involved relevant local and regional authorities and partners, in accordance with the JTF Regulation (Article 11). For 2021-2027, the JTF is programmed at the national level. Slovenia has indicatively allocated 70% of JTF funds to SAŠA and 30% to Zasavska, complemented by EUR 21.2 million in national budget co-financing for public-sector beneficiaries and an estimated EUR 24.5 million in co-financing from private-sector beneficiaries. The TJTPs contain categories of operations and measures envisaged across priority areas (as set out in Chapter 2), as well as several flagship projects determined in consultation with relevant stakeholders, providing a basis for implementation. Regional development programmes for 2021-2027 embed just-transition objectives within broader regional priorities. They include project selections that draw on JTF where eligible and use other EU and national instruments for non-JTF components, helping to align territorial development with the transition pathway.

The policy framework is complemented by legal measures. In Zasavska, laws governing the closure of the Zagorje, Senovo, Kanižarica and Trbovlje-Hrastnik mines were adopted from the mid-1990s onward. These were complemented by targeted support such as the Programme for Promoting Competitiveness of the Depressed Area of Hrastnik, Radeče and Trbovlje (2013-2020). In SAŠA, two acts, the Act on the Gradual Closure of the Velenje coal mine and the SAŠA Region Restructuring Act have been recently approved (last quarter of 2025). Their timely entry into force would give a financial framework, a legal effect to the transition policy objectives and provide clearer mandates for the implementation of coal phase-out measures, since the government has indicated that mining could end earlier than 2033.

Taken together, EU instruments, TJTPs, regional development programmes (RDPs) and national legislation provide a short- to medium-term pathway to enable regions and people to address the social, employment, economic and environmental impacts of the transition towards EU 2030 energy and climate targets and a climate-neutral EU economy by 2050.

A transition that navigates common structural challenges across both regions

The contrasting experiences of SAŠA and Zasavska reveal valuable patterns in how the timing and governance of coal transitions shape regional outcomes. SAŠA, which is still reliant on coal-based energy production, has higher industrial output and positive inward labour-migration trends that provide a productive foundation for the planned diversification. Zasavska, whose mine closed over two decades ago, has shown resilience in managing economic scarring. It has made demonstrable progress in environmental recovery and shows emerging strengths in clean-tech development, which can now inform SAŠA's transition pathway.

Despite their different starting points, both regions face common structural challenges that can be addressed through co-ordinated action:

- **Productivity:** while lagging national benchmarks, the regions show potential for convergence with targeted investment in skills and innovation. Income convergence has stalled in some sectors, yet both regions possess distinctive assets (see next subsection) which could anchor new growth trajectories.
- **Demographic pressures:** rising population age and low youth retention represent demographic sustainability constraints, though both regions have achieved relative stabilisation in population flows.
- **Environmental conditions:** SAŠA records nearly three times higher per capita greenhouse gas emissions than the national level (18.8 tonnes of carbon dioxide equivalent (tCO_2e) in 2023 versus 7.2 tCO_2e in Slovenia) and faces land subsidence challenges of up to 12 metres, with continued settlement expected 15-20 years after mine closure. Zasavska benefits from its early environmental remediation efforts, with emissions (6.9 tCO_2e per capita) now standing below the country level.

However, it remains vulnerable to high drought exposure (with 97.2% of its territory affected in 2022), pointing to the ongoing nature of environmental management in post-coal regions.

Leveraging regional assets will serve as the foundation for building the transition to the future

However, both SAŠA and Zasavska possess significant assets that provide a solid foundation for renewal and resilience:

- **Innovation and clean, technology leadership:** Zasavska is advancing in clean-tech innovation through the National Institute of Chemistry's Centre for Development, Demonstration and Training of Carbon-Free Technologies (DUBT), reinforced by proximity to Ljubljana and access to research institutions. The Strategic Research and Innovation Partnership (MATPRO) help integrate material producers, developers and manufacturers into full value chains.

  SAŠA invests substantially in innovation infrastructure. The Velenje Technological Park (EUR 14.2 million from JTF) and the Old Powerplant Future Centre (EUR 28.1 million from JTF) position it as an emerging energy innovation hub. The planned Hydrogen Valley and a biomass bio-refining research centre strengthen this trajectory.
- **Natural capital and green assets:** both regions benefit from over 90% green area coverage, offering untapped potential for sustainable tourism. Zasavska's mountainous landscapes, cultural sites and industrial heritage trails (e.g. the Miners Hiking Trail) provide opportunities for green economic infrastructure. Also, SAŠA's valleys offer pathways for high-value food production and agritourism.
- **Renewable-energy transition;** Zasavska advances toward renewable targets through the Prapretno Solar Park (with the objective of expanding the current 3 megawatts to 12.9 megawatts) and the “small hydrogen valley” concept. SAŠA's shift to renewable-based district heating is both an environmental and an innovation opportunity, with EUR 20 million in JTF funding approved for Phase 1 to support project preparation and works.
- **Emerging entrepreneurship and strategic location:** Zasavska shows renewed dynamism with enterprise birth rates (11.7% in 2022) standing slightly higher than the national average (11.2%). The Katapult initiative by Dewesoft, based in Trbovlje, is developing an innovation project in the Lakonca business zone. The regional ecosystem also includes the Kisovec II business zone in Zagorje ob Savi and the Kompreshaus incubator in Hrastnik. Both regions benefit from proximity to research centres, labour markets and transport corridors. Zasavska's proximity to Ljubljana attracts investors and knowledge transfer. SAŠA's connection to the University of Maribor's Faculty of Energy Technology enables testing and pilot production aligned with clean-energy investment.

A governance framework involves several actors in the planning and implementation of the transition.

Slovenia has developed a governance framework for the transition. The country adopted its National Strategy for Phasing Out Coal and Restructuring of Coal Regions in January 2022 and the National Energy and Climate Plan (last update in 2025) committing to cease using coal for electricity production no later than 2033. The TJTPs for SAŠA and Zasavska, adopted by the European Commission in December 2022, operationalise this commitment within the EU framework. They outline the expected transition process towards the European Union's 2030 targets for energy and climate and a climate-neutral EU economy by 2050. They are aligned with the objectives of the integrated national energy and climate plan and other transition plans, setting a timeline for ceasing or scaling down activities such as coal and lignite mining or coal-fired electricity production. The European Commission's recognition of the quality and coherence of Slovenia's planning process reflects the rigour of this approach.

In SAŠA, this governance framework will be supported by two relevant legal instruments: the Act on the Gradual Closure of the Velenje Coal Mine and the SAŠA Region Restructuring Act. These acts have been recently approved (last quarter of 2025) and intend to set the legal and financial pathway for the closure of the Velenje coal mine and the Šoštanj thermal power plant, and to define measures for economic restructuring, employment support and land rehabilitation in the region. The just transition of the SAŠA region would benefit from a prompt adoption of both acts, given their role in providing clarity on responsibilities, sequencing and financing for the phase-out.

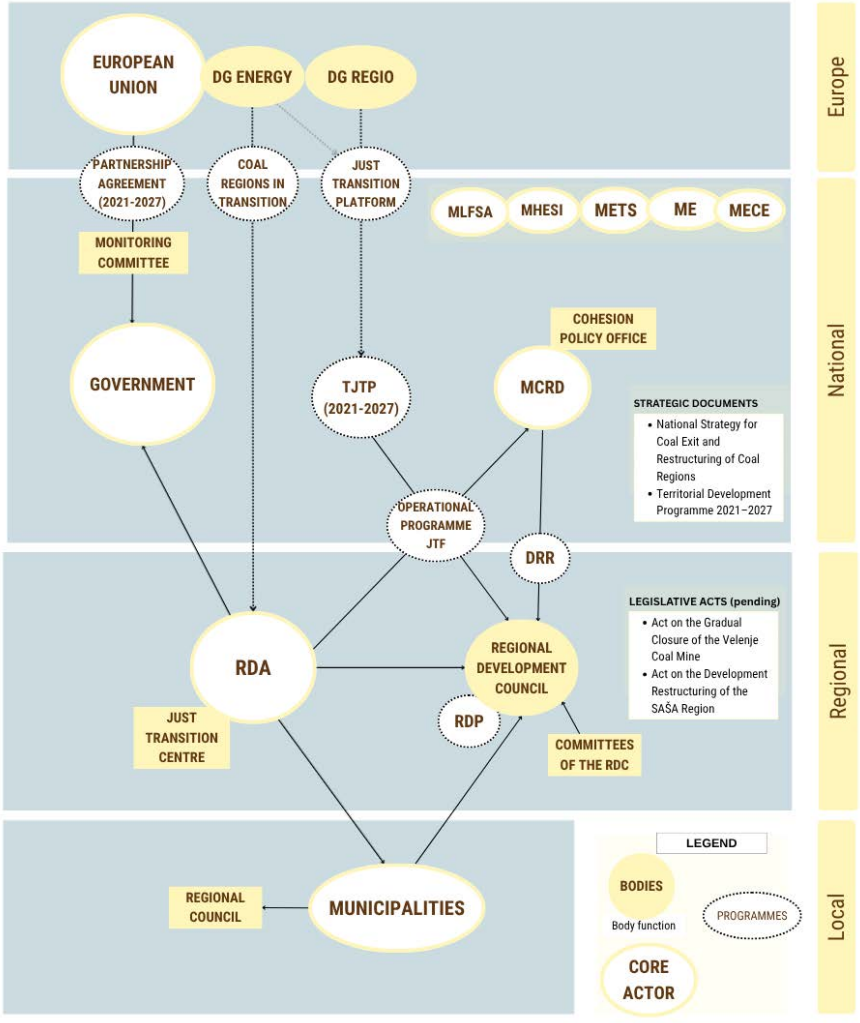
Overall, the coal phase-out involves co-ordinated action across multiple governance levels:

- The **EU level** provides strategic policy direction and funding through the Just Transition Mechanism, including the Just Transition Fund. It also supports knowledge exchange and technical assistance through platforms such as the Just Transition Platform and the Coal Regions in Transition initiative, which provide guidance on transition planning, stakeholder dialogue and project preparation across EU coal regions.
- The **national level** is led as line ministry by the Ministry of Cohesion and Regional Development (MCRD). The ministry serves as the managing authority for Slovenia's EU Cohesion Policy programme 2021-2027, encompassing the JTF alongside other cohesion policy funds, and is responsible for overall TJTP implementation. Multiple line ministries – the Ministry of the Environment, Climate and Energy (permitting guidance); the Ministry of Economy (state aid and SME support); the Ministry of Higher Education, Science and Innovation (research and development [R&D] instruments); the Ministry of Labour, Family, Social Affairs and Equal Opportunities (reskilling); and the Ministry of Education, Science and Sport (vocational education and training alignment) – contribute sectoral expertise, so that funding calls, eligibility interpretations and project screening are consistent across sectors. This set-up enables joint decisions at defined gates (design, permitting, award) and reduces rework and processing times. Co-ordination mechanisms established through the TJTP governance structure, including a multi-ministerial steering group, are designed to ensure policy coherence across sectors, and clarify roles and responsibilities in the transition process.
- The **regional level** includes Regional Development Agency Zasavje (RDA Zasavje) in Zasavska and Development Agency SAŠA (DA SAŠA) in the SAŠA region. Both DA SAŠA and RDA Zasavje have co-management functions which include expressing regional opinions on open calls, identifying project proposals and participating in cohesion-policy assessment processes. Both agencies operate dedicated Just Transition Centres (JTCs) funded by the JTF, which act as operational hubs providing day-to-day guidance and support to applicants, municipalities and other stakeholders.
- The regional level also includes regional development councils, the Regional Council of mayors and municipal administrations. Regional development councils and the Regional Council provide advisory input and approve regional development programmes under the Act on the Promotion of Balanced Regional Development, Slovenia (ZSRR-2). With regard to the JTF, they are informed about implementation and may be consulted, but they do not issue approval or execution decisions. Municipalities are at the forefront of the transition: they are responsible for spatial planning under the Spatial Planning Act, shaping project pipelines through elected councils, and maintaining trust with residents and local businesses through direct proximity.

On top of the JTF, development objectives related to the coal transition are integrated into Slovenia's RDPs for 2021-2027, enabling complementary support through the European Regional Development Fund and other cohesion instruments. This nested approach, which embeds transition priorities within multiple funding instruments, allows regions to leverage resources across policy objectives (renewable energy, workforce development, SME support, infrastructure) while maintaining strategic coherence.

Two complementary planning instruments guide implementation. The RDP, prepared by regional bodies and confirmed by regional councils, covers the full regional agenda and provides the strategic backbone for development efforts. The TJTP, which is mandatory for accessing JTF resources, is prepared by national authorities, the managing authority co-ordinated and assisted in the entire process of programming, in collaboration with RDA/DA and JTCs. It is underpinned by broad stakeholder consultation and formally approved by the European Commission, ensuring alignment with European objectives. While linked, these serve distinct functions. Each RDP incorporates specific development objectives related to the TJTP, making them intertwined documents guiding the implementation of the just transition. In SAŠA specifically, the sub-regional development programme (prepared by DA SAŠA) feeds into the broader regional development programme of Savinjska, which aligns with and references the TJTP while providing the legal and financial framework for concrete action. This nested approach represents a well-articulated design for scaling regional priorities within national frameworks.

Figure 1.1. Current governance for the just transition in Slovenia



Notes: DG REGIO = Directorate-General for Regional and Urban Policy. MLFSA = Ministry of Labour, Family, Social Affairs and Equal Opportunities. MHESI = Ministry of Higher Education, Science and Innovation. METS = Ministry of the Economy, Tourism and Sport. ME = Ministry of Education. MECE = Ministry of the Environment, Climate and Energy.

Selected small governance adjustments and better strategic alignment can help improve implementation

Slovenia has established a robust policy framework, yet implementation of the JTF has proceeded unevenly across the two regions, with spent funding reported as of October 2025 standing at 0% for SAŠA and 12.1% for Zasavska. Three factors currently shape implementation velocity, each of which could be strengthened or adjusted to increase impact.

First, regulatory requirements, particularly on climate proofing and "do-no-significant-harm" assessments, can extend preparation timelines substantively for capital-intensive operations (such as infrastructure). While such requirements help ensure quality outcomes, streamlining their preparation could accelerate project flow. Second, public-call mechanics can create temporal friction due to occasional cancellations and reissues. The Public Agency for Entrepreneurship, Internationalisation, Foreign Investments and Technology (SPIRIT) Slovenia call was cancelled in February 2025 owing to procedural irregularities related to applicants, and reissued in October 2025. By contrast, the 2023 incubator call in SAŠA was cancelled because the two proposals submitted by the Municipality of Velenje did not meet JTF requirements and was republished in April 2025. Finally, approvals pass through several bodies. Complex projects often sit between the end of the technical assessment and the formal decision by the competent ministry or government committee for periods of time that reduce efficiency in the process. Clear handover rules and time limits for each step would reduce processing delays.

Two targeted actions could help unlock meaningful speed improvements, without creating new institutional structures. A key starting point is to formalise high-level inter-ministerial co-ordination at critical project gates, including at the state-secretary level, immediately after completing the technical assessment. This could convert technically ready projects into approved decisions within predictable timeframes, bringing together the MCRD (line ministry), other relevant ministries involved in the transition, and both JTCs and regional development agencies, where territorial input is valuable. Equally important is streamlining procedures for public funding calls. This involves clarifying which agencies and ministries are responsible for each component of the process (publication, follow-up, selection, administration, etc.), building on previous institutional experience to use the funds more efficiently and effectively. Both actions could build on existing co-ordination mechanisms while enabling faster throughput over the 2025-2029 period where JTF funds flow to municipalities and beneficiaries.

Clarifying roles and extending the JTC model can strengthen the impact of the projects as transitions deepens

The JTCs are accessible "one-stop" interfaces for the transition. According to JTC SAŠA reporting for 2022-2023, the centres supported several project submissions and organised targeted outreach for trade unions, cultural associations and local administrations. They provide day-to-day support to applicants, help develop the project pipeline, and act as liaisons between ministries, municipalities and other stakeholders. However, the centres face a sustainability challenge beyond the current JTF programming period; in 2024, around 72-74% of the host agencies' income came from EU project and technical-assistance lines, with less than 5% coming from the national budget.

Two initiatives could strengthen the JTC model and ensure both medium- and long-term impact. First, JTCs could evolve as operational hubs with enhanced capacity, adding expertise on complex files through training, templates, peer exchange and increased staffing. Enhanced JTCs could help screen proposals against EU, national, and regional priorities, and test technical maturity before entry into funding calls.

Alternatively, expert representatives from different national agencies could help streamline labour-market insights. For example, the Employment Service could further assist JTC/RDA advisory groups and co-ordinate with the Labour Market Platform developed by the Ministry of Labour, Family, Social Affairs and Equal Opportunities, in partnership with the Employment Service of Slovenia. The platform provides short,

medium and long-term projections of occupational and skill demand; real-time labour-market data; and interactive tools for employers, job seekers, policymakers and researchers. By integrating the platform's capabilities into JTC advisory functions, regions can align skill-development and workforce-transition strategies with evidence-based labour-market forecasts, enhancing the effectiveness of reskilling programmes and identifying emerging opportunities for economic diversification. This alignment between JTC support functions and real-time labour-market intelligence would be particularly valuable in SAŠA, where the planned timeline for the mine closure makes it critical to identify early the skill needs and employment pathways for workforce transition.

Effective implementation of the transition can be strengthened with co-ordinated action on vision, institutional capacity, project prioritisation and performance monitoring.

Despite well-structured plans and dedicated funding, progress has been uneven across the two regions. Delivery of the transition can improve by focusing on four practical levers: (i) consolidating a shared, long-term vision to guide investment choices; (ii) improving project preparation and pipeline support to ensure proposals are mature; (iii) strengthening enabling conditions, such as innovation, workforce skills and infrastructure, to help projects take root; and (iv) expanding territorial data and monitoring to support evidence-based management. While these levers structure the implementation analysis in this chapter, they ultimately converge into the seven strategic recommendations presented.

Consolidating a shared, long-term vision will anchor transition investments in broader development goals

A shared territorial vision is important for managing the structural transition in coal-dependent regions. In SAŠA and Zasavska – where the coal phase-out overlaps with demographic decline, industrial restructuring and environmental legacies – such a vision can provide direction, give coherence to public and private action, and help build local ownership of the transition. It can also reduce investor uncertainty, by signalling a clear longer-term development path and supporting alignment across levels of government.

Both regions already possess elements of such a vision. In Zasavska, work (such as the “Zasavje Beyond 2027” visioning exercise, the Regional Development Agreement 2021-2027 and initiatives to develop an extended development narrative beyond the current programming cycle) has started to outline future economic diversification, well-being and environmental regeneration. In SAŠA, the Sub-regional Development Programme (2021-2027) sets common priorities for the municipalities in the SAŠA area. Furthermore, in SAŠA, two acts, the Act on the Closure of the Velenje Coal Mine and the Act on the Restructuring of the SAŠA Region, were adopted by the Government of Slovenia in late 2025 and are currently undergoing parliamentary procedure. They will provide the legal and financial framework for mine closure, restructuring measures and land rehabilitation. A single, consolidated and long-term vision, aligning the just-transition process with the forthcoming National Regional Development Strategy 2050, has not yet been formalised.

To move from priorities to implementation and limit fragmented investment, both regions could formalise a territorial vision and use it as an adjustable planning document to filter and prioritise investments. This vision could be embedded in existing instruments (TJTPs, RDPs, municipal spatial plans) and used as one of the assessment criteria in future JTF calls. This would allow assessing projects not only on their technical feasibility and administrative compliance, but also their contribution to long-term diversification. This can help direct funding towards structural transformation and reinforce the participation of local firms in emerging value chains such as hydrogen, clean technologies and circular economy activities. Formal endorsement by regional development councils and regional councils, and periodic updating based on implementation progress, could provide the political legitimacy and adaptive capacity needed to sustain the transition through multiple funding cycles and beyond 2029.

Project preparation and pipeline support can help deliver impactful projects in Slovenia's regions phasing out coal

Slovenia already applies a wide and transparent set of project-selection criteria under EU Cohesion Policy, prepared by the managing authority and approved by the Monitoring Committee (Criteria for the selection of operations 2021-2027 and related guidelines). These criteria are official, public and binding for JTF and other cohesion-funded operations. As the mix of funding sources for the transition – including cohesion funds, other EU instruments and national schemes – evolves, it is useful that applicants in SAŠA and Zasavska can navigate a coherent set of guidance. Keeping future updates to the Criteria for the selection of operations 2021-2027 (also named Merila 2021-2027) and related instructions consistent with new EU requirements, regional development programmes and long-term regional visions can give a clearer and more predictable framework for project preparation, and for understanding which types of projects are most likely to be financed.

Within this framework, better project preparation and pipeline support can increase project quality and reduce delays, without changing existing selection criteria or decision-making procedures. According to the interim implementation report, more than 70% of proposed operations were initial ideas or aspirations. These lacked a technical feasibility study, financial plan or land/site assessment, making preparation and assessment more demanding for both applicants and administrations. A streamlined, pre-application support by JTCs and RDAs/DAs – using simple tools such as short concept notes, basic feasibility and permitting checklists, and simple financial outlines – can help applicants check alignment with TJTPs and RDPs, and whether minimum documentation is in place before responding to formal calls. Where several ministries run separate calls that are relevant to the transition, this is particularly important for integrated, multi-sectoral projects combining different types of investment. In such cases, presenting information and submission processes through a clear, single front door, with co-ordination handled on the administration side rather than through separate contacts for each ministry, could also be helpful for applicants.

A more structured discussion of project ideas before submission would allow the managing authority, line ministries and regional JTCs to focus their efforts on proposals that are both aligned with the regional transition pathway and realistically implementable within the funding period. This can ease bottlenecks linked to late regulatory checks, uneven capacity in smaller municipalities and the sequencing of permits. Pipeline support should reflect each region's profile – in SAŠA, energy restructuring and clean technologies; in Zasavska, brownfield redevelopment, new business zones, applied research and SME upgrading. Using these transition drivers, together with existing selection guidelines, as reference points can help ensure that project ideas developed through pre-application support are more likely to evolve into mature proposals that contribute to long-term structural change.

Strengthening enabling conditions helps transition projects take root in the Zasavska and SAŠA regions to ensure long-term local benefits

Beyond mine-closure and workforce measures, strengthening local enabling factors for development is essential both to enhance the competitiveness and local links of transition projects and to improve liveability for residents and new workers. This report identifies three priority areas of enabling factors for the Zasavska and SAŠA regions: the innovation ecosystem; the labour market; and the land, energy and transport infrastructure.

- **Strengthening the regional innovation ecosystem. Both regions have assets that can be better connected to delivery.** In SAŠA, anchor firms and the planned relocation of the Faculty of Energy to the former power-plant site can be linked more directly to SME supply chains and project consortia through RDA/JTC brokerage and standardised mentoring. In Zasavska, assets such as the DUBT Centre and business zones (e.g. Kisovec II, Lakonca) and SRIP MATPRO can support

applied R&D, pilots and supplier upgrading by using simple templates for feasibility work and early-stage project preparation.

- **Improving the local labour market.** Challenges include fragmented training offers, misalignment with employer needs, a small local labour pool with longer commuting times and youth out-migration, and a gender-based remuneration gap (with women in Zasavska earning about 10% less than men). Practical steps include co-designing curricula with employers, early identification of at-risk workers in SAŠA, accelerated upskilling pathways and, particularly in Zasavska, strengthening vocational bridges and placement services. Embedding training and apprenticeship requirements in funded projects and using access to JTC-co-ordinated training funds, with clear timelines, can help align offers with demand.
- **Enhancing land-use as well as transport and energy infrastructure.** Three interdependent dimensions require strategic attention: (i) energy, planning for renewable-based district heating in SAŠA to replace lignite supply; (ii) transport, more reliable intermunicipal bus services, and basic cycling links to jobs and services; and (iii) land, streamlined brownfield remediation steps, clearer land assembly processes and prioritisation of brownfield over greenfield to lower investor risk.

Expanding territorial data and performance monitoring could help reinforcing evidence-based decision-making for the transition

Finally, without systematic monitoring and evidence, even well-designed initiatives can lose strategic direction. Slovenia already produces substantial territorial data through the Statistical Office of the Republic of Slovenia, which releases more than 4 000 regional indicators through its SiStat portal. The Institute of Macroeconomic Analysis and Development's annual development report tracks 190 socio-economic variables, while the Environment Agency maintains detailed inventories on air quality, emissions and contaminated sites. All EU Cohesion Policy funds are recorded in real time in e-MA (not publicly available), the national information technology system operated by the MCRD.

In terms of granularity, Zasavska as a statistical unit in Slovenia is well covered. However, SAŠA is not a standalone statistical unit as it is a subregion and part of the Savinjska region. Hence, most regional-level data do not separately identify the subregion, limiting the ability to benchmark performance and measure transition outcomes. Data limitations were evident throughout this assessment, with most presentations relying on Savinjska Territorial Level 3 indicators rather than subregional dynamics.

Slovenia could explore three initiatives to strengthen evidence-based decision-making. First, it could expand data granularity to the SAŠA subregion by providing tailored analysis of economic indicators (GDP per capita, productivity), social indicators (youth and elderly ratios, education, health outcomes) and environmental indicators (greenhouse gas emissions, forest change). Tagging each TJTP call in e-MA with municipal codes would allow rolling out approvals and disbursements not only to Savinjska, but also to the ten SAŠA municipalities. Second, it could build on analysis from current monitoring platforms to feed into vision development and review. Scorecards could inform the development of regional visions by strengthening evidence-backed insights, closing the feedback loop between implementation experience and strategic adjustment. Third, Slovenia could explore leveraging current platforms (SiStat, EARS, ESRS) to build a permanent "transition well-being" monitoring framework extending beyond the 2021-2027 cohesion cycle. Inspired by the OECD Mining Regions Well-Being Toolkit, which groups metrics into various dimensions – economic (jobs, GDP), environmental (land, emissions) and social (population, health) – Slovenia could develop a scorecard informing decision-making at the municipal, regional and national levels, helping to ensure timely, evidence-based policy adjustments based on existing monitoring tools.

Looking beyond 2029 requires scenario planning and continuity in transition delivery.

Looking beyond 2029, EU Member States will decide on the next long-term EU budget through a process involving the European Council acting unanimously, with the consent of the European Parliament for the Multiannual Financial Framework and, where relevant, ratification by national parliaments for the revenue. The European Commission's proposals of 16 July 2025 for the 2028-2034 Multiannual Financial Framework outline a streamlined model of national and regional partnership plans that will guide investments and reforms across multiple EU funds and programmes, including support for a just transition towards the Union's 2030, 2040 and 2050 energy and climate targets. Under this proposed architecture, just transition objectives would be addressed in a cross-cutting manner across the National and Regional Partnership Plans rather than through a standalone mechanism. The proposal is subject to negotiations, and the final structure and allocations will depend on the outcome of the co-legislative process.

Against this backdrop, coal regions should plan for multiple scenarios and use a broader financing mix, including EU, national and private sources. With JTF eligibility running to the end of 2029, both Zasavska and SAŠA can use TJTP amendments, where relevant, to fine-tune priorities and maintain delivery momentum within the current programming framework. In parallel, they can embed transition priorities in forthcoming National and Regional Partnership Plans, as proposed by the European Commission, and in any subsequent cohesion policy programming; align flagship projects with EU priorities on clean energy and clean-technology manufacturing; position projects so they can be financed under different policy windows where transition objectives are integrated across instruments; and combine cohesion resources with national climate and energy lines, environmental funds, public development banks and private co-investment. Keeping strategies live through periodic updates to TJTPs and RDPs and maintaining a rolling two-year pipeline so that projects are ready for whichever instrument opens first, will help sustain implementation while continuing to focus on benefits for residents, firms and places.

Recommendations

Table 1.2. Table of recommendations

Priority area	Key actions
Anchoring the transition in a shared long-term vision	
1. Vision and strategic coherence	• Consolidate existing visioning exercises (e.g. Zasavje Beyond 2027, draft SAŠA restructuring act) into a formally endorsed long-term vision aligned with the National Regional Development Strategy 2050. • Define measurable short (2025, 2030), medium (2030, 2040) and long-term (post-2040) objectives for the transition, based on output and outcome indicators. This can follow guidance from the Observatory of Just Transition in Asturias and the OECD Mining Regions Well-Being Toolkit. • Further build on annual reviews of transition strategies and projects to recalibrate priorities and update project pipelines. • Update and preserve just-transition strategies and plans to reflect new priorities for economic competitiveness and include social and cultural aspects linked to transition challenges. • Support RDAs and JTCs in revising regional transition strategies and action plans, focusing on strategic vision, long-term narrative and priority sectors. This may require amendments to the TJTPs. • Support RDA/DA co-ordination to identify common projects across energy, manufacturing and research to improve cross-regional co-operation.
2. Project prioritisation and quality	• Strengthen the criteria for selecting transition projects with a transparent multi-criteria selection filter, scoring projects on their level of preparedness; their strategic alignment with EU, national and regional priorities; and their impact on long-term development (e.g. economic diversification, employment, climate, regional vision). • Introduce a short pre-application window with standard guidance and timely feedback via JTCs or RDA/DAs to help promoters of projects address requirements (for permitting, state aid, procurement) early in the process and submit complete files. • Establish one-stop system in RDA/DA or JTCs by providing clear templates for processes (environmental impact assessments, procurement checklists) and centralising information.

	• Phase calls and deadlines for transition projects strategically over time to allow adequate project preparation. • Accelerate brownfield remediation documentation to unlock land for development.
Strengthening governance mechanisms for effective transition delivery	
3. Governance and co-ordination	• Formalise senior-level interministerial co-ordination meetings at key project stages to support alignment and implementation decisions. • Simplify public-funding call procedures for transition projects by clarifying which ministries and agencies are responsible for each component of the process (publication, follow-up, selection, administration) to prevent overlapping responsibilities and ensure well-sequenced participation. • Strengthen JTC capacity through targeted recruitment, extended support functions (e.g. permitting, procurement, environmental engineering) and sustainable financing beyond 2029 (e.g. Climate Fund, technical assistance in future cohesion programmes). • Strengthen the national-regional co-ordination mechanism to align policy assessments with planning milestones. • Improve co-ordination with other Slovenian regions and EU coal regions to generate spillover effects from the investments.
4. Monitoring, branding and investment attraction	• Expand data granularity for SAŠA by tagging e-MA calls for transition-related projects with municipal codes. • Develop a permanent scorecard to measure the evolution of well-being indicators throughout the transition. This can be done by using data from the Statistical Office of Slovenia, structured around economic, social and environmental metrics that are tailored to local stakeholders' priorities. • Develop regional investment briefs to showcase regional attractiveness factors for domestic and foreign investment. This can be done by showcasing flagship projects and integrating messaging into InvestSlovenia and SPIRIT Slovenia platforms. • Establish a single window to support investors in the process of site selection and permitting applications, also providing regulatory guidance. • Communicate progress through an annual review process linked to updated visioning exercises.
Strengthening conditions for regional growth and local long-term development	
5. Innovation and SME integration	• Link national flagship projects (e.g. DUBT, Hydrogen Valley, TEŠ reconversion) with local SMEs through procurement fairs, innovation challenges and business-to-business platforms. • Strengthen innovation networks to upscale local business and unlock new project ideas. This can be done by leveraging SRIP MATPRO in Zasavska to integrate SMEs into innovation value chains, and strengthening partnerships among the Technology Park Velenje, the Faculty of Energy, business incubators and major manufacturers in SAŠA. • Promote firm-to-firm mentoring, tailored entrepreneurship training (e.g. PONI model) and mid-term business support. • Accelerate deployment of the CarbonFree Technologies Training Hub (SAŠA) and expand vocational partnerships for hydrogen, renewable energy and advanced manufacturing. • Promote partnerships among universities, incubators and industry (e.g. Faculty of Energy relocation, Biomass Bio-refinery Lab, Technology Park Velenje) to co-design innovation challenges and generate spillovers across administrative borders.
6. Workforce and social inclusion	• Include experts from the Employment Service in JTC or RDA advisory groups and co-ordinate with the Labour Market Platform (MDDSZ) to tailor training programmes. • Strengthen active labour-market policies to ensure all workers benefit in the transition. This includes income support, job placement and mentoring for displaced workers. • Promote gender-inclusive workforce development through targeted apprenticeships and flexible work arrangements. • Expand staff capacity in JTCs/RDAs, using flexible hiring options to support development projects.
Improving enabling factors for project competitiveness and regional liveability	
7. Land, energy and transport infrastructure	• Streamline brownfield remediation procedures and ensure transparency in land acquisition processes. This includes adopting a more strategic approach to land rehabilitation and the reuse of coal mining areas in each region beyond the productive projects submitted for funding. • Integrate municipal housing plans with industrial-land reuse strategies to improve affordable housing supply and promote a more concentrated urban development approach. • Promote renewable energy communities and citizen energy communities to improve local energy self-sufficiency and create a more affordable and sustainable energy infrastructure. • Expand integrated mobility solutions (reliable bus services, cycling infrastructure) connecting urban centres with suburban and rural communities. • Advance the G2108 road upgrade and the Trbovlje–Prebold tunnel as part of regional mobility integration strategies. • Use brownfield remediation to unlock land for business and housing development.

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2 The economic, social and environmental performance of SAŠA and Zasavska

This chapter utilises available data to highlight the key opportunities and challenges of two regions in transition: SAŠA and Zasavska. It benchmarks the performance of these regions across economic, social and environmental indicators against Slovenia, European Union coal regions and OECD mining regions. The chapter provides an evidence base to inform the following chapters of this report, guiding these two regions through their just transition from past or imminent coal-mine closures.

Key takeaways

The Zasavska region shows early signs of economic renewal, with rising entrepreneurship reflected in its 11.7% enterprise birth rate and 6.6% increase in business density, both above national trends. Demographically, past population decline has also stabilised over the past decade. However, the region's economy still struggles to recover from the decline of the coal industry, with gross domestic product (GDP) per capita less than half the national average and among the lowest in Slovenia.

Unemployment remains one of the highest in the country (4.7%), and over half of employed residents commute outside the region. While the population decline has stabilised, ageing and outmigration continue, and tertiary attainment (18%) lags the national average (22%). Health outcomes also trail behind Slovenia's averages, with limited healthcare capacity and shorter life expectancy, though mental health indicators are stronger. Environmentally, Zasavska has made remarkable progress since the coal phase-out, cutting emissions to 6.9 tonnes per capita, which is below national levels. However, the region faces acute drought risk, affecting 97% of its territory in 2022, and ongoing landslides.

SAŠA stands out for its relatively strong economic and demographic performance, with low unemployment (4.0%), steady population growth (3.3% since 2015) and strong net migration rates that exceed the national average by 44.0%. The region benefits from a more diversified economy than Zasavska, combining manufacturing, logistics and tourism, and boasts higher tertiary attainment (8.2 graduates per 1 000 people), supporting a more skilled workforce. However, GDP per capita remains 13% below the national average and about 25% below European Union (EU) coal regions, and female participation and earnings lag behind national levels.

Environmentally, SAŠA faces significant challenges. Ongoing operations at the Velenje mine and Šoštanj power plant (TEŠ) drive emissions to 18.8 tonnes per capita, which is among the highest in Slovenia, and contribute to high industrial water use. Additionally, as Slovenia faces climate vulnerability due to extreme floods, the subregion suffers from infrastructure damage and sectoral impacts (particularly on agriculture and tourism). Despite these pressures, SAŠA maintains extensive green space (92%) and lower drought exposure than Zasavska, positioning it as a productive but environmentally burdened region in transition.

The following key takeaways provide a high-level snapshot of the performance of SAŠA and Zasavska across economic, social and environmental indicators. The remainder of the chapter will expand on this performance, providing more in-depth analysis.

Economic performance

- **GDP per capita in SAŠA and Zasavska lags behind national and international averages.** As of 2023, Zasavska's GDP per capita was less than half Slovenia's average and also half the average GDP of EU coal regions. While data on SAŠA's GDP per capita are unavailable, its larger Territorial Level 3 (TL3) region Savinjska had a GDP per capita that was 13% below Slovenia's average and about 25% below the average of EU coal regions. The gap is even larger when compared to 50 OECD mining regions, with Zasavska's GDP per capita nearly 80% lower and Savinjska's 65% below the benchmark.
- **Despite steady growth, median gross income[1] in SAŠA is lower than the national level, with Zasavska remaining persistently below the Slovenian average.** Both regions show a steady increase in median gross income over 2016-2023 (63% for Zasavska and 58% for SAŠA), which is on par with or close to the national average (63%). However, SAŠA's median income moved from 3% above the national average in 2016 to marginally below the national

average (1% below) in 2023, and the absolute gap between Zasavska and Slovenia's median income has not improved over time.

- **SAŠA's unemployment rate stood at 4.0% in 2024, only slightly above the national average (3.7%), yet below the average across EU coal regions (8.0%). However, the region faces a declining workforce.** Over the past decade, the share of working-age population fell by 5.9 percentage points (p.p.) in Zasavska and 5.6 p.p. in SAŠA. These declines exceed the national average (-5.3 p.p.) and are notably steeper than the decreases observed in OECD mining regions (-1.0 p.p.) and EU coal region benchmarks (-4.0 p.p.).
- **Zasavska records a lower unemployment rate (4.7% in 2024) than the average in EU coal regions (8.0%), yet it ranks as one of the highest unemployment rates in the country.** Zasavska's labour market presents persistent challenges compared to national standards, with a high rate of labour commuting daily. Over half of employed residents work outside the region, a trend which evolved after the closure of coal operations in the 1990s**.**
- **Zasavska and SAŠA face a shrinking labour force and growing ageing pressures, with a relatively older and highly specialised coal workforce in SAŠA, and outmigration in Zasavska**. While youth dependency grew between 2015 and 2022, it has since declined in both SAŠA and Zasavska, while ageing is accelerating. Both areas now exceed 20 elderly people per 100 working-age adults, which is 50% above the average in OECD mining regions. Adapting to an ageing population and retaining the youth population is therefore a pressing priority.
- **In both SAŠA and Zasavska, women's role in the labour market is limited both in terms of participation and income, and is worsening over time.** The share of female participation in the workforce is higher in Zasavska (45.5%) than in SAŠA (44.7%) and Slovenia overall (43.4%), but women in Zasavska earn on average around 10% less than men, compared to 5% less nationally. Data on earnings for women are not available for SAŠA.
- **Business activity in SAŠA and Zasavska remains below national levels, but recent trends point to a strengthening entrepreneurial activity**. In 2023, Zasavska had 77.2 businesses and SAŠA 87.3 businesses per 1 000 people, both lagging the national average (108.2 businesses). The enterprise survival rate in Zasavska region in 2022 was slightly lower than the national rate. Yet Zasavska, with an 11.7% enterprise birth rate, outpaced the country in new business formation and showed a 6.6% rise in business density, signalling early signs of economic renewal.

Social performance

- **SAŠA's relatively strong population growth is sustained through net migration.** Between 2015 and 2025, SAŠA has experienced population growth on par with the national average (3.3%) and higher than OECD mining regions (2.7%) and EU coal regions (0.1%). SAŠA's strong demographic performance is largely a result of strong net migration. In 2023, for instance, the net migration in SAŠA was 7.8 migrants per 1 000 inhabitants, 44% higher than the national average (5.4 migrants per 1 000 inhabitants).
- **Despite Zasavska's population decline since 2000, it has stabilised over the past decade**. Between 2000 and 2023, Zasavska experienced a population decline of 8.5%, owing to a combination of natural population decline and outmigration. The region has over 13 times fewer net migrants per capita than the national average. However, in 2020, the region recorded its first positive annual growth since 2000. Between 2015 and 2023, the population declined by 1.1%, a sharp improvement from the 7.0% decline between 2000 and 2014.
- **Zasavska shows strong secondary but low tertiary attainment**, explained by its industrial legacy and limited university uptake, while SAŠA demonstrates strong tertiary education levels.

- **Zasavska has strong secondary attainment but persistent tertiary underperformance, reflecting its coal-based legacy**. In 2024, almost half of Zasavska's population held secondary school certificates, above the national average, driven by vocational training linked to its industrial past. Yet tertiary attainment remains low at 18%, with little convergence over time to the national average (22%). This is likely due to weak demand for high-skill workers and youth outmigration.
- **SAŠA outperformed Zasavska with more tertiary education graduates per 1 000 people.** In 2024, SAŠA had 8.2 tertiary graduates per 1 000 people, higher than Zasavska (6.8 tertiary graduates per 1 000 people) and the broader region of Savinjska (7.8 tertiary graduates). This highlights a more diversified economic structure, as SAŠA is home to a mix of manufacturing and logistics sectors, along with a growing tourism sector, alongside the coal industry. SAŠA therefore provides opportunities in more advanced professions, which provide greater employment opportunities for tertiary-educated workers.
- **Zasavska lags national levels in physical health and healthcare provision but reports better mental health outcomes**, with lower depression rates than the national average.
  - **Zasavska performs consistently worse than the Slovenian average on physical health indicators**, with life expectancy a year less than the national life expectancy. The region's healthcare provision is also underperforming, with almost 50% fewer hospital beds per capita than the Slovenian average. This likely contributes to Zasavska's underperformance in terms of healthy life expectancy at birth, which is ten years lower than the national average.
  - **Despite performing worse on physical health indicators, Zasavska performs better on mental health indicators**, with lower rates of depression (6.2%) than the Slovenian average (7.5%) (National Institute of Public Health Slovenia, 2019[1]).

Environmental performance

As environmental indicators in Slovenia are only available at the statistical region level, data for Savinjska are used as a proxy for SAŠA. While this may not fully capture localised conditions, it provides the best available basis for regional and international comparison.

- **Zasavska has made significant environmental progress following the coal phase-out.** Since the closure of the Trbovlje-Hrastnik mine in 2000 and the Trbovlje thermal power plant in 2014, Zasavska's greenhouse gas (GHG) emissions have dropped substantially. In 2023, Zasavska GHG emissions per capita were 6.9 tonnes, outperforming Savinjska (used here as a proxy for SAŠA) (18.8 tonnes) and the national average (7.2 tonnes).
- **Ongoing coal activity in SAŠA drives substantially higher Greenhouse Gas (GHG) emissions.** The Velenje coal mine and TEŠ thermal power plant continue to contribute to elevated emissions, with the power sector accounting for 52.4% of GHG emissions in Savinjska in 2023. In absolute terms, Savinjska produced 4.9 million tonnes of carbon dioxide-equivalent (tCO_2-e) in 2023, more than ten times the volume of Zasavska (420 000 tCO_2-e).
- **Mining-induced land degradation remains a major challenge in both regions.** Despite high green-area shares (96.9% in Zasavska and 91.9% in Savinjska, both above the national average of 88.9%), land subsidence remains a persistent issue. Although restoration efforts have taken place, subsidence in Zasavska affects nearly 2 000 hectares, or 10% of the Zagorje ob Savi municipality. In SAŠA, ground subsidence of up to 12 metres has resulted in the formation of three lakes near the Velenje mine, with subsidence expected to continue for 15 to 20 years after mine closure.

- **Water-related environmental challenges diverge across the two regions.** In 2024, Zasavska generated just under 70 cubic metres (m^3) of wastewater per capita, far below Slovenia's average of 113 m^3 and Savinjska's 160 m^3. This low figure reflects limited economic activity, rather than water efficiency. Meanwhile, Savinjska's high industrial water use is largely driven by ongoing operations at the Velenje coal mine and TEŠ thermal power plant, placing increasing pressure on water systems and regulatory capacity.
- **Zasavska and SAŠA face extreme climate vulnerability, especially from drought and flooding.** In 2022, 97.2% of land in Zasavska was impacted by drought, the highest share of any EU region, compared to 62.7% in Savinjska and 51.7% in Slovenia. This is largely due to its mountainous terrain, microclimate and limited water retention infrastructure. These conditions increase risks such as biodiversity loss, reduced groundwater levels and wildfires, while also driving up water-management costs and exacerbating community stress. In SAŠA, severe floods in 2023 caused significant damage to infrastructure, and have impacted sectors such as agriculture and tourism.

Disclaimer: This chapter focuses on two mining regions in Slovenia, the TL3 regions of Zasavaska and SAŠA. SAŠA is recognised as a subregion in Slovenia and comprises ten municipalities. The analysis in the chapter aggregates data, when available, from the ten municipalities of the SAŠA subregion. However, when data at the municipal level are not available, the analysis estimates the data from the larger statistical TL3 region of Savinjska as a proxy for the performance of SAŠA. This analysis recognises that this may not fully capture localised conditions, but provides the best available basis for regional and international comparison. Zasavska, on the other hand, is an official statistical region within Slovenia, providing more accessible data for this specific region without the need for a proxy.

Introduction

The coal regions of SAŠA and Zasavska show socio-economic divergence arising from different coal transition timelines and trajectories. SAŠA still benefits economically from an active coal sector and related industrial activity, while Zasavska has endured decades of economic decline following early closures of mines and thermal plants starting in the 1990s. This divergence is reflected in key economic indicators. While data are unavailable for SAŠA specifically, GDP per capita in the broader region of Savinjska ranked third in the country in 2023 at EUR 26 110. By contrast, Zasavska's GDP per capita was the lowest nationally (EUR 16 456), standing at less than half Slovenia's average and nearly 80% below the average in OECD mining regions. Likewise, Zasavska records one of the highest unemployment rates in the country (4.7%), while SAŠA's unemployment rate (4.0%) remains just above the national average (3.7%).

Despite SAŠA's current economic advantage, both regions remain below national and international productivity benchmarks, and face persistent structural challenges linked to economic dependence, demographic pressures and labour-market vulnerabilities. Productivity remains low. The industrial base, especially in SAŠA, is highly concentrated, with limited integration into high-value supply chains or local entrepreneurship ecosystems. Both regions have a rapidly ageing workforce, with over 20% of their population aged over 65. Zasavska in particular has faced demographic challenges, with lower natural population growth and net immigration than the national average, and half of its workers commuting daily to work in another region.

Despite the challenges stemming from coal-industry closures, including economic stagnation in Zasavska and imminent job losses in SAŠA, both regions possess tangible opportunities for renewal. They are both rich in natural assets, with over 90% green-area coverage (using Savinjska as a proxy for SAŠA), offering significant potential for sustainable tourism. SAŠA and Zasavska are also diversifying, utilising funding

from the Just Transition Fund (JTF) to invest in clean-tech innovation initiatives. Zasavska has seen a slowdown in population decline over the past decade, with its first positive annual growth since 2000 recorded in 2020. SAŠA, for its part, remains on par with the national average for population growth, signalling demographic stability and the potential for greater regional resilience moving forward.

This chapter conducts a deeper analysis of the economic, social and environmental performance of SAŠA and Zasavska. It compares this performance with national averages and the benchmarks of OECD mining regions and EU coal regions, to provide a comprehensive understanding of each region's varied position in the just transition of Slovenia.

Chapter methodology

While mines are typically located in specific areas, their economic, social and environmental impacts often extend across local communities, involving broader functional labour markets and regional economies. Subnational government authorities play a critical role in promoting synergies among multiple communities and municipalities by co-ordinating investments, managing local labour markets, promoting shared protection of natural assets, and bridging urban-rural linkages to achieve economies of scale and improved local well-being. Assessing the regional impacts of mining requires national and international comparisons to understand its main challenges and assets. This chapter undertakes benchmarking of the performance of the SAŠA and Zasavska regions against Slovenia, OECD mining regions and EU coal regions.

The OECD collects comparable data at two regional levels, with Territorial Level 2 (TL2) representing the first administrative tier of subnational government (e.g. Eastern and Western Slovenia) and Territorial Level 3 (TL3) representing smaller regions that make up each TL2 region (e.g. statistical regions in Slovenia, for example Savinjska and Zasavska). These classifications enable drawing statistical comparisons at an international level.

SAŠA is a subregion in Slovenia comprising ten municipalities. This report refers to it as a 'subregion.' Where possible, data for SAŠA are calculated by aggregating the data from the ten municipalities. However, data at the municipal level can be limited. In some areas, therefore, this chapter uses the statistical region (TL3 or NUTS 3) of Savinjska as a proxy for the performance of SAŠA (especially on environmental indicators), recognising this may not fully capture localised conditions but provides the best available basis for regional and international comparison. Zasavska, on the other hand, is an official statistical region within Slovenia corresponding to the TL3 level, allowing easier access to and collection of data for this specific region without the need for a proxy.

Consequently, the analysis undertaken in this study to benchmark trends and the performance of these regions domestically and internationally proceeds as follows:

- **Slovenia**: data are collected from official sources on the national average performance of Slovenia across a range of indicators.
- **OECD mining regions benchmark:** the OECD Mining Regions Toolkit (OECD, 2022[2]) identifies indicators across economic, social and environmental dimensions to better understand the effects of mining on regional development across 50 mining regions in the OECD (see the methodology for identifying "mining regions" in Annex A). Where possible, this toolkit is used to compare the performance of SAŠA and Zasavska against other TL3 mining regions across OECD countries. It is also important to note that OECD mining regions benchmark includes non-coal mining areas, representing places with high production value materials other than coal. Nevertheless, this benchmark still provides an important international comparison between regions specialised in mining, which often experience similar opportunities and challenges regardless of the metal or mineral being mined.

- **EU coal regions:** to benchmark SAŠA and Zasavska against comparable regions, this chapter has created an EU coal regions benchmark, considering average performance against a range of indicators across 10 regions in the European Union. These regions are TL3 level regions which employed at least 100 people in coal operations between 1980 and 2024, and which at some point held one of the highest shares of coal employment in their respective countries. The list mixes active operations with those that have closed since 1980 or may still be generating coal-based electricity. For the complete list of regions and more information, see Annex B.

Snapshot of SAŠA and Zasavska: Coal-mining legacies and the future of the just transition

The SAŠA (Savinjsko-šaleška) and Zasavska regions are located in central and north-eastern Slovenia. The SAŠA region, which is administratively part of the broader Savinjska region, comprises the ten municipalities of Gornji Grad, Solčava, Rečica ob Savinji, Ljubno, Luče, Nazarje, Šmartno ob Paki, Mozirje, Šoštan and Velenje (Figure 2.1), which serves as the region's industrial and economic centre, due to its legacy in coal mining, and Šoštanj, the hub for energy production. The Zasavska region, the smallest region in Slovenia by area and population (Republic of Slovenia Statistical Office, 2025[3]), is composed of four municipalities: Hrastnik, Litija, Trbovlje and Zagorje ob Savi (Figure 2.2). It is located along the narrow Sava River valley and shares with SAŠA a significant legacy of coal mining.

Figure 2.1. SAŠA region's ten municipalities

Source: (SAŠA Regional Development Programme, 2025[4]).

Figure 2.2. Zasavska region's four municipalities

Source: (European Commission Directorate-General for Energy, 2024[5]).

Regional development in both regions is managed by regional development agencies, namely, Regional Development Agency Savinjska (RDA Savinjska) and Development Agency SAŠA (DA SAŠA) in SAŠA, and RDA Zasavje in the Zasavska region. These work with local municipalities, the Ministry of Cohesion and Regional Development, and other national stakeholders to manage structural change and transition-related investments (Regionalna Razvojna Agencija Zasavje, 2025[6]). Slovenia's Integrated National Energy and Climate Plan and National Strategy to Phase out Coal (2022) commit to phasing out coal by 2033, in line with EU decarbonisation targets (European Commission, 2020[7]). This has drastically defined economic, social and environmental activity in both regions, yet on different timeframes: Zasavska has already undergone mine and thermal plant closures, and SAŠA still has active operations. To support the transition, both SAŠA and Zasavska are included in Slovenia's national just transition planning framework, and are beneficiaries of EU support under the JTF (European Commission, 2023).

Coal mining in SAŠA and Zasavska has shaped regional identities, contributing to economic prosperity but also dependence

Both SAŠA and Zasavska have considerable coal-mining legacies that have shaped their economic, spatial and social fabric. With around 150 years of mining tradition in SAŠA and 270 years in Zasavska, this industry has come to define many aspects of life, providing economic stability and a sense of pride to residents of these regions (Coal Heritage Project, 2023[8]); (Zasavje Regional Agency, 2020[9]).

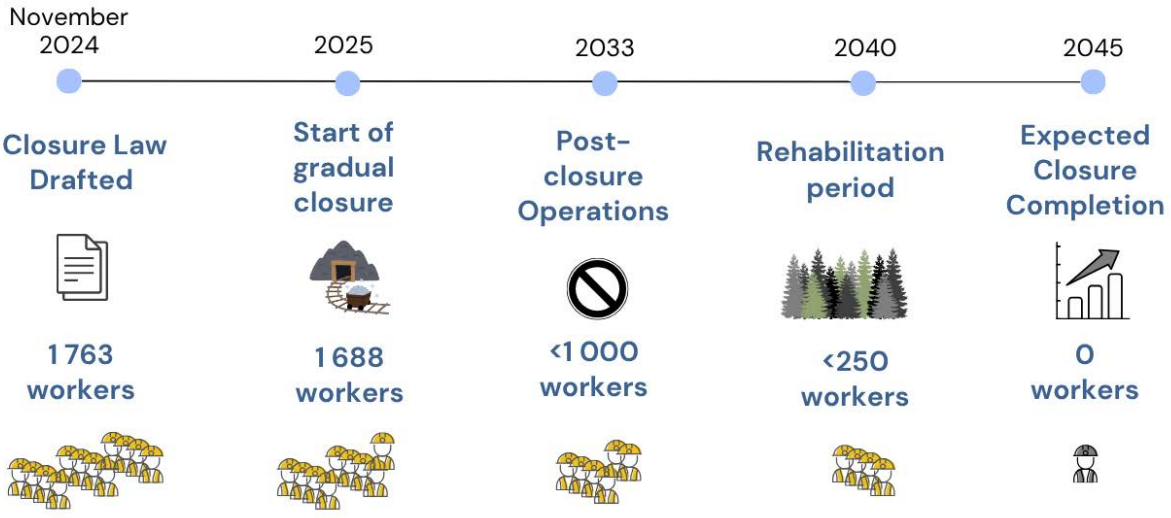
Key existing and past coal-sector activities include:

- **Zasavska**: the region underwent coal-mine closures beginning in 1994 with the Act on the Provision of Funds for the Closure of the Zagorje, Senovo and Kanižarica Brown Coal Mines. This was followed by further closure measures after 2000, including the Act on the Gradual Closure of the Trbovlje-Hrastnik Mine and the Economic Development Restructuring of the Region, which provided the basis for the closure (2000-2024) and the region's developmental restructuring (2000-

2006). In 2014, the Trbovlje thermal power plant ceased operations. By 2020, the necessary closure and remediation works were completed (European Commission Directorate-General for Energy, 2024[10]). These closures have had significant economic impacts on Zasavska, with the region shrinking to approximately half of Slovenia's average GDP per capita since mine closures (European Commission, 2020[11]) and 5 000 jobs lost in the sector between 2000 and 2019 (Zasavje Regional Development Agency, 2021[12]).

- **SAŠA**: the Velenje coal mine and TEŠ thermal power plant will officially remain in operation in SAŠA until 2033, with the closure expected to be completed by 2045 (Figure 2.3). In 2023, the Velenje mine produced 2.44 million tonnes of lignite, with one of the thickest coal layers in the world (Global Energy Monitor, 2023[13]). Both operations are economically important in the region, generating EUR 723.9 million in total revenues in 2023, with TEŠ accounting for 66% and the coal mine 34% of the total amount. Their net sales revenue reached EUR 659.8 million, demonstrating their financial significance. These facilities directly employ 2 177 workers, with the vast majority (1 875 workers, or 86%) working at the coal mine and 301 workers (14%) employed at TEŠ (HSE group, 2024[14]). Beyond direct employment, these industries also sustain local businesses through supply chains and generate significant fiscal revenues for municipalities like Velenje and Šoštanj, supporting public services and infrastructure investments (European Union Coal Heritage Project, 2023[15]). Despite their historic economic contributions to SAŠA, the TEŠ thermal power plant and Velenje mine envisage EUR 2 billion in operating losses before 2033, highlighting not only an environmental imperative for closure but also an economic one (Balkan Green Energy News, 2024[16]).

Figure 2.3 Coal phase-out timeline chart in Velenje coal mine, 2024-2045



While coal mining and thermal energy production have contributed to economic prosperity in both regions, reliance on this single sector has generated economic dependence. This dependence poses significant challenges, including concentrated labour markets, limited entrepreneurship, and a narrowly trained workforce that negatively impacts economic and social outcomes. It is also intergenerational, with mining often seen as a cultural identity and primary path for local employment, reinforcing resistance to retraining and limiting social mobility.

In Zasavska, the coal phase-out (2014) occurred without a sufficient long-term replacement of coal mining as a major employer. This has created persistent economic underperformance, population loss and social

pressures. However, it has also led to improved environmental outcomes across the region. While currently more prosperous, SAŠA is also on the brink of a similar structural shock, with its coal phase-out period expected to be completed in 2033. While SAŠA has the advantage of foresight and planning, without sufficient economic restructuring and replacement of this major employer, the region imminently faces the same challenges as Zasavska. Later analysis in this chapter will examine the economic, social and environmental performance of both regions in the context of past and planned coal-mine and thermal power-plant closures.

Contrasting transition trajectories reveal uneven economic and demographic outcomes in SAŠA and Zasavska

The contrasting experiences of SAŠA and Zasavska illustrate how the timing and governance of coal transitions shape regional resilience. SAŠA, which still operates an active mine and thermal power plant, maintains stronger economic and labour-market indicators, with Savinjska's GDP per capita (used here as a proxy for SAŠA) among the highest in Slovenia (EUR 26 109 in 2023) and low unemployment around 4%. In contrast, Zasavska, where the coal industry closed by 2014, has endured long-term economic scarring, with the lowest regional GDP (EUR 16 500) and a population decline of 8.5% since 2000. Zasavska's early and abrupt transition led to the loss of 5 125 coal jobs (RDA Zasavje, 2025[17]) and a peak unemployment rate nearing 5%, the second-lowest regional performance in Slovenia (Table 2.1). SAŠA still faces this risk as it approaches its 2033 closure. Demographic pressures are visible in both regions but more acute in Zasavska, which has an older population and longstanding youth outmigration.

Table 2.1. Key socio-economic indicators for SAŠA and Zasavska

Indicator	SAŠA (Savinjsko-Šaleška)	Zasavska
Status of coal industry	Active mine (Velenje) and thermal plant (TEŠ); planned closure by 2033.	Coal industry closed by 2014; post-coal economy.
GDP per capita	No data available for SAŠA. Approx. EUR 26 110 in Savinjska (2023), among highest in Slovenia (Gov.si, 2023[18]).	Approx. EUR 16 456 (2023), the lowest in Slovenia (Gov.si, 2023[18]).
Jobs directly in coal sector	Approx 1 800 direct workers (mine and power plant, 2022) (European Commission, 2022[19]).	0 (coal jobs eliminated by 2014); approximately 5 125 lost 2000-2013 (RDA Zasavje, 2025[17]).
Total employment trend (all sectors)	Stable pre-transition (unemployment approximately 4% in 2024), yet likely job losses following coal-mine closures.	Declined post-coal (jobs down approximately 30%, 2000-2019); (unemployment rate approximately 4.7% in 2024).
Population change, 2000-2023	Slight 3.3% growth over 2015-2025 (on par with national pop growth) (Stat.si, 2023[20]).	Population decline of -8.53% from 2000 to 2023, yet stabilisation between 2015 and 2025, with a decline of -1.1% (Stat.si, 2023[20]).
Land and environmental conditions	Ongoing mining causing subsidence; large brownfield sites under rehabilitation.	Post-mining environmental damage being remedied; limited flat land for development.
Primary revenue sources of RDAs	Highly reliant on EU funds (60% of regional revenue), yet more diversified than Zasavska, with 11% of revenue from Ministry of Cohesion and Regional Development. Municipalities do not fund specific projects but contribute to core development activities (10%) (Slovenia Ministry of Cohesion and Regional Development, 2025[21]).	Highly EU-dependent (representing 74% of funds), with minimal national or local revenue, indicating strong reliance on external funds and limited fiscal autonomy (Slovenia Ministry of Cohesion and Regional Development, 2025[21]).
JTF (2021-2027) allocation	Approx. EUR 174 million for projects (clean energy, retraining, SMEs, land rehab) (Gov.si, 2023[22]).	Approx. EUR 75 million for projects (economic diversification, skills, green infrastructure) (Gov.si, 2023[22]).
Progress in using transition funds	44% of funds decided to selected operations as of October 2025.	60% of funds allocated to selected operations as of October 2025.

In advancing the just transition, Zasavska shows promise in clean tech and tourism, while SAŠA prepares for industrial repurposing and innovation-led diversification

Zasavska and SAŠA illustrate how post-coal regions can leverage natural assets, cultural heritage and innovation capacity to drive economic renewal, albeit from different transition timelines and institutional starting points. While both regions face legacy challenges from their coal pasts, their development paths highlight distinct opportunities for place-based diversification outside the coal sector.

Zasavska is advancing activities in clean-tech innovation. Funded by the JTF, The National Institute of Chemistry's Centre for Development, Demonstration and Training for Carbon-Free Technologies anchors this shift. It currently employs 25-30 people and trains over 70 engineers, but is planning to expand (National Institute of Chemistry, 2025[23]). The centre not only supports local employment and upskilling, but also aligns Zasavska with national and EU-level circular economy and climate goals. With manufacturing still contributing significantly to the regional economy, there is clear potential to pivot towards clean industrial production. Strategic proximity to Ljubljana (35 kilometres) enhances access to research institutions, funding instruments and innovation networks, supporting stronger collaboration and tech transfer. Combined, these assets position Zasavska to evolve from a post-coal recovery region into a node for innovation-led, low-carbon growth.

In addition to clean-tech innovation, Zasavska, which began its coal phase-out in the 1990s, is further along in redefining its economic identity. The region's natural landscapes, including several Natura 2000 areas, offer strong potential for rural and nature-based tourism. With most past industrial activity concentrated in the valley, the surrounding mountains and trails, such as the Miners' Hiking Trail, present opportunities to revalorise former industrial corridors into recreation and green economic infrastructure. Cultural sites, such as the Holy Mount (Zasavska Sveta Gora) and its Gothic-Baroque pilgrimage church, further enrich this offering, attracting visitors seeking lower-density destinations "off the beaten path," which is a growing trend in global tourism (OECD, 2022[24]).

SAŠA, which still operates an active coal mine and thermal power plant, is at an earlier stage of transition, but still possesses several foundational assets for economic diversification. The Velenje Technological Park (financed with EUR 14.2million from the JTF as of 2025) plays a central role in the region's emerging innovation ecosystem, offering 5 100 square metres (m²) of space to host startups and support technology commercialisation. There are also plans to transform the former thermal power plant into the Old Powerplant-Future Centre (with EUR 28.1 million from the JTF), a multipurpose innovation hub for startups (ages 0-3) (Municipality of Velenje, 2025[25]). Furthermore, the Ministry of Cohesion and Regional Development has approved funding for a project to develop the Pesje East business zone, with co-financing totalling EUR 2.1 million (Republic of Slovenia, 2025[26]); it has also approved over EUR 15 million for a project laboratory for biomass bio-refining research in Velenje (Republic of Slovenia, 2025[27]). Although still in development, these initiatives signal growing political and institutional momentum to reposition the region's industrial infrastructure for long-term value creation.

Geographically, SAŠA faces pronounced environmental constraints, including land subsidence and limited developable land due to active mining (Ambrožič and Turk, 2003[28]). However, the wider Savinjska region encompasses wooded mountains, fertile valleys and hop-growing zones that could support agritourism and high-value food production. Achieving this potential will require co-ordinated investment in land rehabilitation, infrastructure and capacity-building for new sectors. As SAŠA prepares for the 2033 coal phase-out, activating these assets will be essential to mitigate future employment losses and secure a more resilient regional economy.

Economic, social and environmental trends

The following section outlines the economic, social and environmental performance of SAŠA and Zasavska across a range of indicators. As outlined in the key takeaways and the introduction, the socio-economic and environmental performance of these regions is shaped by distinct transition timelines. While SAŠA continues to derive socio-economic benefits from its still-active coal and industrial sectors, Zasavska has faced prolonged economic decline since the closure of its mines and thermal plants in 2014. Environmentally, while the Zasavska region suffers from flooding and landslides, it has performed well against national and international average across indicators such as GHG emissions per capita since the closure of coal activities. On the other hand, SAŠA (using Savinjska as a proxy) performs worse than Zasavska and Slovenia on environmental indicators, likely owing to its continued industrial activity.

Economic performance of SAŠA and Zasavska

This section examines why SAŠA and Zasavska continue to underperform economically, despite gradual post-coal progress. It highlights how labour migration, limited investment and reliance on low-productivity sectors constrain growth and incomes. Understanding these dynamics is key to designing policies that can diversify local economies, attract higher-value industries and ensure the benefits of national growth extend to Slovenia's coal transition regions.

Labour migration and prevalence of low-productivity sectors contribute to economic underperformance in SAŠA and Zasavska

While SAŠA outperforms Zasavska on many economic indicators, such as income and unemployment, both regions frequently lag national and international comparisons. In 2023, the region had the lowest GDP per capita (EUR 16 456) in Slovenia, less than half the national figure (EUR 30 158) (Figure 2.4). The high level of daily commuting in Zasavska affects GDP per capita, with 53.1% of the working population commuting outside the region. Typically, residents travel to the capital, Ljubljana, and other economic hubs like Maribor for employment opportunities. As a result, economic activities and incomes are generated elsewhere, contributing to the significant difference in measured GDP per capita between Zasavska and the Osrednjeslovenska region, where Ljubljana is located.

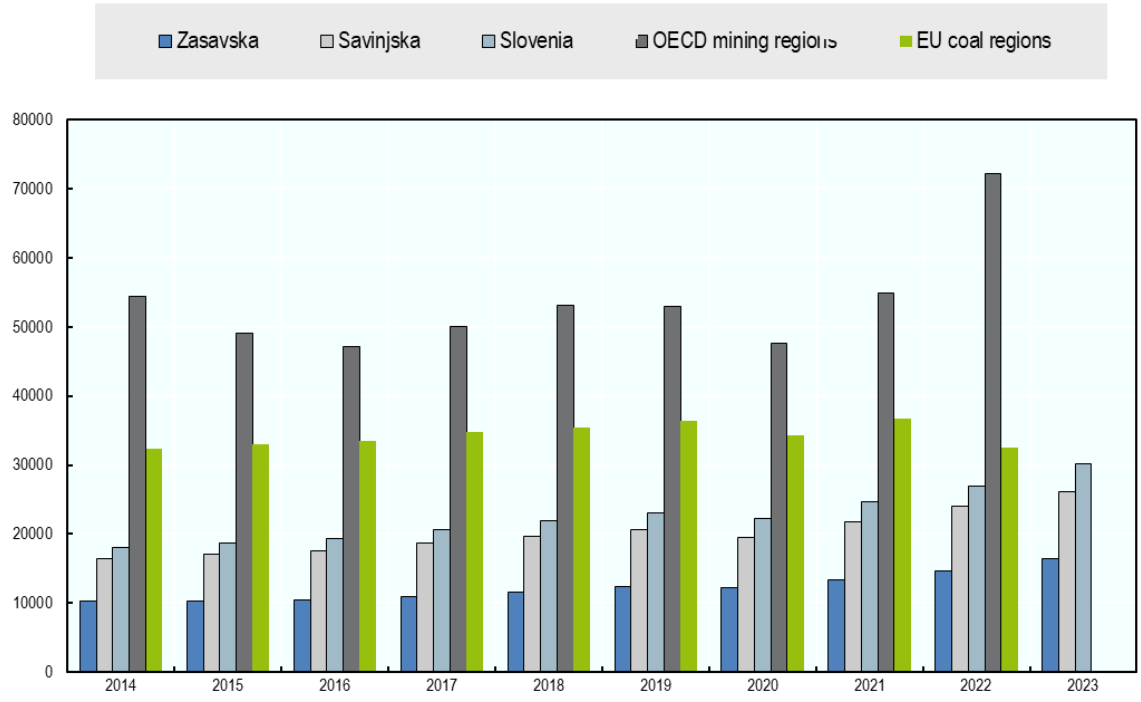
Zasavska's international competitiveness is limited. Foreign direct investment totals EUR 168 million (0.8% of the country's total) and its annual goods exports are the lowest in the country (0.9% of the country's total). Investment in research and development (R&D) represented 1.9% of regional GDP, the fourth-highest in the country, making up 1.3% of Slovenia's total R&D expenditure. Zasavska's labour market generally underperforms compared with other regions, with an employment rate of only 69.9%, the fourth-lowest in Slovenia, and an unemployment rate of 4.7%, among the country's highest.

Economic activity within the region relies on medium-sized manufacturing and service sectors. Since the mine closure, employment has become more dispersed across a range of smaller and medium-sized enterprises (SMEs), without the replacement of a major employer. Although the scale of employment differs from the mining period, these activities reflect a gradual shift towards a post-mining economic structure. In 2024, average monthly net earnings were EUR 1 412 in Zasavska, which was EUR 114 below the national average (SiStat, 2024[29]). Despite this underperformance, Zasavska has shown slightly stronger relative improvement in GDP per capita over time (60.6% GDP growth between 2014 and 2023) compared to Savinjska (59.0% between 2014 and 2023), indicating some positive economic progress (Figure 2.4).

GDP data for SAŠA is unavailable, but data on the Savinjska region highlight economic underperformance in the broader region compared with national and international benchmarks. While GDP per capita in the Savinjska region was higher than in Zasavska, it was 13.4% lower than the average for Slovenia in 2023

(EUR 26 110) (Figure 2.4). This region also performed below international benchmarks on GDP per capita, with GDP per capita over 25% below EU coal regions in 2022. While the share of gross value added generated by industry in Savinjska in 2023 was the second-highest in the country (13.7%) (Slovenia Statistical Office, 2023[30]), this industrial base is largely made up of lower-productivity sectors, such as basic manufacturing and extractive industries, limiting GDP per capita (Eurostat, 2020[31]). Average monthly net earnings in SAŠA amounted to EUR 1 396 in 2024, approximately EUR 130 less than the national average, highlighting the region's reliance on lower-paying sectors (Sistat, 2024[32]).

Figure 2.4. GDP per capita (EUR), Slovenia, OECD and EU mining regions 2014-2023



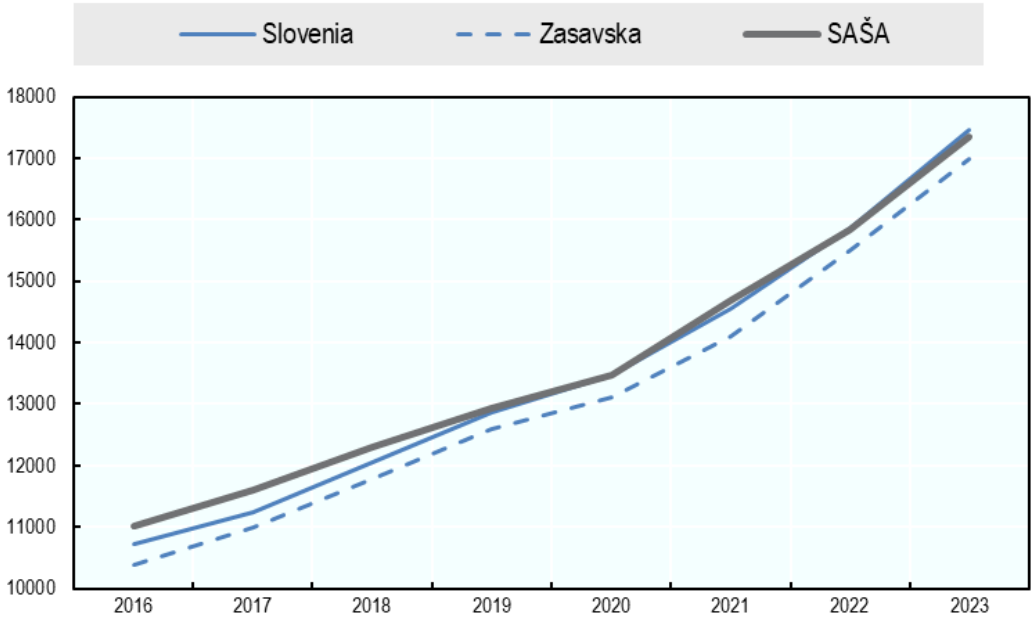
Note: OECD mining regions benchmark includes non-coal mining areas, representing places with high production value materials other than coal.
Source: (SiStat, 2023[33]).

Despite steady growth, median income in SAŠA has moved from above to below the national level, with Zasavska remaining persistently lower

Both regions show a steady increase in median gross income[2] over 2016-2023 (63% in Zasavska and 58% in SAŠA%), which is relatively on par with the national average at 63%. SAŠA consistently outperforms Zasavska, with median incomes of EUR 17 357 and EUR 16 985 respectively in 2023 (Figure 2.5). However, while SAŠA'S median income remains consistently above that of Zasavska, it moved from 3% above the national average in 2016 to marginally (1%) below the national average in 2023. While nominal income levels in Zasavska are rising, the data reveal persistent structural disparities. For instance, although regional incomes grew at the same rate as national income between 2016 and 2023 (a 63% increase), the absolute gap between the national median income and Zasavska's median income has failed to narrow (3.0% in 2016 and 2.8% in 2023) (Figure 2.5). This, paired with SAŠA's worsening performance against the national average over time, reflects the regional concentration of higher-paying sectors (e.g. finance, information technology, public administration) in urban centres like Ljubljana, while

SAŠA and Zasavska continue to rely more heavily on traditional and lower-wage industries such as manufacturing, mining and logistics, failing to benefit from economic gains made in the capital.

Figure 2.5. Median gross income of income recipients (EUR), 2016-2023



Note: Median gross income of income recipients refers to the middle value of gross income earned by individuals in Slovenia who receive income, meaning half of income recipients earn less than this amount and half earn more, before taxes and deductions.
Source: (SiStat, 2023[34]).

Labour-market and skill base

This section explores how labour-market structures and workforce demographic trends are shaping the future of work in SAŠA and Zasavska. While both regions maintain relatively low unemployment rates compared to international peers, they face deeper challenges of ageing populations, outmigration and limited reskilling opportunities. The legacy of coal has left the workforce highly specialised but poorly equipped for emerging sectors, risking job losses and underutilisation of local talent as the transition progresses. Understanding these dynamics is critical to designing place-based labour and training strategies that sustain employment, retain young people and build a future-ready workforce in Slovenia's coal regions.

SAŠA and Zasavska outperform international benchmarks on unemployment, yet lower workforce participation suggests weaker economic engagement and labour underutilisation

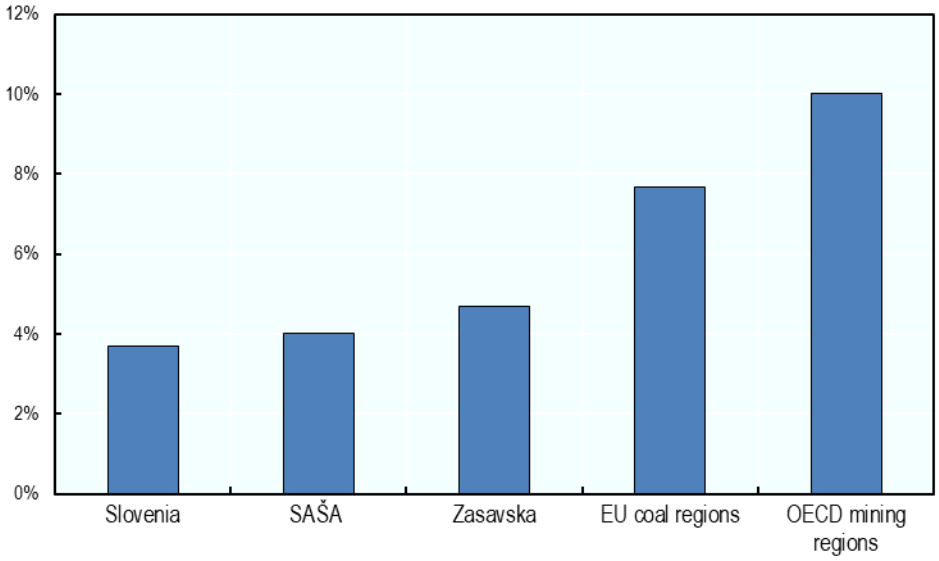
The labour markets in both Zasavska and SAŠA have historically been shaped by employment in the coal sector. While this provided stable jobs at its peak, it also led to limited economic diversification and exposed both regions to structural vulnerabilities upon mine closures. In 2024, unemployment rates stood below international benchmarks, but with varied performance against the national average.

In SAŠA, 1 800 residents are directly employed in coal-related business activities, with the majority (1 200) working at the Velenje coal mine (European Commission, 2022[19]). A further 1 500 indirect jobs have been created by the sector through support activities, including subcontractors, suppliers (e.g. transport and maintenance firms) and local service providers, supported by the incomes of mine and thermal plant

workers. The unemployment rate in SAŠA in 2024 was slightly above the national average (3.7%), yet below the unemployment rate of Zasavska and OECD mining regions (10.0%), and EU coal regions (7.6%) (Figure 2.6). This is likely largely explained by the prominence of coal industry-related employment, highlighting the significant economic consequences of mine and thermal plant closures and the important economic diversification activities needed in SAŠA region over the coming years.

Effective use of active labour-market policies in non-mining municipalities, such as Celje in the broader Savinjska region, helped ease unemployment within this larger region through training and wage subsidies (OECD, 2025[35]). This represents significant opportunities for the SAŠA municipalities, which could potentially replicate the economic success of surrounding municipalities within Savinjska that has occurred outside of mining, as it transitions away from coal-sector activities. Examples include the Savinjska region's significant manufacturing base, which employed 33 000 people in 2021. However, these developments co-exist with demographic shifts that reduce the availability of labour over time. The working-age population in Savinjska has declined steadily: in SAŠA, it fell by 5.6 p.p. between 2010 and 2023, a steeper drop than in OECD mining regions (-1 p.p.) and EU coal regions (-4 p.p.).

Figure 2.6. Unemployment rate, Slovenia and OECD and EU mining regions 2024



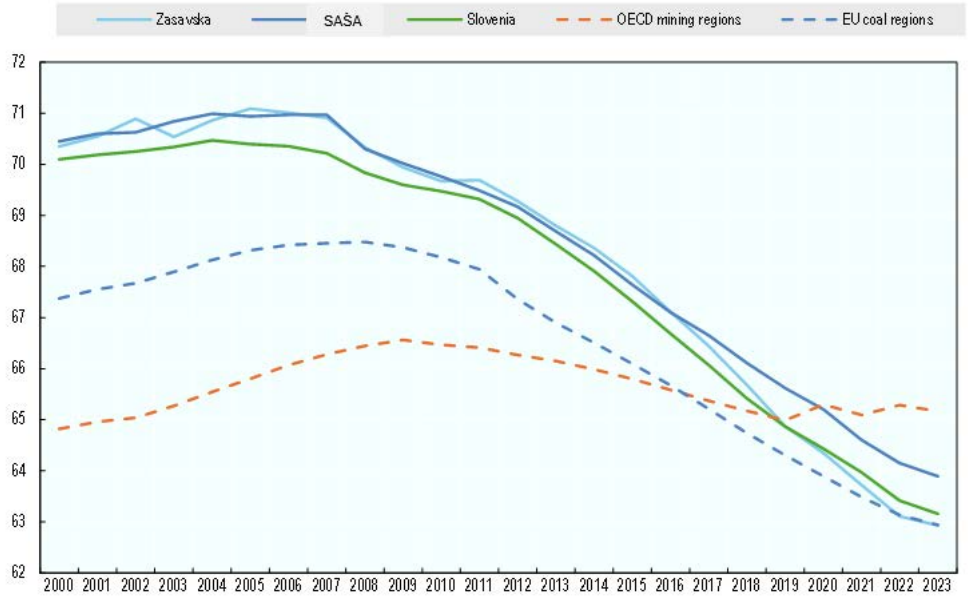
Source: Source: (SiStat, 2024[36]); (SiStat, 2024[37]).

In Zasavska, labour-market conditions are largely shaped by longstanding commuting outside the region. In 2023, 53.1% of employed residents commuted outside the region (European Commission Directorate-General for Energy, 2024[10]). This is a legacy from the industrial decline: the closure of coal activities led to the loss of approximately 5 000 jobs between 2000 and 2019, with limited replacement by other large employers. In 2024, the unemployment rate was 4.7%, the second-highest in the country after Posavska (Figure 2.6) underscoring the region's structural vulnerabilities. Nonetheless, the unemployment rate in Zasavska fell by 62.5% between 2016 and 2024, faster than the national average (-58.6%), pointing to the impact of targeted support measures and gradual economic diversification.

Despite recent improvements in employment indicators, the working-age population in Zasavska has declined more rapidly than the national average (Figure 2.7). Between 2010 and 2023, it dropped by 5.9 p.p., compared to 5.3 p.p. nationally. This suggests that the regional labour pool is narrowing. Fluctuations in the working-age population over the past decade further highlight the region's sensitivity to

external shocks, such as coal-sector restructuring and periods of low private-sector job creation. These dynamics will likely affect future labour availability and the capacity to match workforce demand as the transition progresses.

Figure 2.7. Working-age population share compared to total population, 2000-2023

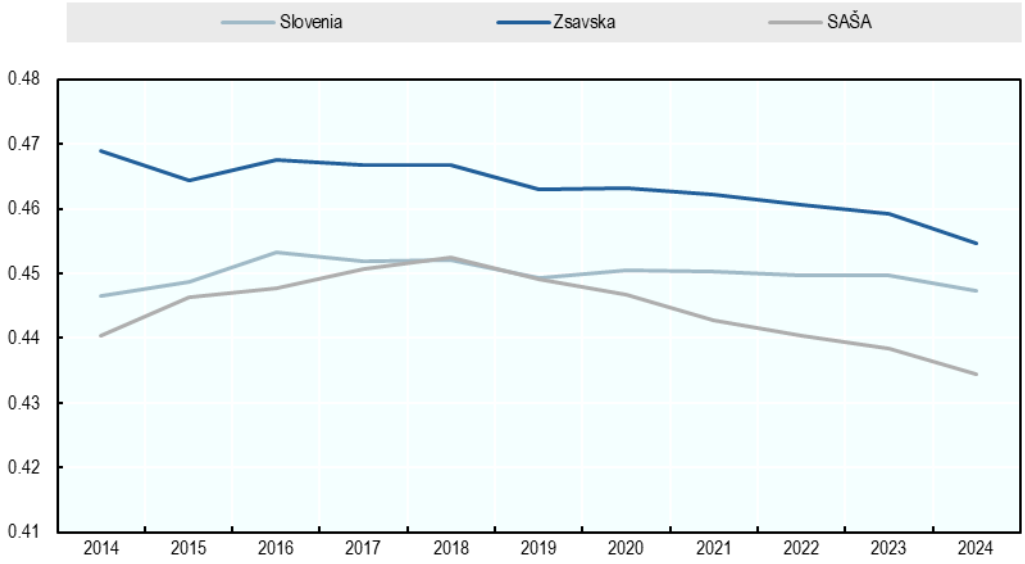


Source: (SiStat, 2024[38]).

Workforce gender parity in SAŠA and Zasavska

Neither SAŠA nor Zasavska has reached gender parity across the labour market. In SAŠA, female participation in the workforce in 2024 was 43.44%, lower than the national average (44.73%). Female participation also marginally decreased in this region over the last decade, from 44.0% in 2014 to 43.4% in 2024. In Zasavska however, female participation in the workforce (45.5%) is higher than the national average (44.73%), although it has also decreased since 2014, when it stood at 46.9% (Figure 2.8).

Figure 2.8. Rate of female employment in the workforce, 2014-2024



Source: (SiStat, 2024[38]).

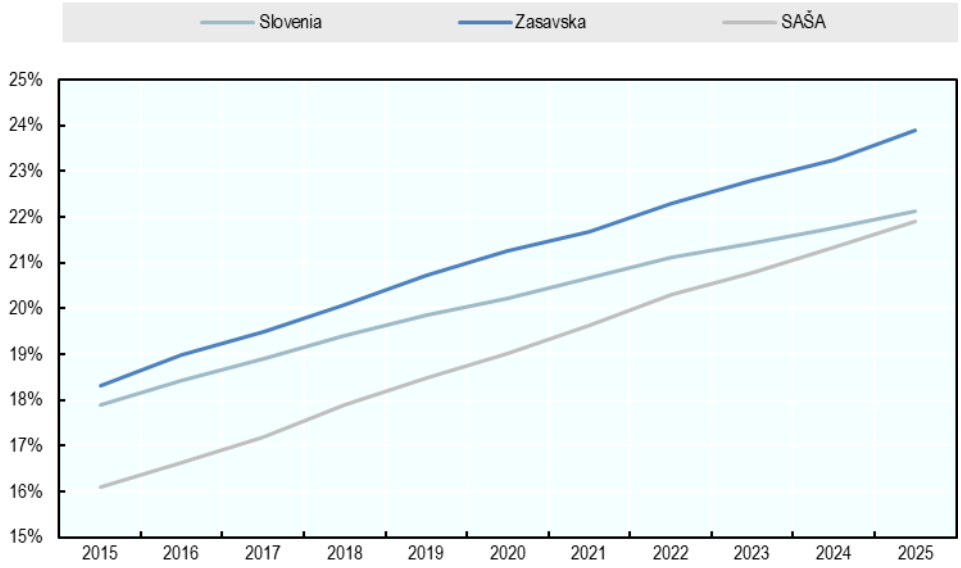
In 2022, average monthly earnings in Zasavska were around 10% lower for women than men. Across the region, women earned 91.1% (EUR 1 674) of what men earned (EUR 1 838). This performance is worse than the national average, where women earn 5% less than men. These data are not available for SAŠA.

An ageing workforce and a lack of reskilling presents challenges for SAŠA and Zasavska

The workforce in the coal sector can be highly specialised, with skilled technicians, engineers or heavy-equipment operators. These skills are often not immediately transferable to other industries outside mining or thermal energy (Greenspon and Raimi, 2024[39]). Furthermore, lower-skilled and older workers may also struggle to find new employment. These realities reinforce the need for targeted reskilling programmes during the mine and thermal-plant closure processes. These closures created challenges for Zasavska's workforce and pose future challenges for those in SAŠA who are currently employed in the mining sector. As the next chapters will explore, SAŠA currently lacks a comprehensive re-employment or reskilling plan for its coal workforce. The national government plans to establish a "carbon-free technologies training hub" in SAŠA to address this, but as of 2025, this initiative was still in development.

A significant share of coal-sector employees are also mid-career or older, with decades of experience. Without targeted reskilling and adult-training support, these workers face a high risk of long-term unemployment or early exit from the labour force once the phase-out occurs. Both SAŠA and Zasavska have experienced increasing proportions of the population over 65 years of age over the past decade (Figure 2.9), increasing by 5.8 p.p.in SAŠA and 4.8 p.p. in Zasavska. In 2024, over 20% of the population in both areas was over 65 years of age. This is not, however, an issue that is unique to these regions. In 2024, 22.14% of the population of Slovenia was over 65 years old, up 4.28 p.p. since 2015. This highlights a clear ageing trend, placing increasing pressure on social support systems and the local labour market.

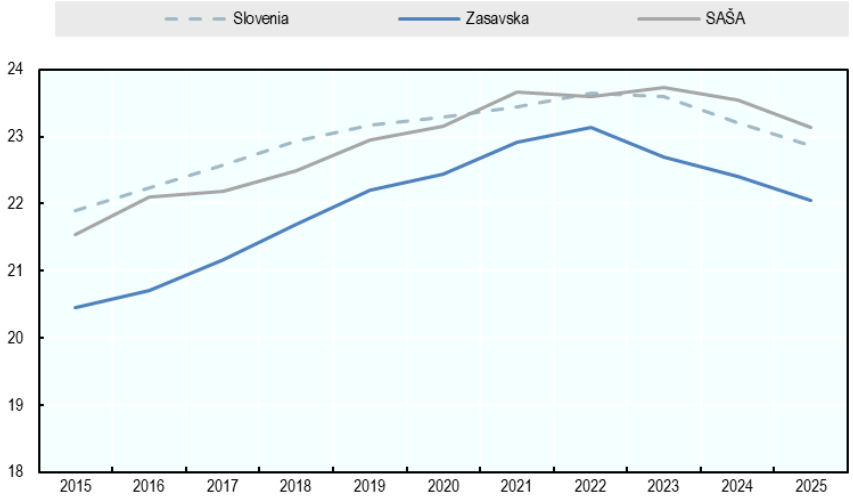
Figure 2.9. Proportion of the population over 65 years of age



Source: (SiStat, 2025[40]).

Youth dependency ratios in Slovenia and its coal regions have followed a similar trajectory, rising steadily between 2015 and 2022 before beginning to decline. SAŠA has consistently recorded the highest ratios, peaking at nearly 24%, signalling both greater short-term pressure on education and family services, and stronger potential for future labour-force renewal if young people remain in the region (Figure 2.10). By contrast, Zasavska has shown the lowest ratios, declining more sharply after 2021, suggesting demographic ageing and continued outmigration of young families. These diverging patterns highlight the need for place-based strategies. In SAŠA, these should focus on ensuring sufficient services and skill pathways to retain youth. In Zasavska, strategies should tackle the long-term sustainability of the workforce and ageing pressures.

Figure 2.10. Youth dependency ratio, 2015-2025



Source: (SiStat, 2025[40]).

The business ecosystem in SAŠA and Zasavska performs below national averages, yet has improved over time

This section examines the evolving business landscape in SAŠA and Zasavska. While both regions still lag behind national averages in business density and survival rates, recent growth in new enterprises signals gradual progress towards diversification and entrepreneurship. Understanding these trends helps identify how targeted support, such as incubators and local investment, can strengthen the business ecosystem, reduce dependence on the coal industry and help rebuild after closure.

Business activity in both SAŠA and Zasavska performs below national averages across a range of indicators, suggesting challenges in the business ecosystem and barriers to entrepreneurship. Yet an improved performance over time provides insight into increasing business activity in the regions. In 2022, SAŠA region had 5 452 enterprises (SiStat, 2023[41]), making up 2.4% of Slovenia's businesses (SiStat, 2023[42]). As a smaller region, Zasavska had 4 405 enterprises (SiStat, 2023[42]), making up 1.9% of Slovenia's businesses. While SAŠA had a higher business density[3] (87.3 businesses per 1 000 people) than Zasavska (77.2 businesses per 1 000 people) in 2023, both regions lagged the national business density (108.2 businesses per 1 000 people). Furthermore, the survival rate of businesses[4] across Zasavska in 2022 (53.4%) was also below the national average (56.6%) (SiStat, 2022[43]), although only marginally (these data are not available for SAŠA). This reflects the unique financial and support constraints facing entrepreneurs in these regions, with increased precarity from a reliance on and the closure of mining operations, and limited replacement industries.

Despite this, business density grew in both regions between 2022 and 2023, with a 3.3% increase in SAŠA and a 3.2% increase in Zasavska. The birth rate of enterprises in Zasavska in 2022 (11.7%) also surpassed the national average (11.2%) (SiStat, 2022[43]). This reflects the potential influence of targeted support measures such as business incubators to encourage entrepreneurship in these regions after the mine closures (further discussed in Chapter 3).

Demographic trends and outmigration

This section explores contrasting demographic trends in SAŠA and Zasavska. SAŠA has sustained steady population growth over the past decade, on par with national averages, largely driven by immigration linked to local job opportunities. In contrast, Zasavska continues to face population decline due to ageing, low birth rates and outmigration following industrial closures, yet this decline has stagnated over the last decade. Understanding these patterns is crucial as they reveal how economic opportunity, migration and ageing are shaping the long-term resilience and demographic stability of Slovenia's coal regions.

SAŠA has demonstrated strong population growth compared with EU coal regions, with more people entering than existing the region over the last decade

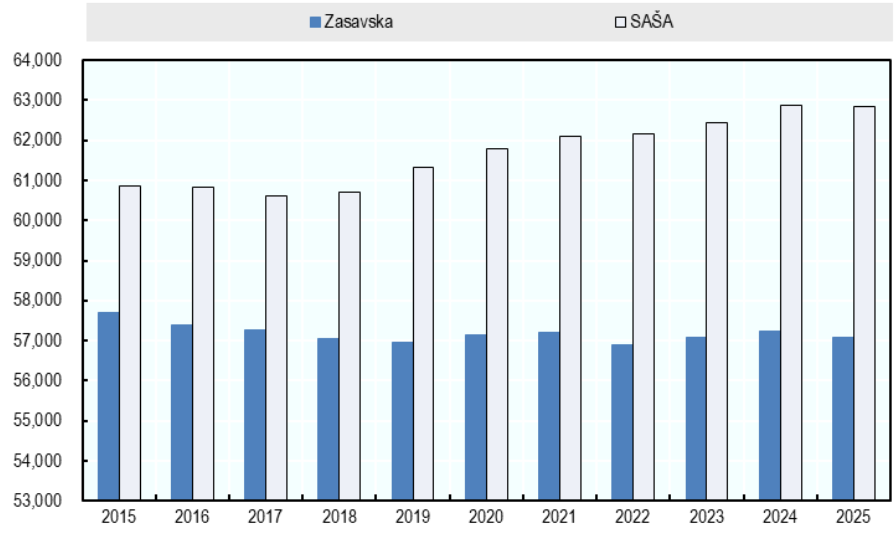
In 2025, SAŠA had a population of 62 855 (Figure 2.11), which has consistently grown over the last decade (2015-2025) at the same rate as national population growth (3.3%) due to positive net migration and employment opportunities. Between 2015 and 2025, SAŠA had a population growth of 3.3%, which is above the average of OECD mining regions (2.7%) and EU coal regions and Zasavska, which experienced a population decline of -7.4% and -1.1% respectively (Figure 2.12).

The SAŠA region has benefited from more people migrating into the region than exiting over the past decade, contributing to a steady population increase. While a natural increase in population is marginally positive, migration is likely the main driver of this increase. In 2023, SAŠA saw a natural decrease in population of 1.6 per 1 000 inhabitants, highlighting an ageing population and a birth rate that is insufficient to sustain or grow the population naturally. Therefore, net positive migration into SAŠA, likely caused by

industry employment opportunities in mining, manufacturing, construction and tourism, can explain the population growth over the past decade.

For instance, in 2023, net migration in this region was 7.8 migrants per 1 000 inhabitants, 44% higher than the national average (5.4 migrants per 1 000 inhabitants) (SiStat, 2023[44]). This suggests that the SAŠA region's future demographic and economic stability may depend heavily on its continued ability to attract and retain migrants, particularly younger working-age individuals, to offset natural population decline and support local labour-market needs.

Figure 2.11. Absolute population of Zasavska and SAŠA, 2015-2025



Source: (SiStat, 2025[45]).

While Zasavska's population has declined since 2000, it has stabilised over the last decade

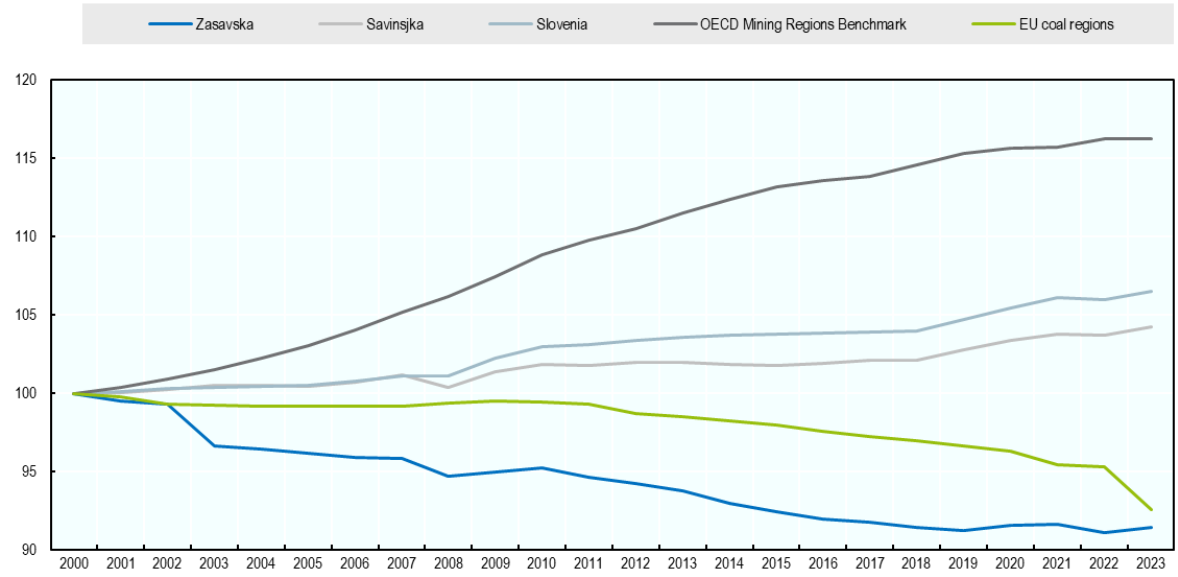
In 2025, the population in Zasavska was 57 083 people. The region experienced a population decline of 8.5% between 2000 and 2023, placing it 25 p.p. behind the growth of OECD mining regions (Figure 2.12). This is due to a combination of natural population decline and outmigration following the commencement of coal-industry closures in the 1990s. In 2023, the region had a comparatively low birth rate of 7.6 live births per 1 000 population, compared with 8.0 nationally. The region has also not been able to attract significant immigration, with only 0.4 migrants per 1 000 inhabitants, which was 13 times fewer net migrants per capita than the national average (5.4 migrants) (SiStat, 2024[29]).

The decline of the coal-mining industry has meant that the region has struggled to retain and attract residents, particularly young and working-age people, owing to limited employment opportunities and a less dynamic economy, especially in past coal-reliant municipalities such as Trbovlje (Box 2.1). This is also reflected in the higher ageing population in 2023 across Zasavska (23.3% of the population over 65 years old), compared with Slovenia (21.8%) and OECD mining regions (16.4%).

Despite this, Zasavska has experienced a slowdown in the population decline over the past decade, recording in 2020 the first positive annual population growth rate since 2000. Between 2015 and 2023, after the closure of the thermal plant, the average population change was -1.1%, far below the 7.0% reported between 2000 and 2014 (Figure 2.11). This slowdown suggests a possible stabilisation following earlier periods of sharp contraction. It may reflect the delayed effects of outmigration tapering off as the coal transition matures, combined with a gradual adjustment of the regional economy. However, without

meaningful improvements in labour-market dynamism and demographic renewal, this stabilisation remains fragile and could reverse, particularly as the working-age population continues to shrink and ageing accelerates.

Figure 2.12. Indexed population growth, 2000-2023 (2000 = 100)



Source: (SiStat, 2024[46]).

Box 2.1. The decline of coal mining in Trbovlje

In 1910, Trbovlje municipality in Zasavska region had become the fifth-largest settlement in Slovenia, with almost 9 000 inhabitants. In 1991, the town had grown to around 19 000 inhabitants. With the onset of mine closures in the 1990s, more than 5 125 well-paid jobs in the mines and mine-dependent industry were lost. The Trbovlje rate of unemployment soon became one of the highest in Slovenia. Outmigration from the municipality and region was high. Many locals wither moved to Ljubjana to live or began commuting to work. The population of Trbovlje consequently dropped to 16 000 by 2023, with over half the workforce of Zasavska working outside the region.

Source: (Frederiksen and Štakul, 2023[47])

Social performance (education, healthcare, life satisfaction)

This section highlights the social foundations underpinning a just and lasting transition in SAŠA and Zasavska. Education, health and well-being outcomes reveal how people in these regions experience the impacts of economic change, and how the communities are prepared to adapt. Understanding these dimensions is essential: successful transitions depend not only on jobs and investment, but also on human capital, access to quality services and community resilience. By examining disparities in education, healthcare and life satisfaction, this section highlights gaps where policy efforts can strengthen regional capacity to participate in and benefit from transformation.

Zasavska has strong secondary attainment, but tertiary stagnation underscores the legacy of the coal-based economy and spatial disadvantage

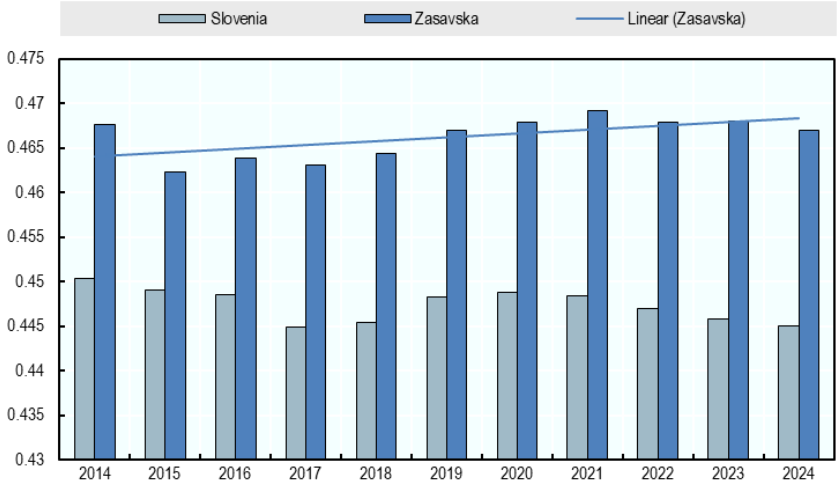
Between 2014 and 2024, Zasavska consistently outperformed the Slovenian national average in secondary education attainment, reaching 46.7% in 2024 compared to 44.5% nationally (Figure 2.13). This reflects a strong base of technically skilled labour, rooted in the region's industrial past and in education systems tailored to mining and energy production, indicating a high share of vocational secondary students. However, this advantage does not extend to tertiary education. In 2024, Zasavska's tertiary attainment rate (18.2%), while improving modestly, remained below the national average (22.4%) (Figure 2.14).

This gap has remained relatively constant over the decade, indicating a lack of convergence despite national strategies to promote the accessibility of higher education.

Several structural factors may explain this pattern:

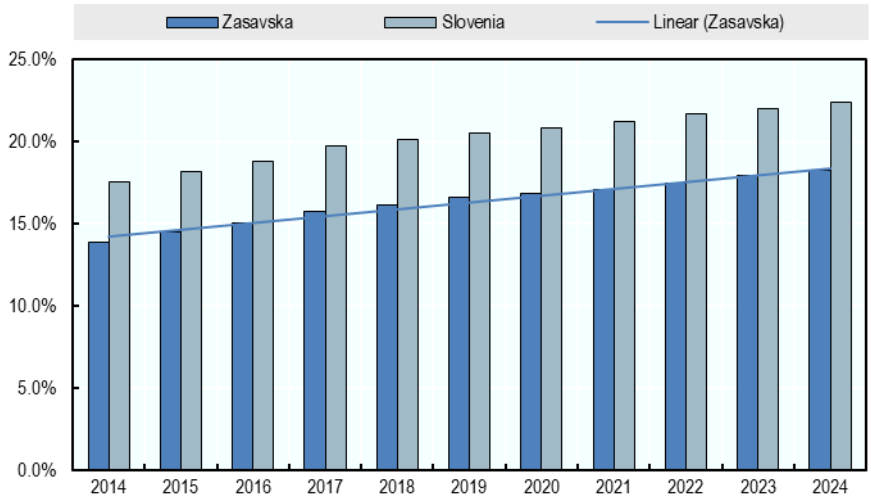
- **Post-industrial transition effects**: the closure of coal mines and the gradual winding down of the TEŠ thermal plant have led to economic stagnation in parts of Zasavska. This may discourage youth from pursuing longer-term academic paths because of limited local employment opportunities requiring tertiary credentials.
- **Geographic isolation and accessibility**: Zasavska is Slovenia's smallest and most centralised statistical region and suffers from poor connectivity to major academic centres like Ljubljana or Maribor, potentially deterring tertiary enrolment or leading to permanent outmigration of students.
- **Institutional presence:** the region lacks a major university or higher education hub, reducing exposure to knowledge-based sectors and pathways. This contributes to a cycle of low innovation absorption, low-skilled employment and weak incentives for tertiary enrolment.
- **Skill structure:** the combination of high secondary but low tertiary attainment indicates that Zasavska's workforce has a solid foundation for technical and practical occupations, though further opportunities for higher education could help strengthen its capacity for technological innovation and support a just transition.

Figure 2.13. Rate of secondary education attainment, 2014-2024



Source: (SiStat, 2024[48]).

Figure 2.14. Rate of tertiary education attainment, 2014-2024



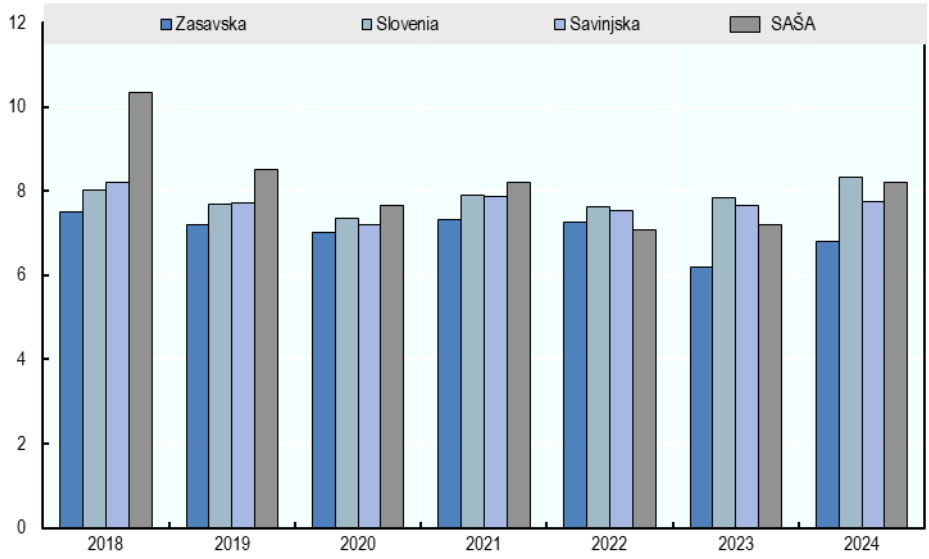
Source: (SiStat, 2024[48]).

SAŠA demonstrates a modest but steady convergence towards national levels in tertiary education, reflecting its more diversified economic base

SAŠA exhibits slightly lower rates of tertiary graduate intensity, with 8.2 tertiary graduates per 1 000 people in 2024 compared to the national average of 8.3. However, SAŠA outperforms Zasavska (6.8 tertiary graduates per 1 000 people in 2024) and the broader region of Savinjska (7.8 tertiary graduates per 1 000 people) (Figure 2.15).

This trajectory aligns with the region's more diversified economic structure. SAŠA is home to a mix of manufacturing, logistics and growing tourism sectors, alongside the coal industry. These sectors provide opportunities in more advanced career professions, with greater employment opportunities for tertiary-educated workers. SAŠA also benefits from stronger transport links and proximity to larger urban centres and universities. Notably, the region's broader labour-market demand is beginning to shift towards higher-value-added activities, including export-oriented industries, services and digitalisation, creating greater incentives for educational progression beyond the secondary level. The regional economy's relative diversification is likely a driver of this educational convergence.

Figure 2.15. Tertiary graduates per 1 000 people, 2018-2024



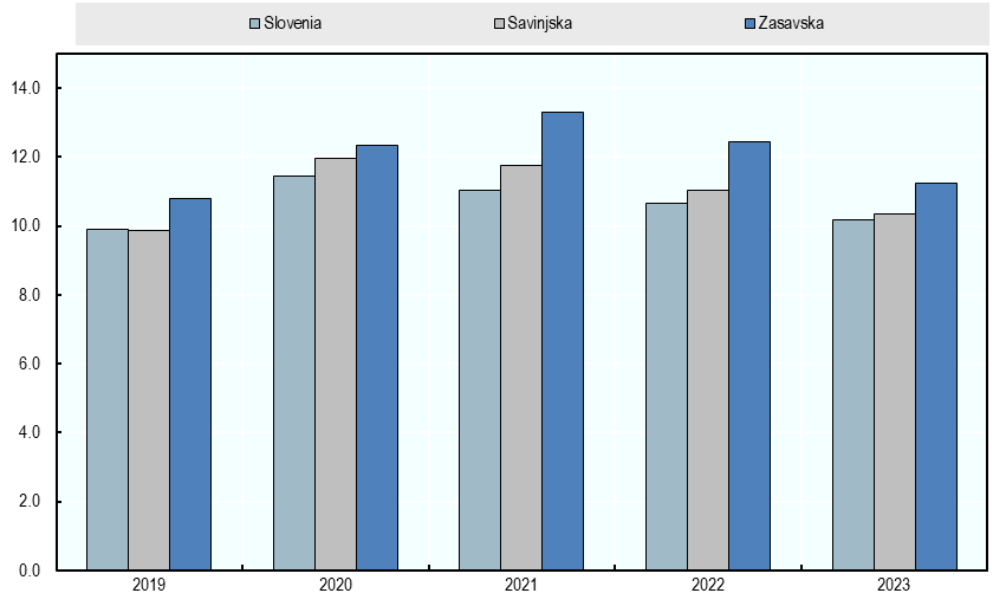
Source: (SiStat, 2024[49]).

Health and well-being

Zasavska region performs consistently worse than the national average across most physical health outcomes, yet shows a promising performance on some mental health indicators. This highlights the social consequences of sustained economic challenges following the decline of the coal-mining sector in this region. While data on SAŠA specifically are not available, data on the broader region of Savinjska highlight strong performance in this region across several health and well-being indicators, frequently outperforming national averages.

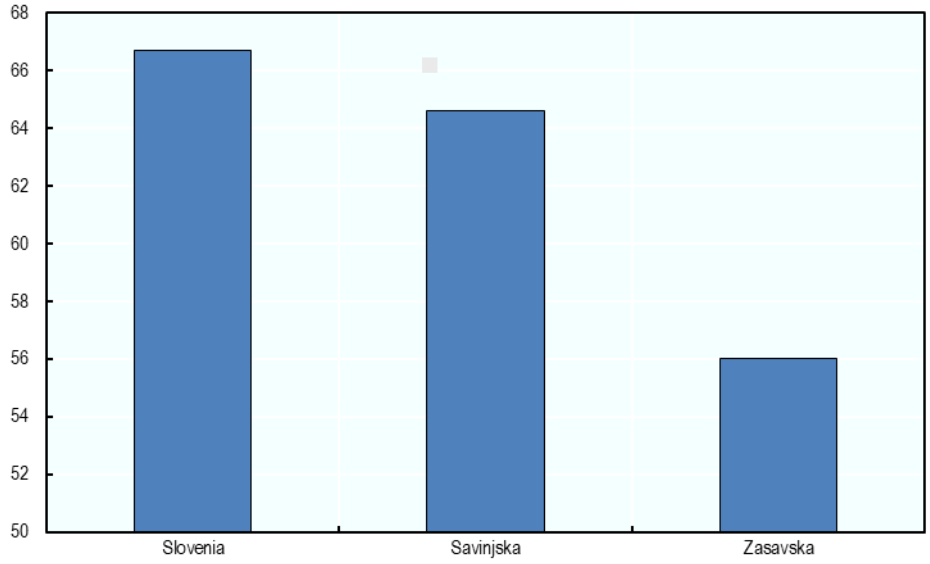
In 2023, both regions performed marginally below the national life expectancy (81.8 years), with average life expectancy standing at 81.4 years in Savinjska and 80.8 years in Zasavska. While Zasavska had the lowest life expectancy, the region had a higher increase in life expectancy between 2014 and 2023 (1.3%) compared with the national increase in life expectancy over the same period (1.2%). The mortality rate in both regions in 2023 was also higher than the national average, with Zasavska again performing worse than Savinjska (Figure 2.16). In terms of healthy life expectancy, Zasavska, with an expected number of healthy years of 56, performs considerably worse than the national average (67 years) and Savinjska (65 years) (Figure 2.17).

Figure 2.16. Crude mortality rate, 2019-2023 (deaths per 1 000 inhabitants)



Source: (OECD, 2023[50]).

Figure 2.17. Healthy life years by statistical region, 2023

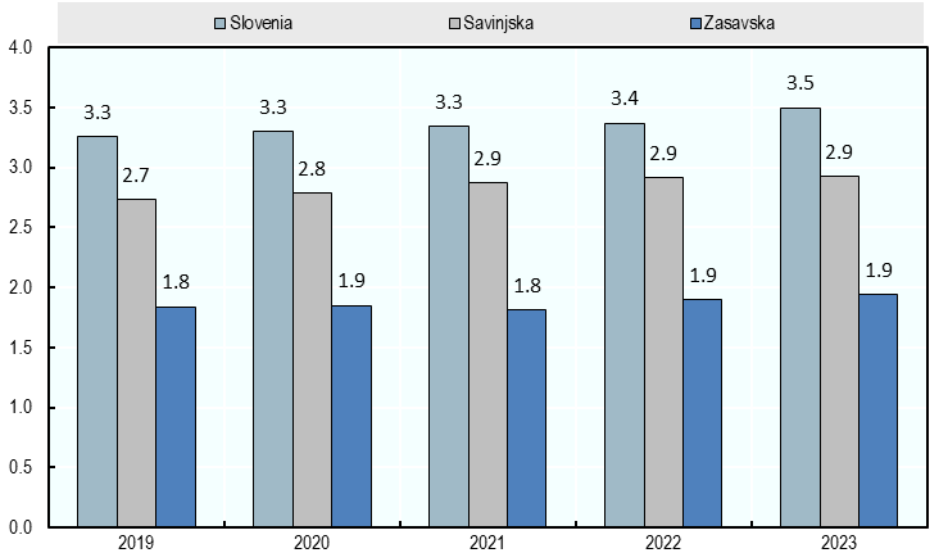


Source: (National Institute of Public Health, Statistical Office of the Republic of Slovenia, 2023[51]).

Differences in life expectancy between Zasavska, Savinjska and the national average can likely be explained by differences in the quality and accessibility of healthcare provision (Jaba, Balan and Robu, 2014[52]). For instance, Zasavska had 1.9 active physicians per 1 000 inhabitants in 2023, compared with 2.9 in Savinjska and 3.5 nationally (Figure 2.18). Across the country, Slovenia also had almost double the average amount of hospital beds available (4.1 per 1 000 inhabitants) than the Zasavska region (2.2 hospital beds per 1 000 inhabitants) (Figure 2.19). These disparities in healthcare infrastructure have

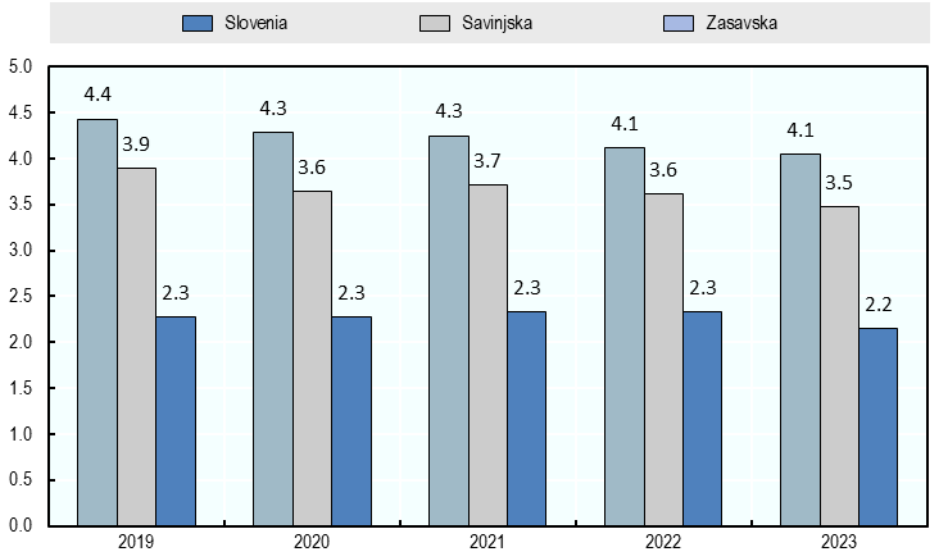
significant implications for health outcomes. Lower physician density and limited hospital capacity can reduce timely access to preventative care, diagnostics and treatment, particularly for chronic and age-related conditions that require ongoing management (Kittipittayakorn, 2025[53]). In regions like Zasavska, this may contribute to lower life expectancy and higher mortality rates, by increasing the risk of untreated or late-diagnosed illnesses. Furthermore, reduced healthcare accessibility can disproportionately impact vulnerable populations, including the elderly and those with limited mobility or income, compounding health inequalities.

Figure 2.18. Active physicians (per 1 000 inhabitants), 2019-2023



Source: (OECD, 2023[54]).

Figure 2.19. Hospital beds (per 1 000 inhabitants), 2019-2023

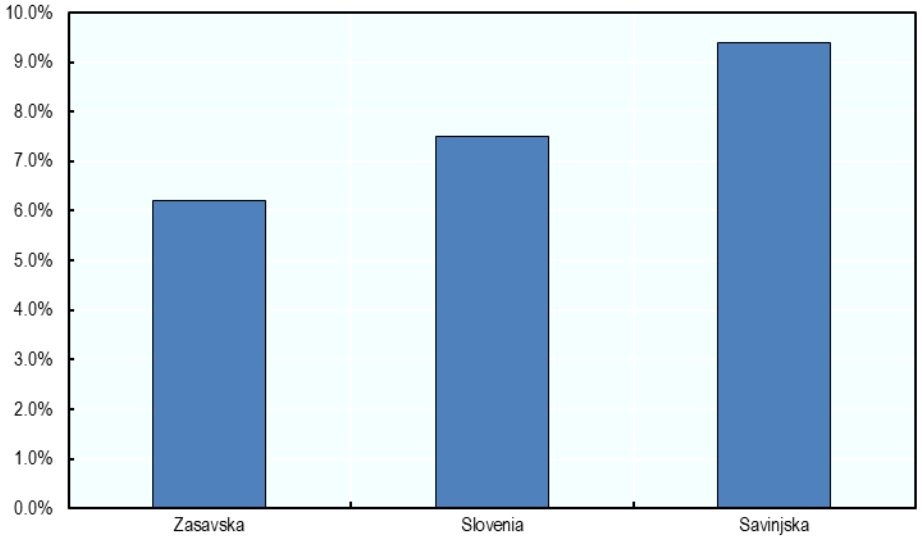


Source: (OECD, 2023[55]).

Despite experiencing relatively worse outcomes on physical health indicators, Zasavska outperforms both Savinjska and national averages across certain mental health dimensions. For instance, Zasavska had lower rates of depression prevalence across its population (6.2%) in 2022 compared to the national average (7.5%) and Savinjska (9.4%) (Figure 2.20). Furthermore, in 2022, 41% of the population in Zasavska reported feeling lonely at least a little of the time, compared with 46% in Savinjska and 44% nationally.

This relative strength in mental health and subjective well-being suggests that factors beyond healthcare infrastructure contribute meaningfully to quality of life. Stronger social cohesion, a slower pace of life, or more robust community and familial networks in Zasavska may buffer against poor mental health outcomes, even in the context of limited access to healthcare and economic challenges. Lower rates of loneliness and depression indicate a potential resilience within the population, possibly tied to cultural, environmental or community-level supports that promote emotional well-being and a sense of connection and community.

Figure 2.20. Prevalence rate of depression, 2019 (% of the population)



Source: (National Institute of Public Health Slovenia, 2019[11]).

Environmental conditions and legacy issues

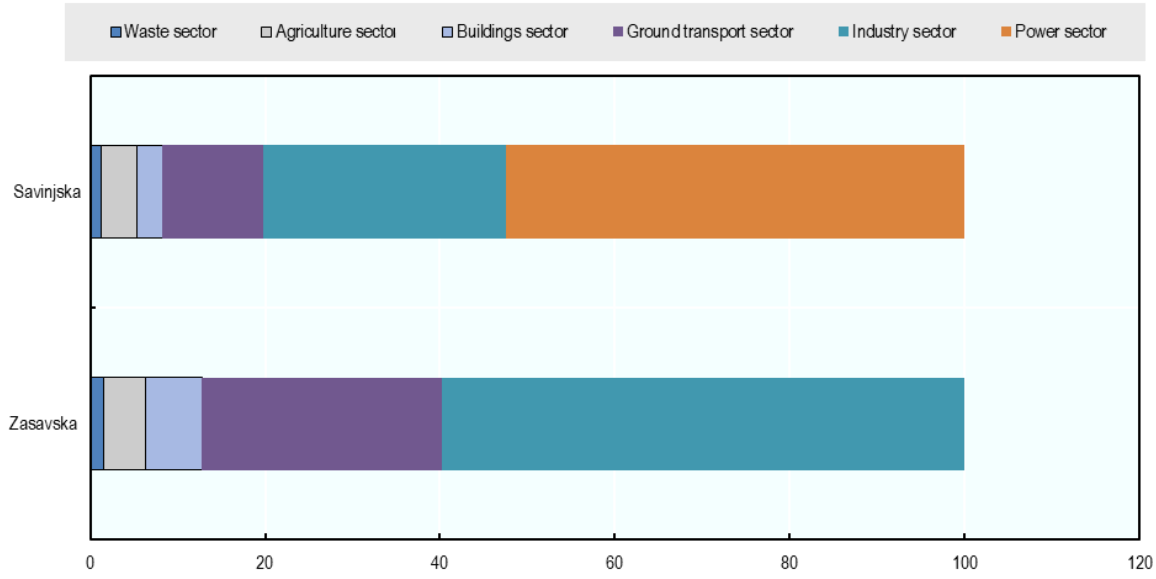
Mining and coal-related activity has heavily affected the natural environments of Zasavska and SAŠA. Even though Zasavska suffered from pollution through the lifespan of its mining industry, the mine closures in the 1990s have led to better environmental performance than both SAŠA and the national level across a range of indicators. Despite this, abandoned industrial buildings and underground mines have contributed to land subsidence and other ongoing impacts. In SAŠA, remedial measures for the cleaning of flue gases from TEŠ and after the closure of TEŠ5 and its replacement with TEŠ6, which has a significantly lower impact on the environment, have helped address some environmental damages. Despite this, using data from the broader Sasavjska, it is apparent that mining and the thermal power plant in the region have contributed to environmental outcomes that are worse than Zasavska's and national averages on a range of indicators, highlighting the importance of the coal phase-out from an environmental perspective. Further analysis on air, land and water performance highlights this issue.

Coal phase-out has sharply reduced emissions in Zasavska, while SAŠA remains a major emitter due to ongoing coal activity

In the period before Zasavska's coal phase, the most significant sources of air pollution in the region were emissions from the Trbovlje-Hrastnik mine, which closed in 2000, and the Trbovlje thermal power plant, which began closure in 2014. This created visible pollution in the area. This was exacerbated by the geography of Zasavska region, which has an unfavourable location in terms of pollutant dispersion, with most of the towns located in narrow valleys or basins. However, since the closure of the power plant and coal-mining operations, Zasavska's GHG emissions have been significantly lower in absolute terms and per capita than the national average, with the industrial sector contributing the highest share of GHG emissions (59.8%) (Figure 2.21).

SAŠA still has ongoing coal-industry activity, contributing to considerably higher GHG emission, with the power sector contributing the highest share (52.4%) (using data from the broader Savinjska region as proxy) (Figure 2.21).

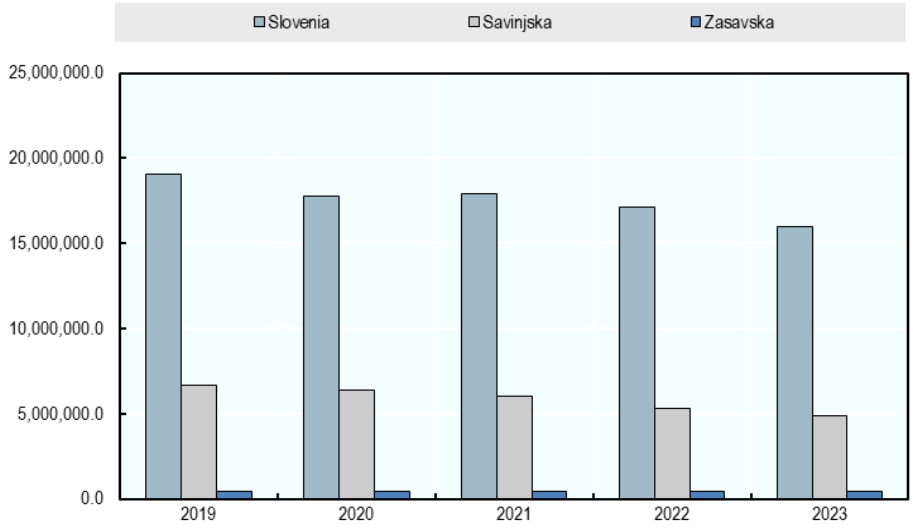
Figure 2.21. Share (%) of GHG emissions by industry, Savinjska and Zasavska, 2023



Source: (OECD, 2023[56]).

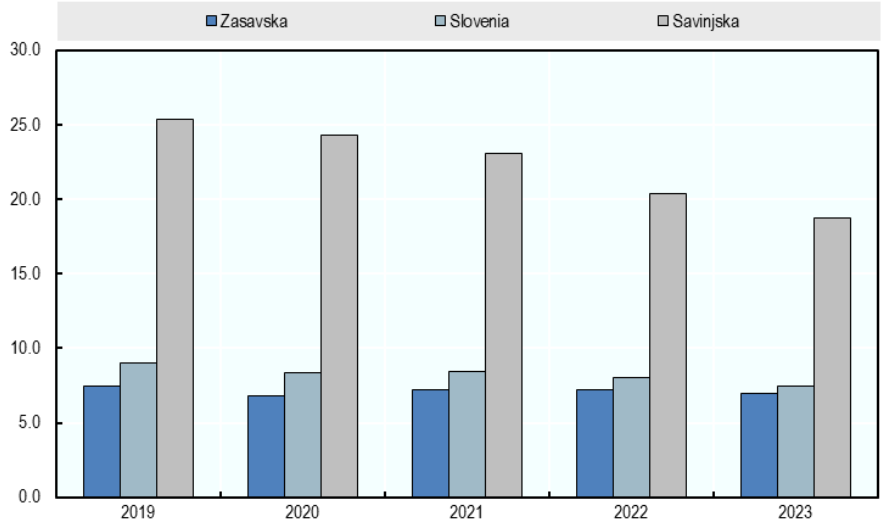
Savinjska performs considerably worse on GHG emissions than Zasavska and Slovenia. In absolute terms, Savinjska produced 4.9 million tCO_2-e in 2023, compared with 420 000 tCO_2-e in Zasavska and 15.9 tCO_2-e in Slovenia (Figure 2.22). Savinjska has had considerably higher GHG emissions per capita (18.8 tCO_2-e per person) than Zasavska (6.9 tCO_2-e) and Slovenia (7.2 tCO_2-e) (Figure 2.23). However, between 2019 and 2023, GHG emissions per capita decreased more rapidly in Savinjska (-34.8%) than in Zasavska (-8%) and nationally (-20%). They will continue to do so with the closure of the Velenje coal mine and thermal power plant, underscoring the importance of Slovenia's coal phase-out.

Figure 2.22. GHG emissions, 2019-2022 (tCO_2-e)



Source: (OECD, 2023[56]).

Figure 2.23. GHG emissions per capita, 2019-2023 (tCO_2-e per person)

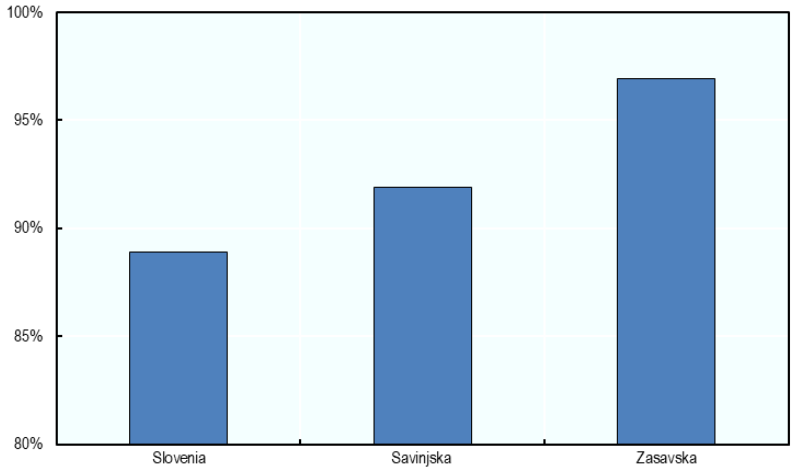


Source: (OECD, 2023[56]).

Despite high green-area coverage, mining-related land disturbance and subsidence pose persistent environmental and economic challenges

The share of green area (area of land covered in vegetation or green space) across Savinjska (91.9%) and Zasavska (96.9%) is higher than the national average (88.9%) (Figure 2.24), contributing positively to environmental factors such as biodiversity conservation, air quality and water management. Nevertheless, both regions face considerable land-disturbance and subsidence challenges from mining and industrial activities, which not only impact the environment but also economic and social outcomes.

Figure 2.24. Green-area share, 2023

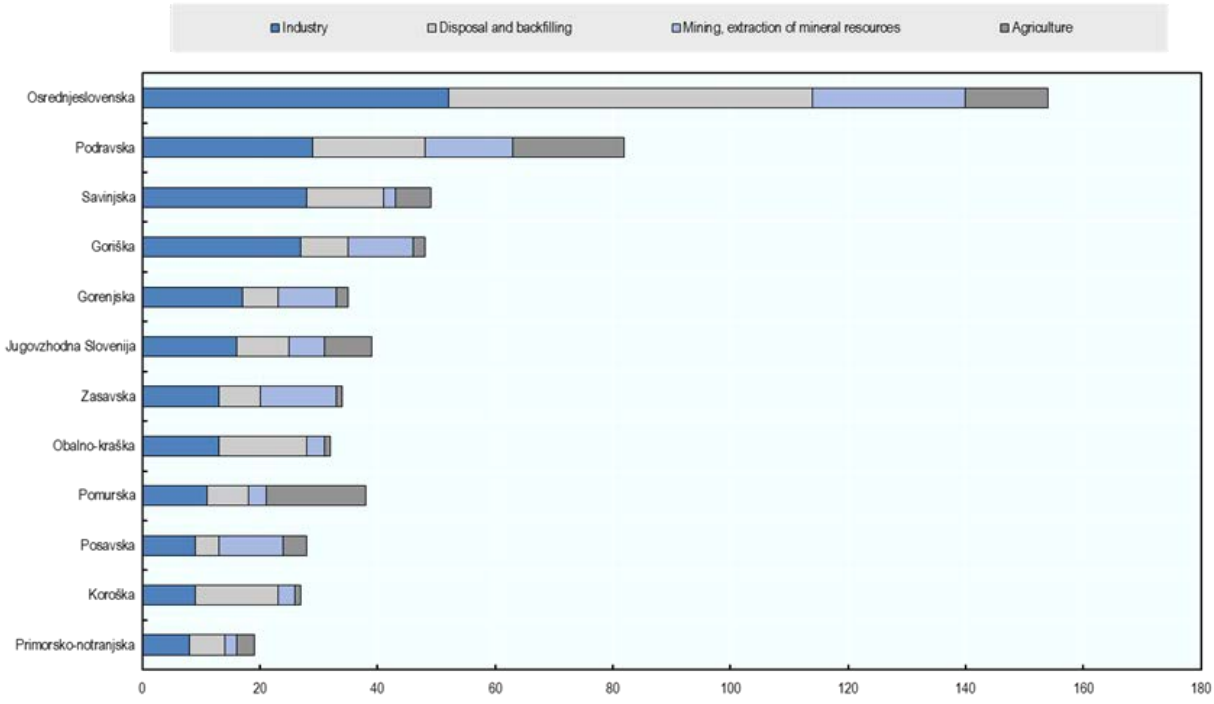


Note: Green-area refers to land covered in green spaces (such as parks) or vegetation (such as forests).
Source: (OECD, 2023[56]).

In Zasavska, land-disturbance impacts from the Zagorje mine are also still prevalent. Damage caused by subsidence impacts almost 2 000 hectares of land in the Zagorje ob Savi municipality (10% of the municipality), which covers the coal extraction area (Aquarius, 2008[57]). This creates environmental issues such as habitat loss, groundwater impacts and soil degradation. It also leads to significant economic challenges, as the region already has a limited amount of useable land. With the abandoned industrial infrastructure, valuable land cannot be repurposed for other economic activity. Furthermore, Zasavska region has experienced several landslides because of storms, resulting in the need to rehabilitate several road sections. The largest landslide in the region was in the Zagorje municipality on the Transverse Path-Road of Victory 16, above the bus station in Zagorje ob Savi. Fifteen facilities, and municipal and state infrastructure, are at risk. The remediation was estimated to cost around EUR 13.1 million (euros) (Zasavje.si, 2025[58]).

In SAŠA, land disturbance and subsidence from the Velenje coal mine is also a pressing issue. Subsidence effects in the Velenje area have resulted in the formation of three lakes, subsiding up to 12 metres. The ground is expected to continue subsiding for 15 to 20 years after the cessation of mining extraction (Termoelektrarna Šoštanj, 2009[59]), contributing to the gradual lowering of groundwater levels and reshaping the ecology of the region (Novak, 2018[60]). While the closure of coal facilities will create considerable improvements in subsidence issues and other environmental concerns in the region, it will also leave behind industrial sites and degraded land that requires substantial rehabilitation. Following the closure, the Velenje coal mine will undergo a structured rehabilitation process extending beyond 2045, which will be essential to ensure the environmental, social and economic vitality of this region. Despite the significant land disturbance caused by mining activity in SAŠA, mining is a low contributor to potentially contaminated sites (potential sources of pollution due to past or present activities) in Savinjska, where the SAŠA subregion is located. Data show that as of 2022, mining contributed to only 2 potentially contaminated sites in the region, compared to 28 from other industrial activities (University of Ljubjana, 2022[61]). Yet some regional stakeholders state that this environmental impact is in fact, wider. In Zasavska, mining has been the main source of pollution for 13 contaminated sites in the region (Figure 2.25).

Figure 2.25. Potentially contaminated sites by main source of pollution, statistical regions, 2022

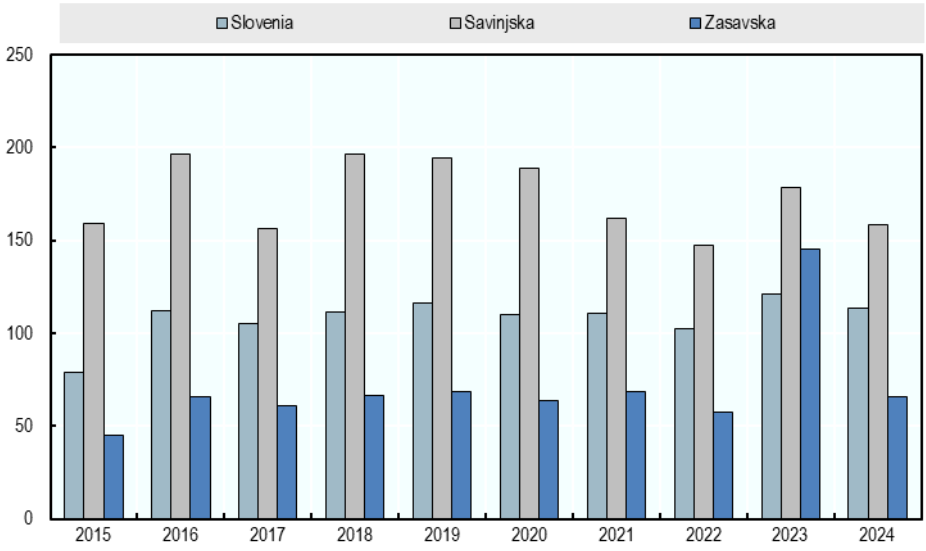


Source: (University of Ljubjana, 2022[61]).

Zasavska faces acute climate-driven water stress, while SAŠA's challenges stem from industrial water intensity

The environmental performance of Zasavska and SAŠA in regard to water reveals divergent trajectories shaped by their geography, legacy industries and climate vulnerability. Over 2015-2024, Zasavska consistently recorded the lowest levels of wastewater generated per capita among the two regions and the national average, reaching just under 70 m³ in 2024, compared to 113 m³ for Slovenia and approximately 160 m³ for Savinjska (Figure 2.26). While at first glance, this may suggest reduced water consumption or improved efficiency, the persistently low volumes in Zasavska more likely reflect structural economic stagnation, declining population and deindustrialisation following the closure of coal mines and associated industry. As such, low wastewater generation serves more as a proxy for reduced economic activity than for environmentally sustainable practices.

Figure 2.26. Wastewater generated per capita (m3), 2015-2024



Source: (SiStat, 2024[62]).

By contrast, Savinjska (used here as a proxy for SAŠA) shows higher wastewater volumes per capita throughout the observed period, indicative of its more active and diversified industrial base. The continued operation of water-intensive assets, including the Velenje coal mine and the Šoštanj thermal power plant (TEŠ), contributes to this elevated usage. These installations, while still central to the regional economy, pose significant water-management challenges, particularly in the context of increasing climate pressures and EU decarbonisation objectives. Savinjska's environmental water footprint underscores the need for strengthened regulation and infrastructure investments to mitigate pollution risks and ensure resource efficiency, particularly as the region moves towards transitioning from coal.

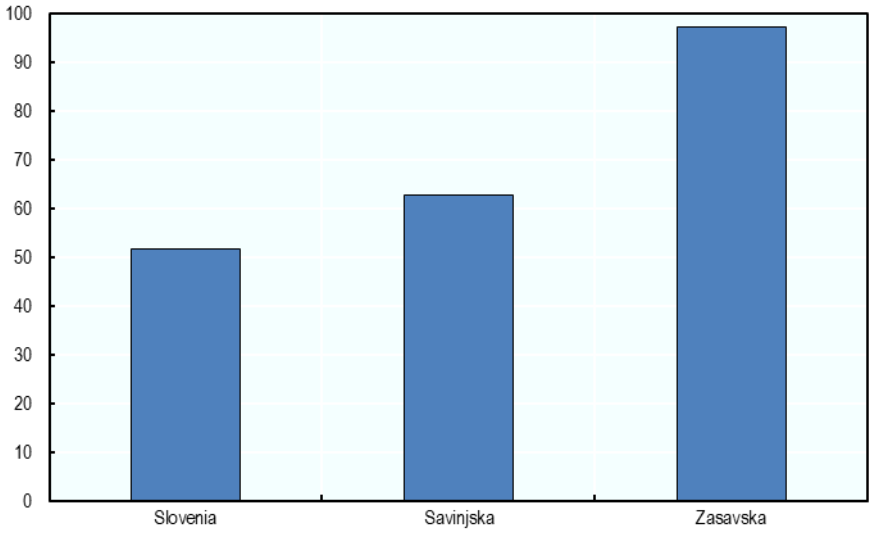
At the same time, Zasavska's water-related environmental challenges are increasingly driven by exposure to climate extremes rather than industrial activity. In 2022, 97.2% of Zasavska's land area was impacted by drought, the highest rate in the European Union, compared with 62.7% in Savinjska and 51.7% in Slovenia (Figure 2.27). This severe exposure is due to a combination of mountainous topography, microclimatic sensitivity and limited water retention infrastructure, which constrain the region's ability to buffer against dry spells and heatwaves. The consequences are substantial. Environmentally, drought contributes to lower groundwater levels, biodiversity loss and increased wildfire risk. Economically, it raises water-management costs and exacerbates fragility in drought-sensitive sectors such as tourism. Socially, it imposes health risks, reduces quality of life and deepens community stress, particularly in ageing and economically disadvantaged populations.

In August 2023, Slovenia experienced significant floods causing EUR 10 billion in damages (Bezak et al., 2023[63]), which not only exacerbated Zasavska's food exposure but also impacted the SAŠA subregion. As a result of the floods, the subregion experienced significant damages to infrastructure such as bridges and roads, with a strong impact on various sectors, particularly agriculture and tourism (Republic of Slovenia, 2025[64]). The recovery from the devastating floods and landslides is a vast and challenging process with reconstruction financed from the state budget, the Reconstruction Fund and grants from the EU Solidarity Fund (Republic of Slovenia, 2025[64]).

In both regions, water emerges as a key dimension of environmental resilience. In Savinjska, water management must navigate the twin pressures of legacy industrial intensity and future-oriented sustainability goals. In Zasavska, the priority lies in adapting to acute climate vulnerability and reversing

the compounding effects of economic decline and environmental fragility. In this context, regional development and environmental policy must be better aligned to strengthen water infrastructure, improve monitoring systems and integrate climate adaptation into economic diversification strategies.

Figure 2.27. Share of drought impacted land area, 2022 (%)



Source: (Eurostat, 2022[65]).

Conclusion

The contrasting experiences of SAŠA and Zasavska reveal how the timing and governance of the coal transitions fundamentally shape regional outcomes. SAŠA, which is still reliant on coal-based energy production, benefits from higher GDP, higher industrial output and positive migration trends. However, the region faces a critical inflection point as the 2033 coal phase-out approaches, with a highly concentrated industrial base and an ageing, specialised workforce posing risks to long-term resilience. Zasavska, by contrast, has already undergone a difficult post-coal adjustment following early mine closures in the 1990s. While this abrupt transition left deep economic scars, including the lowest GDP per capita in the country and persistent labour migration, it has also enabled the region to make notable progress in environmental recovery, business dynamism and clean-tech development.

Despite their different starting points, both regions face common structural challenges. Productivity lags national and international benchmarks, and income convergence with the national average has stalled. Demographic decline, particularly the rise in old-age dependency and low youth retention in the region, threatens the sustainability of local labour markets, although population decline has stabilised in Zasavska. Educational attainment has improved unevenly. Zasavska maintains strong secondary school outcomes but weak tertiary performance, while Savinjska shows steady convergence with national averages across both. Health outcomes also vary, with Zasavska underperforming on physical health indicators, but demonstrating stronger results on mental well-being.

Environmental conditions reflect each region's stage in the transition. SAŠA continues to record high greenhouse gas emissions (18.8 tCO_2-e per capita in 2023) and faces challenges linked to subsidence and water intensity. Zasavska, though environmentally improved, remains vulnerable both to landslides due to storm weather and drought, with nearly all land (97.2%) affected by drought in 2022 (Eurostat,

2022[65]). These pressures call for place-specific environmental adaptation, particularly as both regions seek to repurpose former coal assets and attract investment in low-carbon industries.

Encouragingly, both regions are taking steps towards economic renewal and resilience. SAŠA is investing in the renovation of the district heating system, innovation centres and technology parks, while Zasavska has leveraged its proximity to Ljubljana and strong institutional capacity to lead in clean-tech demonstration and business formation. Both regions receive EU support from the JTF to implement their territorial Just Transition Plans. As part of Slovenia's national Just Transition Plan, both regions have received EU support. Slovenia's coal regions have been allocated EUR 258.7 million of EU funding for the 2021-2027 period, plus EUR 45.6 million in national co-financing.

By October 2025, 60% of JTF funds had been allocated decided to selected operations in Zasavska and 44% to SAŠA. Yet without sustained investment in skills, infrastructure and environmental remediation, these early gains risk stagnating. The success of Slovenia's just transition will depend on ensuring that SAŠA and Zasavska are not only supported in managing the legacy of coal, but also empowered to build inclusive, innovation-led and climate-resilient futures.

Annex 2.A. Identification methodology for the OECD mining regions benchmark

The OECD Mining Regions Toolkit uses the following methodology to identify areas in OECD countries that should be classified as a “mining region”:

1. Identify the small regions in the OECD country (TL3): the OECD has more than 2 400 TL3 regions in its 38 member countries. The distribution of these regions by country is a mix of statistical and administrative boundaries that are at a geographically comparable scale and consistent with national classifications. Thus, the country’s segmentation into these territories is consistent to enable the cross-country analysis. The OECD territorial classification provides a list of all TL3 regions for OECD countries.
2. Define regional mining specialisation based on employment location quotients (LQ):. The degree of regional specialisation in mining is obtained by comparing the share of mining employment in the region with the share of mining employment in the country. An LQ value above 1 implies that the region is more specialised than its respective country. The employment specialisation in mining, based on LQ values, is ranked from highest to lowest. The threshold selected to categorise a mining region is an LQ above 1.5, so that a region is considered to be specialised if it exceeds 50% of the country’s mining specialisation. Applying this threshold to the sample of OECD TL3 regions, 360 OECD regions are 1.5 times more specialised in mining than their own country.
3. Make a final adjustment based on desk research: to build a geographically balanced benchmark and control by country effects of the LQ (e.g. countries highly specialised in mining with a relatively even geographical distribution of the activity), the methodology assigns the regions with a higher LQ than the benchmark by following the country’s weight in total OECD mining employment. In other words, the number of regions in the benchmark is in line with the share of the country’s mining employment in the total number of mining workers across the OECD. A desktop research process examines each selected region to ensure a good geographical balance in the benchmark (and avoid overrepresentation of a given country). As a result of this process, 50 mining regions constitute the OECD mining regional benchmark.

Annex 2.B. Identification methodology for the EU coal regions benchmark

The EU coal regions benchmark comprises ten significant European regions which, between 1980 and 2024, employed at least 100 people in coal operations, and which at some point held one of the highest shares of coal employment in their respective countries. The list mixes active operations with those that have closed since 1980 or may be still generating coal-based electricity.

Annex Table 2.B.1. EU coal regions key characteristics

Region	Country	Coal-mining activity	Employment
Nitra Region	Slovakia	Officially phased out coal by end of 2023.	4 000 jobs as of 2014.
Koninski	Poland	One active coal mine committed to phase out by 2030.	1 000 jobs as of 2021.
Barnsley, Doncaster and Rotherham	United Kingdom	Large mining jurisdiction, with multiple collieries all closed in 1990s.	Collieries varied in workforce size from 1 000 to 3 000 workers.
Stara Zagora	Bulgaria	Mine still operating, with plans for national coal phase-out by 2038.	Approx 7 000 workers as of 2024.
Spree-Neiße	Germany	Ongoing coal-mining pits and power plants.	Over 8 000 direct workers as of 2020.
Gorj	Romania	Ongoing coal-mining operations.	Approx 3 000 employees.
Asturias	Spain	Undergoing final coal-mine closures.	In 2017, over 3 000 people employed in coal mining, power plants and other coal-related activities.
León	Spain	Undergoing final mine closures.	As of 2024, workforce of 70 people in final mine.
Ústí nad Labem	Czech Republic	Ongoing mining, but planning imminent phase-out.	As of 2015, mines and power plants employed 7 000 workers.
Pas-de-Calais	France	Mining closure 1990.	Peak employment figures in 1940s with around 200 000 workers.

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Notes

[1] Median gross income is the amount of income that lies in the middle of all income recipients' earnings before taxes and deductions, with half earning less and half earning more.

[2] Median gross income was chosen because it provides a robust, comparable and timely measure of the typical individual's earnings in the labour market, avoiding distortions from outliers.

[3] Business density is the number of businesses per 1000 people.

[4] Survival rate is calculated by the proportion of businesses born in one year that are still active in the following year.

3 A policy framework for a just transition in Slovenia

This chapter analyses the policy framework for coal transition in the SAŠA and Zasavska regions, outlining areas for improvement in the planning process and proposing priorities to strengthen long-term development conditions in the regions.

Key findings and recommendations

The existing strategic and planning framework for the just transition of Slovenia's coal regions was established through the 2020 Comprehensive National Energy and Climate Plan, and its National Strategy for Phasing Out Coal and Restructuring of Coal Regions. Subsequent to this, Territorial Just Transition Plans (TJTPs) for SAŠA and Zasavska were adopted by the European Commission in December 2022, as part of Slovenia's European Union (EU) Cohesion Policy Programme 2021-2027, making available a total of EUR 258 million (euros) in support from the Just Transition Fund (JTF) for investments for both regions. Furthermore, specific development objectives related to the just transition were included in the broader Regional Development Programmes (RDPs), developed as part of the planning process for 2021-2027. The RDPs are thus broader strategies that outline the region's development priorities, with a selection of projects targeting the JTF and other funding sources.

Collectively, these strategies and plans provide a comprehensive short- to medium-term framework aimed at enabling SAŠA and Zasavska to undergo a gradual and fair process towards long-term energy, environmental and socio-economic restructuring, following the just-transition approach of focusing on people, places and businesses affected by the coal phase-out. Furthermore, this just-transition planning process established relevant institutional foundations for both regions, such as dedicated Just Transition Centres (JTCs) funded by the JTF. These centres are located within the Development Agency of SAŠA (DA SAŠA) and the Regional Development Agency of Zasavska (RDA Zasavje), ensuring just transition-related activities are based on consultation with local stakeholders and connected to European Union (EU) support programmes and funds.

Moreover, the identified transition projects are coherent with short- to medium-term challenges and diversification opportunities in each region. In Zasavska, projects to develop new business zones and support infrastructure on rehabilitated brownfield areas align with the pressing need to address degraded sites and the shortage of suitable industrial land. SAŠA has rightly prioritised securing an alternative energy source for its district heating system and expanding local renewable-energy capacity, while also working to repurpose the TEŠ thermal power plant to position the region as a potential hub in Slovenia's future low-carbon energy and industrial strategy. Both regions rightfully identified flagship projects to advance research and innovation on energy-related technologies, with initiatives that have the potential to boost the entire innovation ecosystem, such as Zasavska's Strategic Research and Innovation Partnership MATerials as end PROducts (SRIP MATPRO). The main focus now with these priorities should be to speed up their implementation (Chapter 4).

For the post-2027 period, some areas could help strengthen the broader vision and strategic planning for the transition:

- The current strategic and planning framework for the just transition in RDPs in SAŠA region is mostly oriented towards preparing for the end of coal mining and coal-based power-generation activities. In the case of Zasavska, towards addressing the legacy of degraded areas from previous mining activities, while stimulating a more innovative and sustainable economy. Looking beyond the current programming period (2021-2027) – and noting that the JTF eligibility period for the funding runs up to the end of 2029 – there will be a need to define a renewed long-term vision for the just transition of each region that further complements the focus on the coal phase-out and its actual legacy with a comprehensive regional approach that articulates future development pathways beyond coal.
- There exist opportunities to improve the processes for defining priority measures or projects to deliver on the long-term vision for the development of each region. While the use of project ideas submitted by local stakeholders has been effective in collecting projects, a more strategic

approach to project selection would be beneficial. For example, in the current selection process, there was an over-representation of concept-level proposals, where more than 70 % of proposed operations were initial ideas or aspirations lacking a technical feasibility study, financial plan or land/site assessment (Ministrstvo za kohezijo in regionalni razvoj, 2025[1]). Therefore, a clearer project prioritisation framework, reflecting the level of preparedness and feasibility, as well as the project's impact, would be more efficient to attain transition goals.

- In addition to the immediate benefits from investments in flagship innovation and productive projects led by national organisations (e.g. the National Institute of Chemistry) or large private companies, the contribution of such investments to regional economic development could be reinforced by establishing clear strategies and opportunities to link them with bottom-up innovative ideas, local business and entrepreneurial ecosystems. This would enable positive spillover effects, particularly in relation to innovation activities.
- The sectoral approach of just-transition measures has rightly focused on manufacturing, energy and information technology as the anchor sectors with the highest growth potential for the transition in both regions. Looking forward – and with the availability of suitable funding – this sectoral coverage could be complemented through additional emphasis on local research and innovation activities, tourism and social economy models, to capitalise on these regions' unique natural and cultural assets.

Moving beyond sector-specific project approaches, a renewed policy framework for the transition would benefit from strengthening the structural enabling conditions to ensure that transition projects are rooted in competitive business environments, while delivering long-term local development impacts. Such enabling conditions include reinforcing the regional innovation ecosystem, improving the local labour market, enhancing the energy and transport infrastructure, and streamlining land remediation for industrial and residential use.

Key recommendations

1. Update just-transition strategies and plans to reflect new priorities for economic competitiveness and further include social and cultural aspects, by:

- Assessing changes in local, national and EU policy priorities to identify how they may shape potential opportunities and challenges for transition processes in Slovenia's two coal regions.
- Supporting regional institutions – namely, the RDAs and the Just Transition Centres (JTCs) – to update and revise regional transition strategies and plans, focusing on the strategic vision and long-term narrative to implement plans and local development priorities. This can be translated into amendments to the TJTPs, taking advantage of their nature as living documents.
- Strengthening formal co-ordination between national and regional levels (including with RDAs and JTCs) to align policy assessments with regional planning milestones. Co-ordination with other Slovenian regions and EU coal regions could be also improved with further exchange of experiences and international partnerships.

2. Strengthen project preparation and prioritisation to advance transition strategies, by:

- Strengthening selection criteria that reflect the level of preparedness, feasibility and deliverability of projects, as well as their impact on employment, contribution to climate objectives or consistency with the regional vision. This can be done by enhancing the criteria for the calls published at the national level, with a clear filter that scores each project proposal on its alignment with EU, national and regional priorities and impact (e.g. employment, climate, regional vision, economic diversification). At the same time, applying a co-ordinated one stop-shop in the RDAs (e.g. by the JTC) can help improve technical and administrative (e.g. permitting) conditions to enhance the projects' feasibility.

3. Strengthen the key enablers of development to improve conditions for new businesses and workers, by:

- Improving the regional innovation ecosystems:
  - Better linking national-led innovation projects, such as those conducted by the National Institute of Chemistry, with local business and entrepreneurs. This can include closer collaboration between the Chamber of Commerce and the RDA in each region to improve alignment between large innovation projects and local development strategies, as well as to promote innovation competitions or challenge approaches for local entrepreneurs to solve identified needs in public or private flagship innovation projects. In the case of Zasavska, the region can leverage the Strategic Research and Innovation Partnership MATerials as end PROducts (SRIP MATPRO) to further link local entrepreneurs and small and medium-sized enterprises (SMEs) to innovation value chains.
  - Boosting entrepreneurship through greater financial access and incentives, tailored entrepreneurial education and mentoring in schools and technical institutions, and improved communication to promote the available support and valorise entrepreneurship.
  - Further easing administrative processes for business growth and entrepreneurship by enhancing mentorship for SMEs and entrepreneurs to access funding and support programmes, and tailoring national innovation-related programmes based on project ideas from local actors, adapting application processes to local conditions and capacities. Entrepreneurial training projects like the Podjetno nad izzive entrepreneurship training programme (PONI) in Zasavska and SAŠA can be further complemented with mid-term support after the businesses are launched.
  - Particularly for SAŠA, promoting stronger partnerships between innovation projects with education institutions and incubators to build local innovation capacity. The Chamber of Commerce could spearhead initiatives such as firm-to-firm mentoring and innovation challenges for SMEs and entrepreneurs to address industrial problems. Collaboration should also be facilitated among the Faculty of Energy (which is expected to be relocated to the former power plant site), the Laboratory for Biomass Biorefinery Research, the business incubator, Technology Park Velenje, TecHub and major manufacturers, aligning their efforts around shared innovation goals and activities.
  - Particularly for Zasavska, improve human resource capacity in the Chamber of Crafts to enhance the design and implementation of innovation and SME programmes. Invest in building staff and technical capacity to identify the characteristics and needs of local businesses, as well as gather innovation ideas.
- Improving the local labour market, by:
  - Enhancing workforce data and forecast capacity by further tailoring pre-employment screening systems to the local workforce and needs of the transition project. Regions can leverage the skill-related information developed by the National Platform for Competencies and their regional initiatives, namely, Zasavska's Platform for Skills Forecasting and SAŠA's Career Opportunities Fair, to better identify and share information about skill supply and demand for the transition projects. JTCs could be a vehicle for managing that regional information.
  - Tailoring skill programmes through greater stakeholder involvement and partnerships, for example involving trade union members and other worker representatives in policies and programmes for upskilling and reskilling (e.g. voucher system).

- Adapting education and training programmes to industry needs, in partnership with national and regional education institutions. Vocational education and training institutions can further promote apprenticeships, school-to-work transitions and tertiary education in Zasavska.
- Improving regional-national co-ordination to deliver skill programmes.

- Enhancing green energy and transport infrastructure for families and business,, by:
  - Securing a more affordable and sustainable energy infrastructure by promoting local energy self-sufficiency, including by developing renewable-energy communities, addressing energy-poverty concerns and accelerating the implementation of renewable-energy sources (RES). This involves accelerating the integration of renewables, with clear milestones for renewable shares in the district heating supply, clear financial planning for completion (which might require different funding options beyond the JTF) and co-ordinated operation among several actors (e.g. state, municipality, heat distributor).
  - Improving transport infrastructure and mobility solutions,, by:
    - In SAŠA and Zasavska, expanding integrated mobility with reliable bus service frequency to connect urban centres with suburban and rural communities. This includes establishing frequent and reliable bus service hours to accommodate shift work and suburban travel, as well as integrated cycling infrastructure and shared bike systems.
    - In Zasavska, prioritising the G2108 reconstruction project and also the Trbovlje-Prebold tunnel, which might need to be developed based on diverse funding options.
- Enhancing access to land for industrial and housing purposes, by:
  - Further streamlining procedures and ensuring transparency in land-acquisition processes to promote confidence among potential investors. To this end, special attention should be paid to simplifying brownfield remediation procedures.
  - Prioritising when possible the use of brownfield for new industrial, community or recreational developments over greenfield sites. This includes analysing the possibility of providing incentives for contamination cleanup (e.g. tax credits).
  - In SAŠA and Zasavska, integrating municipal housing plans with repurposing plans to maintain local housing affordability, particularly in Velenje and nearby villages.
  - In Zasavska, accelerating the remediation of documented brownfields, unlocking more land for business and housing.

Introduction

The transition out of coal relies on sound and well-advanced planning to help communities, businesses and places manage the impacts of leaving an industry that has long shaped local economies, societies and cultures. Anticipated planning can mitigate the severe impacts on coal communities, while also providing hope and aligning efforts to identify opportunities for new economic activities. The different transition stages of Slovenia's two mining regions, SAŠA and Zasavska, provide valuable lessons for strengthening policy frameworks for the transition. While Zasavska has made efforts to address the immediate impacts of the coal mine and power plant closures since 1994, shortcomings in designing and implementing a broader development and diversification strategy contributed to years of economic stagnation (Chapter 2). By contrast, SAŠA benefits from a limited but critical window to plan for a just transition, supported by a relatively more diversified economy and the scheduled mine closure in 2033.

With the reinforced European focus on supporting coal regions in transition and the introduction of the Just Transition Mechanism in 2021, SAŠA and Zasavska, together with the national government, developed

comprehensive Territorial Just Transition Plans for the 2021-2027 programming period, which were adopted by the European Commission. These new plans corrected earlier transition efforts which had focused mainly on land rehabilitation and site repurposing. They aim to ensure that municipalities, people and businesses benefit from new economic opportunities, with projects spanning multiple areas of development, from renewable energy to manufacturing.

Currently, both regions must prioritise focusing on accelerating the implementation of selected projects and preparing for the post-2027 period, looking at diverse sources of funding with a stronger policy framework that builds on recent progress and maximises long-term outcomes. To support this effort, this chapter outlines lessons learned from the previous planning process and identifies priorities to strengthen long-term development conditions in the regions. It first describes the policy framework for phasing out coal in each region, highlighting lessons learned and key areas requiring attention. It then examines how future strategies can move beyond a project-based approach to focus on enabling regional conditions that ensure projects not only advance, but also deliver lasting local development outcomes. The next chapter of this study will instead focus on actions to strengthen the implementation of transition plans.

Slovenia's approach to the just transition in SAŠA and Zasavska coal regions

The concept of a "just transition" gained momentum in EU policy following its inclusion in the 2015 Paris Agreement and the 2018 Silesia Declaration as an approach to ensuring ensure that the transition towards a climate-neutral economy is fair, inclusive and sustainable (Council of the European Union, 2018[2]). The European Union has increasingly acknowledged the territorial dimension of decarbonisation, setting support mechanisms for the just transition to address the social and economic effects of the transition, focusing on the most affected regions, industries and workers.

This approach is highlighted in the European Green Deal and operationalised through the Just Transition Mechanism, launched in 2021 (European Commission, n.d[3]), which aims to mobilise EU 55 billion between 2021 and 2027 to support the people, businesses and regions most affected through three financial pillars: the Just Transition Fund (JTF), InvestEU for private investments and the Public Sector Loan Facility (Box 3.1Box 3.1Box 3.1).

Box 3.1. EU Just Transition Mechanism

The European Commission introduced the Just Transition Mechanism (JTM) in 2021 to support its just-transition agenda focused on supporting regions, people and business. This mechanism has the ambition to mobilise around EUR 55 billion over 2021-2027.

The JTM contains three pillars: the JTF; the InvestEU "Just Transition" scheme, targeting private investment; and the Public Sector Loan Facility, targeting public investment.

Just Transition Fund (JTF) – Pillar 1

The JTF, a fund within the umbrella of European Cohesion Policy, has been the most prominent element of the JTM, with an EU budget contribution of EUR 19.7 billion. The JTF is intended to enable regions and people to address the social, employment, economic and environmental impacts of the transition towards the European Union's 2030 targets for energy and climate, and a climate-neutral economy of the European Union by 2050.

InvestEU "Just Transition" scheme – Pillar 2

Provide a budgetary guarantee under the InvestEU programme across the four policy windows and an InvestEU Advisory Hub that will act as a central entry point for advisory support requests. It is expected to mobilise EUR 10-15 billion in mostly private-sector investments.

Public Sector Loan Facility – Pillar 3

Combine EUR 1.3 billion in grants financed from the EU budget with EUR 6-8 billion in loans from the European Investment Bank to mobilise EUR 13.3-15.3 billion in public investment.

Source: (European Commission, n.d[3]).

The JTF, the most prominent fund, allocated EUR 258.7 million to Slovenia during 2021-2027, with an additional EUR 45.6 million in national co-funding. The JTF supports the coal phase-out with a range of actions, including economic diversification, clean-energy deployment, investments in SMEs, environmental rehabilitation and worker reskilling. The JTF offers critical funding for the coal-dependent SAŠA and Zasvaska regions, but might be insufficient on its own to effect long-term structural change. Effective transition requires combining JTF resources with other EU instruments – such as the European Regional Development Fund (ERDF), the European Social Fund Plus (ESF+), the Cohesion Fund and other funds (such as the Recovery and Resilience Fund, and the Innovation Fund) – and integrating them into longer-term regional strategies (see Chapter 4).

To access this fund, Slovenia had to prepare a TJTP for each of the two coal regions. These were elaborated according to the partnership principle and agreed with the European Commission. Access to the JTM was secured through the European Commission's approval of the TJTPs for the Savinja-Šaleška (SAŠA) Region and the Zasvaska Region in December 2022, as part of the European Commission Implementing Decision approving Slovenia's European Cohesion Policy programme 2021-2027.

The launch of the JTM, together with the requirements to develop TJTPs to access the funds available under the JTM, have helped structure the transition planning process at both the national and regional levels. Following the partnership principle, the TJTPs were prepared in dialogue with relevant partners at national and regional levels (including civil society and local community representatives) and approved by the European Commission, ensuring they are consistent with the Smart Specialisation Strategy, the National Energy and Climate Plan, and other relevant national, regional or territorial strategies and plans.

As the following sections will illustrate, the governance of TJTP formulation and subsequent implementation has been reinforced through the creation of new programmes, notably the JTCs in both coal regions, which have provided additional support for raising awareness, engaging stakeholders, and co-ordinating the just transition and related development plans in the regions.

The policy framework for a just transition in Slovenia's coal regions

Slovenia has two main policy documents that guide the just transition in Slovenia's coal regions (Table 3.1). The Comprehensive National Energy and Climate Plan (NECP) is the main strategic framework, outlining national objectives, policies and measures to reduce greenhouse gas emissions by 2030 across five dimensions: decarbonisation, energy efficiency, energy security, internal energy market, and research and innovation. This plan was created in 2020, with an updated version in 2024 (Ministry of the Environment, Climate and Energy of the Republic of Slovenia, 2024[4]). It provides a broader policy context which complements the coal-exit strategy and TJTPs.

Anchored in this plan, the National Strategy for Phasing Out Coal and Restructuring Coal Regions, adopted by the Government of Slovenia in January 2022, targets two focal regions, SAŠA and Zasavska. It outlines priorities and action plans for each region with regard to job protection, social welfare, environmental

safeguards and regional diversification, in accordance with the principles of a just transition. This strategy sets out key medium-term decisions to enable the affected regions to undergo a gradual and fair process of long-term energy, environmental, economic and social restructuring in the wake of the coal phase-out.

Table 3.1. Slovenia's national guiding policy documents for the just transition

Strategy	Description	Goal
Comprehensive National Energy and Climate Plan (2020), updated in 2024	Strategic framework outlining national objectives, policies and measures across five dimensions: decarbonisation, energy efficiency, energy security, internal energy market, and research and innovation up to 2030, with projections towards 2040.	-Reduce greenhouse gas emissions by at least 55% by 2033 (vs. 2005 levels). -Achieve at least 33% RES in final energy consumption by 2030. -Limit final energy consumption and reduce buildings' energy use. -Recognise the need to prepare a strategy to exit coal in the country through the development of a National Strategy for the Exit from Coal and the Restructuring of Coal Regions in Accordance with the Principles of a Just Transition.
National Strategy for the Exit from Coal and the Restructuring of Coal Regions in Accordance with the Principles of a Just Transition (2022)	Lays the groundwork for a just and co-ordinated transition in Slovenia's coal-dependent regions. The strategy provides a roadmap for SAŠA and Zasavska to leverage EU funding, manage phase-out processes, engage communities, diversify local economies, and build infrastructure and governance capacity for long-term prosperity.	-Set a coal phase-out deadline by 2033 in the Velenje coal mine and the closure of the Šoštanj thermal power plant (TEŠ). - Assess key impacts of mine closures on employees, communities and the environment. -Identify appropriate resources at national and EU levels, and how to manage them (e.g. EU JTF funding). -Stipulate the creation of TJTPs, aligned with national and EU frameworks. -Design governance structures to steer implementation at national, regional and local levels, with stakeholder participation.

Sources: (Ministrstvo za infrastrukturo Republike Slovenije, 2022[5]), (Ministrstvo za infrastrukturo Republike Slovenije, 2020[6]).

The National Strategy for Phasing Out Coal recognises that past mine closures, particularly in Zasavska, lacked a holistic approach to the transition. Efforts focused mainly on spatial and environmental rehabilitation of degraded land, rather than on a comprehensive socio-economic restructuring (Ministrstvo za infrastrukturo Republike Slovenije, 2022[5]). Nevertheless, even the rehabilitation efforts remained incomplete for years after mine closures. Leveraging Zasavska's cautionary past as an example, the strategy introduces new measures and governance structures to support a structured long-term transition in SAŠA and correct the path in Zasavska. It underscores the need for a comprehensive, inclusive transition plans that integrate social, economic and environmental dimensions to ensure a sustainable regional development.

To guide a gradual and fair socio-economic restructuring in the wake of the coal phase-out, the strategy identifies five key strategic goals (SGs) for each region (Table 3.2), along with multiple operational objectives under each goal. Based on the national strategy, action plans were prepared for each coal region. These included some selected projects which could serve as examples of well-designed conceptual solutions that are consistent with the concept of a just transition (European Commission, 2021[7]).

Table 3.2. Strategic goals identified in the National Strategy for the Exit from Coal

SAŠA (Savinjsko-Šaleško)	Zasavska
SG 1: A fair energy transition for both Slovenia and SAŠA region	SG 1: High-quality living and natural environment
SG 2: Gradual rehabilitation and revitalisation of spatially and environmentally degraded areas	SG 2: Highly motivated and skilled residents
SG 3: Additional regional connectivity and sustainable mobility	SG 3: Diverse and resilient local economy
SG 4: Sustainable, resilient and diversified economic development	SG 4: Exploiting the potential of RES in the region
SG 5: Jobs and skills for all	SG 5: Improved connectivity of the region

Source: (Ministrstvo za infrastrukturo Republike Slovenije, 2022[5]).

Drawing on the previous SG 2, the then-Slovenian Government Office for Development and European Cohesion Policy developed the TJTPs in collaboration with the Regional Development Agency Savinjska (RDA Savinjska) and the Development Agency SAŠA (DA SAŠA) for the Savinjsko-Šaleška region, and the Regional Development Agency Zasavje (RDA Zasavje) for the Zasavska region, both including collaboration from various local partners.[1] The approval of the TJTPs by the European Commission was a condition for the two coal regions to access resources available through the EU JTM.

Specifically, the adopted TJTPs allowed these two regions to access more than EUR 258 million allocated to Slovenia under the JTF 2021-2027, of which around 70% were earmarked for the Savinjsko-Šaleška region and 30% for the Zasavska region. The TJTPs are annexed to Slovenia's Cohesion Policy programme 2021-2027.

These plans outlined the transition process in the most negatively affected regions of the country. They included an assessment of transition challenges for each region; the needs and objectives by 2030 with the goal of reaching a climate-neutral economy of the European Union by 2050; their consistency with other relevant national, regional or territorial strategies; the governance mechanisms envisaged; and the main types of operations foreseen in each coal region to receive support under the JTM. These plans describe the types of operations to be funded by the JTF (Pillar 1 of the JTM), and outline the intended use of Pillar 2 (InvestEU "Just Transition" scheme) and Pillar 3 (Public Sector Loan Facility) of the Just Transition Mechanism.[2] Slovenia's TJTPs, like those of many other countries, are relatively concise and operationally focused programming documents.

The purpose of the TJTPs is not to provide an overarching regional development framework but rather to depict the social, economic and environmental challenges stemming from the phasing out of fossil fuel. The general strategic objectives of the TJTPs are aligned among the two regions: they focus on economic development, energy transition and decarbonisation, jobs and skills, and environmental rehabilitation (Table 3.3). Overall, the TJTPs represent just one instrument to support the just transition and should be complemented by more comprehensive, long-term planning beyond the 2021-2027 period to ensure real structural transformation and sustainable regional development.

An outstanding characteristic of the TJTP implementation is the creation of JTCs to support the planning process and gather projects from different stakeholders in the region. In Slovenia's TJTP implementation, regional JTCs have been playing a key role in engaging local actors (e.g. municipalities, SMEs, non-governmental organisations [NGOs]) in transition planning and implementation. The SAŠA JTC (created in 2022) has offered outreach, training, data analysis and project guidance, while the Zasavska JTC (created in 2023) has provided partnership building, application support and brownfield mapping (Interreg, 2025[8]). This has strengthened the participatory, bottom-up dimension of the process, even though the stakeholders interviewed for this report consider that the subsequent prioritisation and ministerial funding alignment has faced bottlenecks (Chapter 4).

Table 3.3. Territorial Just Transition Plans for SAŠA and Zasavska

Strategic objective	Specific actions	
	SAŠA (Savinjsko-Šaleška)	Zasavska
Energy transition	- Redesign district heating system. **Flagship project:** Transformation of the district heating system from reliance on a coal plant towards renewable energy. - Promote RES and energy communities. - Improve energy efficiency in economic activities, creating jobs. **Flagship project**: Hydrogen technologies in zero-emission transport and energy decarbonisation. - Improve energy efficiency of economic activities, with material efficiency and job creation.	- Promote RES technologies and local R&D (e.g. green energy for glass production, including green hydrogen). - Improve energy efficiency of economic activities, targeting renewable-energy communities and citizen-energy communities, in combination with activities for decarbonisation, material efficiency and job creation.
Rehabilitation and revitalisation	- Decommission and repurpose coal-related facilities into RES, business zones, community housing and technology park.	- Revitalisation and fitting-out of areas dedicated to economic business infrastructure. - Transform industrial zones into modern business parks (e.g. OC Rudnik, OIC Kisovec, OIC Lakonca) to stimulate green industry jobs and local investment
Economic development	- Labs for innovation aligned with Smart Specialisation Strategy.	- Investment in R&D, digitalisation and SME production (e.g. energy/material efficiency, circular-economy solutions). -Production of electrical components for smart buildings and battery storage systems.
	Investments in SMEs to enhance production, services and/or research and development activities in sectors to facilitate the twin transition.	Investments in enterprises: support SMEs with commercialisation of developed materials, products, technological solutions, services and business models that enhance manufacturing, service and/or R&D activities
	Upgrade the start-up ecosystem, notably through rehabilitated sites.	- Develop start-up ecosystem on rehabilitated areas to promote business zones and incubators
	Flagship projects: -Laboratory for Bio-Refining Research (Chemical Institute). - Repurposing legacy industrial sites for economic business infrastructure (in municipalities of Velenje, Šoštanj and Šmartno ob Paki).	Flagship projects: -Carbon-free technology demonstration and training centre (Chemical Institute – Centre for Development, Demonstration and Training for Carbon-Free Technologies [DUBT Centre]) - Repurposing legacy industrial sites for economic business infrastructure.
Jobs and skills	Enrich the implementation of quality and accessible learning. Lifelong career guidance and training of unemployed and jobseekers. Introduce circular content into the education system.	Enrich the implementation of quality and accessible learning. Provide lifelong career guidance and training for the unemployed and job seekers. Introduce circular content in educational institutions.
Productive investments in large enterprises (indicative list of operations)	**Indicative list of projects (projects will be selected within the framework of the public call). Examples include:** -Development of new generations of household appliances by Gorenje Household Appliances Company, including more energy-efficient or smart appliances. -Circular economy: plastic recovery and processing, and production of alternative fuels by Premogovnik Velenje, d.o.o Company.	Indicative list of projects (projects will be selected within the framework of the public call). Examples include: -Establish a new production facility from Herz Metal Processing Company in Trbovlje focused on metal processing, producing components to feed other industrial sectors.

Source: (Government of Slovenia, 2021[9]).

These plans also reflect some differential strategic focus across regions, shaped by their status of the transition. For SAŠA, a main action is to develop RES and find alternatives for heating homes and businesses, which still relies heavily on the TEŠ coal-fired power plant. As the entire Šaleška Valley is covered by the district heating system supplied by TEŠ, finding an alternative energy supply for the system has been rightly identified as a priority measure, alongside the wider development of the region's renewable-energy supply. Projects aimed at strengthening research capacities (e.g. Laboratory for Bio-Refining Research) and labour-force skills align with the ambition to retain the region's strategic position in the national energy system.

For Zasavska, while leveraging opportunities in the energy sector – especially by integrating renewable energy into local industries (including green hydrogen), such as glass production – remains important, pressing priorities consist in transforming industrial land to attract businesses, and connecting national research and innovation projects to the local economy to generate sustainable employment.

Both regions have flagship projects to reuse legacy industrial land and support capacity in local SMEs to benefit from the transition opportunities. With regard to labour markets, both regions recognise the need to improve education and provide lifelong career guidance, with a focus on integrating circular-economy principles into educational content.

Similarly, both identify indicative productive investments in large enterprises as potential anchor strategies to attract other business connected to their value chains. For SAŠA, the support provided to large companies leans toward green technologies, including the production of more energy-efficient household appliances by Hisense Gorenje Household Appliances Company. Zasavska, on the other hand, focuses on industrial diversification and adding value to traditional manufacturing sectors. One example of this intended support is the call published in October 2025 for the promotion of investments for economic restructuring, targeting both established and young companies (Spriti Slovenija, 2025[10]).

Although several flagship projects have been included as priority initiatives for the transition, they have yet to be implemented. Some of the main factors that have delayed the implementation of transition projects included delays in grant disbursement, permitting procedures and procurement shortcomings (see Chapter 4 for a discussion on project implementation).

It is worth noting that priorities related to improving connectivity identified in the Slovenian National Strategy – namely, "additional regional connectivity and sustainable mobility" (SAŠA), and "high-quality living and natural environment" and "improved connectivity of the region" (Zasavska) – are outside the scope of the JTF, but can be supported by the other pillars of the JTM.

Territorial Just Transition Plans complement broader Regional Development Programmes

The RDAs in Zasavje and Savinjska for SAŠA produced RDPs as part of the planning process for the operational programmes for the period 2021-27. The RDPs focused on broader areas beyond the just transition:

- RDA Zasavje, in co-operation with stakeholders and members of the Regional Development Council, prepared the RDP for Zasavje for 2021-2027.
- For SAŠA, RDA Savinjska, in collaboration with stakeholders, has prepared the RDP for the Savinjska (NUTS-3) region for 2021-2027. Regional development in the Savinjska region is organised in a network manner, with RDA Savinjska serving as the leading organisation and official RDA. There exist five additional co-operating development agencies, including DA SAŠA. Together, they developed the 'Sub-regional Development Programme SAŠA 2021-2027' (DA SAŠA, 2021[11]), which is incorporated into the NUTS-3 RDP of Savinjska region.

The RDPs are a broader strategy for developing the region, outlining the regional development potential, the potential smart specialisation strategy, and the development objectives and priorities for the

programming period (the last programmes cover 2021-2027). They also contain a governance mechanism for promoting development in the region and determining the system for monitoring, evaluating and organising the implementation of the RDP (Chapter 4).

The RDP outlines the broader development priorities for the region, with selected projects targeting the JTF, but also other sources of funding.

SAŠA RDP includes the just transition as one of five strategic development areas

SAŠA's "Regional Development Programme SAŠA 2021-2027" focuses on digital transformation, innovation ecosystems, renewables, circular bioeconomy, and green jobs and technologies. The RDP is structured around five strategic areas:

- Smarter and more sustainable SAŠA
- Low-carbon, green and connected SAŠA
- Social SAŠA
- SAŠA for sustainable and integrated development
- SAŠA in a just transition.

The last strategic area, "SAŠA in a just transition", is dedicated to measures and projects for the just-transition process. It sets six development priorities (Table 3.4) and around 60 project concepts registered with the SAŠA DA which could be eligible for funding under the JTF. Roughly half of these projects also correspond to other development priorities identified in SAŠA's RDP.

Table 3.4. SAŠA RDP 2021-2027: Priorities of the strategic objective "SAŠA in a just transition"

"SAŠA in a just transition" priorities	Measures to support priorities (selected)
Just energy transition of the valley	-Develop and invest in infrastructure to mitigate the consequences of the region's restructuring (transition of district heating to RES, highly efficient production of heat and electricity, production of electricity storage systems, etc.). -Establish a competence centre in the field of modern energy management. -Preserve energy location (rehabilitate and reuse degraded areas for energy activities). -Maintain TEŠ as a key location in Slovenia's electricity system. -Green resources (pilot and demonstration projects for decarbonisation). -Use alternative fuels in TEŠ. -Construct a gas-fired power plant with cogeneration of heat in TEŠ.
Development of brownfield sites	-Long-term rehabilitation of areas subject to subsidence from mining. -Change use of certain areas/brownfield sites for alternative economic and other uses (education, supporting environment, tourism, etc.). -Decommission abandoned energy facilities.
Connectivity and sustainable mobility	-Infrastructure connections (road, rail). -Digital connectivity: digital competencies, digital service provision, digitalisation of institutions and business. -Sustainable mobility: cycle paths, e-mobility, hydrogen vehicles.
Sustainable and diversified economic development and jobs with high value-added	-Maintain the production capacity of existing companies (support demonstration projects in the field of green technologies). -Start-up ecosystem, including creative industries (industrial and technological incubator SAŠA TecHub i4.0). -Zero-waste valley to implement the zero-waste principle in economic activities. - More supportive business environment to improve exports and foreign direct investment. -Spin-off activities of Velenje coal mine based on intellectual expertise and acquired knowledge. -Wood-processing centre: improve competitiveness of wood-processing activities that are currently supplying Velenje coal mine. -Centre for Modern and Efficient Energy Solutions (renewable-energy sources, energy services and recycling of RES equipment). -Silver economy: increase capacity on care services for the elderly. -Sustainable tourism: leverage industrial heritage and memories, and turn degraded areas into attractive

	tourist areas.
Skilled and motivated workforce	-Retraining programmes for redundant workers in the energy sector. -Revise formal education (curricula) to reflect new professions. -Revise non-formal education and retraining – (re)design professional qualification programmes.
Promoting social and cultural development of the region	-Culture, sports and volunteering, to ensure social activation of unemployed former coal mine workers. -Promote a positive image for the valley: establish an NGO incubator as a catalyst for sustainable development.. - Care for vulnerable groups (socially excluded, disabled miners, foreigners).

Source: (Development Agency SAŠA, 2021[12]).

Zasavska's RDP includes the just transition as one of six strategic development areas

For Zasavska, the RDP sets out six development priorities. The sixth priority relates to the utilisation of the JTF. It covers 8 specific objectives (Table 3.5) and identifies 44 proposed projects for implementation within the framework of the JTF.

Table 3.5. Zasavska RDP 2021-27

Development priority	Measures to support priorities (selected)
Innovative and competitive economy in Zasavska	-Develop business locations. -Support transformation of economic activities.
Green and low-carbon Zasavska	-Environmental protection. -Promote the circular economy. -Regulate flood and erosion areas. -Energy efficiency and use of RES, energy self-sufficiency.
Mobile and regionally connected Zasavska	-More sustainable mobility. -Public passenger transport. -Cycling network. -Traffic management in urban centres. -Accessibility and connectivity of the region. -Smart solutions for sustainable mobility.
Socially developed Zasavska	-Support the transition from education to employment. -Renovation and construction of social infrastructure. -Social protection programmes. -Strengthen competencies for life and work. -Comprehensive healthcare and prevention. -Social entrepreneurship.
Sustainable and integrated urban and rural development	-Mechanism for the sustainable development of urban settlements and urban areas. -Prepare regional spatial plans. -Revitalise cultural heritage. -Youth and active citizenship. -Transition to a cleaner society and nature conservation. -Community-led local development. -Promote the development of NGOs.
JTF	-Productive investments in SME, including start-ups. -Productive investments in large enterprises to encourage diversification. -Investments in research and innovation activities and promoting the transfer of advanced technologies, in line with the Slovenian smart specialisation strategy. -Deploy technology and infrastructure for affordable clean energy. -Upskill and retrain workers. -Regeneration and decontamination of facilities, land remediation.

Source: (Regional Development Agency of Zasavska, 2021[13]).

Several projects in the RDPs have objectives that overlap with those under the Just Transition pillar, especially in areas like low-carbon growth, sustainability and socio-economic inclusion. While this dual programming aligns broader regional planning with targeted just-transition strategies, it creates greater responsibility to differentiate between RDPs and TJTPs in terms of activities and priority actions, complicating project classification and straining administrative efficiency and capacity.

With regard to sectoral focus, just-transition projects in both regions rightly focus on the clearest endogenous assets in their economies, including the manufacturing technology and energy sectors. While these sectors have the greatest potential to unlock high added-value jobs and business in the regions, other sectors, such as tourism or social economic models – which are less of a focus – could be additionally supported to mobilise social organisation and less-skilled workers.

- SAŠA, for example, has dynamic tourism activities in leading destinations of Upper Savinja Valley and Šaleška Valley, with opportunities for further product development (e.g. festival tourism in the Šaleška Valley, boutique tourism in the Upper Savinja Valley, exploitation of natural and cultural heritage).
- In Zasavska, there is very limited investment in tourism accommodation, which remains relatively outdated. Plans have long been proposed to develop the Medija Thermal Spa in the town of Izlake, which has been closed since 2009, into a major tourist and business complex. There has been some tourism activity linked to industrial heritage, which can provide a good basis for further promoting the region and attracting people by capitalising on the environmental assets through sport tourism (e.g. trekking, canoeing) and cultural heritage. This opens the possibility of advancing a clearer and more long-term development strategy for sustainable tourism. For instance, RDA Zasavje, which is currently drafting the region's tourism strategy (funded by municipalities and in co-ordination with the RDA), is a first step to advance a coherent plan for sustainable tourism (rra-zasavje, 2025[14]).

Clear synergies among the key transition sectors – manufacturing technology and energy – could be clearly highlighted, with common actions to strengthen business conditions needed for these projects to create long-term shifting effects in the local economies. Some of the areas to be strengthened include innovation ecosystems, labour markets and infrastructure. This will be further discussed in the section.

Lessons learned to improve planning in the just transition

The "EU regulation 2021/1056 establishing the Just Transition Fund" includes an exhaustive list of activities that can be supported, in accordance with the aims of alleviating the transition's socio-economic impacts, supporting the economic diversification and reconversion of the territories, and helping people to adapt in a changing labour market.

However, delivering on the just transition, and setting each region on a pathway towards long-term energy, environmental, economic and social restructuring will require looking beyond the confines of EU just-transition frameworks and financing mechanisms. For example, the JTF supports productive investments in SMEs, but only supports investments in large enterprises under certain conditions when these are approved as part of the TJTP.[3]

Therefore, just-transition priorities, measures and specific projects proposed for SAŠA and Zasavska – whether identified in the TJTPs or relevant parts of the RDPs – constitute a specific – albeit important – dimension of the overall picture of RDPs. Thus, a long-term transition approach would also require the regions to take advantage of the full array of EU and national funding opportunities open to them (and available to all regions of Slovenia).

Beyond funding and strategic vision, delivering on the regions' ambitions for a just transition will ultimately depend on their capacity to effectively implement their transition plans and projects. While this implementation has experienced delays, later progress has shown a catch-up (Chapter 4).

Against this backdrop, different lessons can be extracted from the process in these regions to help prepare future just-transition development plans and ensure strong linkages with local priorities over time.

- Enhancing the quality of project proposals and their match with development priorities. Although the types of measures (operations) envisaged under the TJTPs are an outcome of the assessment of development needs in the face of the anticipated impacts of the transition, the operations proposed under the TJTPs are also somewhat reflective of the project concepts collected during the preparation phase. According to the interim implementation report for JTF (Ministrstvo za kohezijo in regionalni razvoj, 2025[1]), more than 70% of proposed operations at that stage were still at the concept level, often lacking a basic technical feasibility study, financial plan or land/site assessment. This made their preparation and appraisal more demanding, and increased the risk of later delays. Stakeholders in SAŠA and Zasavska also underlined that for some municipal projects, such as the redevelopment of former energy sites, the main difficulty was not the absence of ideas. Rather, it was the need to adapt integrated concepts in innovation, education or economic development to the specific eligibility criteria and content requirements of calls (for example, for business incubator schemes), which sometimes required redesign and phasing. Within the existing, transparent set of Cohesion Policy selection criteria, more systematic pre-application support and clearer expectations on minimum documentation could help applicants present more mature proposals, also helping them understand how to structure integrated projects across different calls and funding sources.
- Ensuring that national and private flagship innovation projects become anchor projects to attract new businesses while also contributing to the growth of local companies. As the next section will outline, much of this would rely on enhancing the business environment in the regions through stronger innovation ecosystems and supportive labour markets. Some differences, however, exist among both regions:
  - For SAŠA, large international companies already offer a clear opportunity to potentially link local companies into their supply chains. For example, this includes projects highlighted often by local stakeholders during OECD visits to the region, such as the Hisense Gorenje's potential development of new generations of household appliances, or national-led projects in the field of green technologies,
  - For Zasavska, the projects proposed for repurposing brownfield sites are important developments in terms of supporting and projecting the region as a more dynamic and innovative business environment. Some examples highlighted by local stakeholders include the Rudnik Hrastnik business zone or the Kompreshaus Hrastnik business incubator in the municipality of Hrastnik; the Kisovec II economic business zone in the municipality of Zagorje ob Savi; the Lakonca economic business zone in the municipality of Trbovlje; or the DUBT Centre in Kisovec. As noted later, it will be important to leverage such developments in such a way that they contribute to the emergence of local innovation ecosystems.
- Seizing the opportunities to amend TJTPs in line with new EU priorities or renewed regional needs. For example, while the JTF is not intended to support large public infrastructure projects, such as major road and rail projects (which can be primarily supported by other EU funds, such as the ERDF, or the Connecting Europe Facility), both regions have included measures to support regional transport connectivity using the third pillar of the JTM. This was reflected in the 2024 amendment of the TJTPs in SAŠA and Zasavska. SAŠA included measures contributing to regional connectivity and sustainable mobility, mainly in sustainable local mobility, with a focus on public transport and soft measures (park and ride), infrastructure for sustainable mobility, active mobility, etc. Zasavska included measures contributing to better regional connectivity, mainly in the areas of public transport promotion, infrastructure and sustainable (local) mobility, with key projects identified by stakeholders such as the phased reconstruction of the Zidani Most-Hrastnik

regional/main road. Those amendments are a relevant aspect to keep aligning JTF funding support with local and European strategic priorities.

- Involving non-governmental social sector actors in just-transition policymaking and delivery. Social actors (e.g. community organisations and social enterprises) have expertise in supporting vulnerable and disadvantage groups (including long-term unemployed people) and promoting the inclusiveness of transition processes by offering alternative routes for social (re)integration.
- Create a more coherent development narrative for the future for the regions. RDPs proposes a range of measures under headings of sustainability or diversified economic development. Given their disparate nature, it is not evident that they can be framed within coherent and focused strategies for development that align, for example, with the regions' smart specialisation potential. For example, SAŠA 's RDP includes sustainable tourism, wood processing, care services for the elderly and spin-off activities for the Velenje Coal Mine under the diversification pillar. While each may contribute to the region's economic development and job creation, the coherence of these targeted measures is not fully clear.
- For both regions, adopting a more strategic approach to land rehabilitation and the reuse of coal mining areas, beyond the productive projects submitted for funding by the Ministry of Cohesion and Regional Development (MCRD), would be valuable. While the planned remediation of affected areas appears on track, there exists no coherent regional master strategy guiding the long-term rehabilitation of former coal and energy sites, including through environmental and social opportunities, or their integration with neighbouring areas. In terms of economic business infrastructure, the projects selected and approved for MCRD financing in the Zasavska and SAŠA regions are either already located in degraded areas (such as the renovation project in Hrastnik) or will be newly established there – for example in Kisovec (Zagorje ob Savi) and Trbovlje. Communities, companies and local governments would benefit from having a clear, integrated idea – such as a master plan – outlining the vision for the rehabilitation and reuse of the entire mining and industrial areas, combining economic initiatives with environmental remediation and social uses (e.g. educational or community spaces). These types of coherent plans can also help improve synergies among different uses of land.

  This is particularly relevant for Zasavska, where the hilly geography and limited land availability constrain opportunities for large-scale productive investments. Additional efforts are therefore needed to optimise existing land for low-volume but high-value-added activities, in co-ordination with tourism and other land-related activities.

  Examples of mine rehabilitation, like the Terhills development in Belgium, illustrate the relevance of using a master plan, with a public-sector investment company to channel public subsidies into infrastructure development (Box 3.).

Box 3.2. A master plan for mine rehabilitation

Terhills, mine repurposing into a tourism hotspot

Situated on the edge of Belgium's only National Park, Terhills covers an area of approximately 365 hectares, encompassing the former Eisden mine (closed in 1987), power station (closed in 1996) and gravel quarrying site. Terhills NV, a subsidiary of the Limburg Investment Company LRM (a financial investment company wholly owned by the Flemish regional government), made a EUR 75 million investment to transform the area and started reconverting the mining site into a tourism hotspot, with 100 hectares rezoned as a nature reserve and another 119 hectares opened to nature recreation.

Although shaped by its past as an industrial mining and gravel digging site, Terhills markets itself as an environment now characterised by lush fauna and flora, huge watercourses and unique sites, providing a wide range of recreational activities based on eco-friendly project development.

Initial development included the Maasmechelen Village luxury outlet and Euroscoop cinema beside the Eisden mine (both created in 2001). In 2015, the Terhills Hotel opened in the renovated mine building, followed by the Terhills Conference Centre, Terhills Events square, Cablepark and gateway facilities to Hoge Kempen National Park. In 2019, the Elaisa Energetic Wellness centre opened; in 2021, Center Parcs launched the Terhills Resort, with energy self-sustainability at its core.

The development of Terhills has benefitted from public funding for non-return related investments, including around EUR 3 million for investment in a shuttle service, event zone and bicycle paths. This was 100% subsidised by Limburg Sterk Merk (LSM), a foundation and investment fund which invests in not-for-profit projects). An additional EUR 6.5 million went to the building of a bicycle bridge as a special attraction ("Cycling between the slagheaps"), 100 % subsidised by the Province of Limburg and LSM.

Lessons learned:

- A clear, investable plan helps attract private capital, ensure land-use efficiency, and align repurposing efforts with broader economic and environmental objectives
- Anchor rehabilitation in a master plan: begin redevelopment with a comprehensive master plan that defines land-use zones, timelines and transformation paths (e.g. nature, tourism, commercial, education).
- Combine public funding with a dedicated delivery vehicle: use a public-sector investment company (e.g. LRM/Terhills NV) to channel public subsidies into infrastructure, land remediation and value-adding partners.
- Launch anchor projects to catalyse growth: start with flagship developments (e.g. the luxury outlet Maasmechelen Village and a hotel in the former coal building) to create demand for support infrastructure
- Segment land by use and conservation value: designate former coal site areas by use (e.g. nature reserve, recreation zone, business and tourism infrastructure), preserving heritage while allowing mixed uses.

Sources: (Terhills, nd[15])); (European Commission, 2025[16]).

Most of these actions require the right financial and technical capacity for the regions to plan appropriately (Chapter 4). This would benefit from the evolution of the capacity acquired by the RDAs and JTCs throughout this planning process to help prepare the future Just Transition plans. Nonetheless, attention would be needed to keep guaranteeing these institutions have sufficient ex-ante funding or expert support for planning to turn ideas into well-structured project proposals.

Towards a common framework for project prioritisation in the planning process.

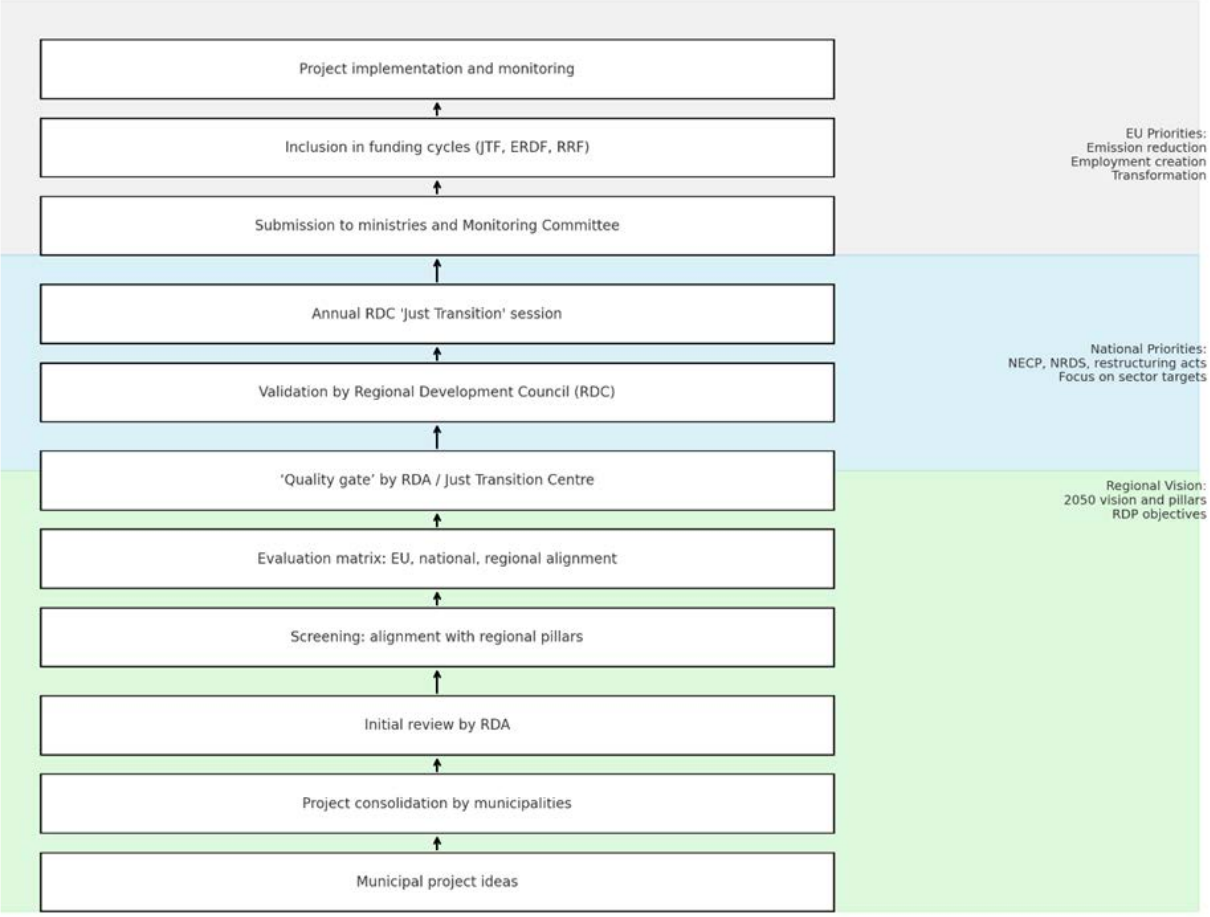
A priority to improve the planning process is to introduce a transparent framework for assessing the strategic contribution, feasibility and readiness of project proposals. This could ultimately help strengthen the project applications with the highest potential. Such a framework should be anchored within a broader long-term regional vision that is not solely focused on the JTF (see Chapter 4). It should contain overarching priorities to be attained over the medium term (set, for example, in the RDP of the programming period) as well as long-term outcomes. As the mix of funding sources will evolve over time, consistent guidance for transitioning regions can also help applicants understand what types of projects

are most relevant, and how to prepare them. Classifying projects based on key actions to attain the priorities could serve as a starting point for prioritisation.

The list of projects confirmed by the Regional Development Councils (SAŠA/Zasavska coal regions) represents only a selection of potential projects. Projects eligible for co-financing must meet the requirements and selection criteria specified in public calls or for the direct approval of operations. This is based on the published guidelines from the Managing Authority and relevant ministries/agencies that serve as implementing bodies. Under EU Cohesion Policy, Slovenia already applies a wide and transparent set of project selection criteria (Merila 2021-2027 and related guidelines), prepared by the managing authority and approved by the monitoring committee. In this sense, the prioritisation of potential projects at the regional level could be guided by a number of different evaluation tools (e.g. a simple multilevel alignment matrix), with scoring criteria based on consistency with EU objectives (e.g. decarbonisation and employment), national milestones (e.g. megawatts of renewables installed or deadlines for coal phase-out), regional vision targets (as set out in the RDP) and project-specific indicators (e.g. cost efficiency). Projects exceeding a defined score threshold would advance to the next stage of appraisal. RDAs, supported by their JTCs, could then apply such quality filters to assess the technical, administrative and socio-economic viability of shortlisted projects.

Regional project lists discussed at the Regional Development Council level are indicative and support planning. Final eligibility and co-financing depend on the requirements and selection criteria set out in public calls or, where applicable, direct approvals, in line with the guidelines of the Managing Authority and implementing ministries. The RDC may use a periodic session to take stock of the indicative pipeline and note substitutions when projects withdraw before sharing the updated overview with the relevant national bodies. Where appropriate, publishing summary information (for example, categories, simple scores and expected milestones) on existing public information systems can support transparency and traceability. Figure 3.1 presents an example of a streamlined prioritisation flow for SAŠA and Zasavska.

Figure 3.1. A proposal for project prioritisation for coal-mining regions in Slovenia



Notes: RDA= Regional Development Agency NECP =. Solvenia's Comprehensive National Energy and Climate Plan, NRDS = Solvenia's National Regional Development Strategy. ERDF = the European Regional Development Fund. RRF = Recovery and Resilience Facility.

This prioritisation effort could build on the experience of other coal regions (Box 3.3) that underscore the potential benefits of a more structured project portfolio. By embedding this approach, SAŠA and Zasavska can reinforce the coherence and effectiveness of their respective just transitions. In practical terms, the project portfolio would benefit from strengthened JTCs (see the recommendation in Chapter 4 about enhancing the centres' capacities), which could:

- screen new proposals against EU, national and regional priorities
- test their technical maturity and permitting status before they enter funding calls
- sequence them according to their alignment with the regional vision, priorities, capacity and deadlines.

Box 3.3. Silesia's project preparation facility: Translating a regional vision into investable projects

The Silesian Voivodeship, Poland's largest coal mining region, set up a dedicated project preparation facility inside the GAPR RDA in 2021. The aim is to turn the Silesia 2030 Strategy into a bankable pipeline for the JTF and national climate funds.

- Joint steering: the Marshal's Office chairs a JTF steering group that gathers GAPR, the Silesian Development Fund, trade union representatives and municipal associations from the three coal basins.
- Structured screening: municipalities and firms submit proposals on a common portal. GAPR screens each project against EU Green Deal criteria, Poland 2040 milestones and the four pillars of the Silesia 2030 Strategy. Projects that meet the threshold undergo a "quality check" (permits, socio-economic cost-benefit) before the steering group recommends them for funding.
- Open progress review: an annual Open Forum for Just Transition, held in Katowice since 2022, publishes the ranked list, tracks milestones and invites public feedback.
- Initial performance: according to the JTF dashboard (February 2025) of the Directorate-General for Regional and Urban Policy (DG REGIO) of the European Commission (EC), 78 projects worth EUR 1.45 billion have received JTF approval, equivalent to about 37 % of Silesia's envelope, with large clean-energy schemes such as the Łaziska Green Hydrogen Hub progressing through environmental permitting.

Sources: (European Commission, Directorate-General for Regional and Urban Policy., 2024[17]).

Looking beyond the EU Just Transition Mechanism

The European Union has committed to continue delivering on a clean transition (European Commisson, 2025[18]), as stated in the European Commission's proposal of 16 July 2025 for the next Multiannual Financial Framework (MFF) 2028-2034, which emphasises a budget accommodated to local needs. It includes National and Regional Partnership Plans (NRP Plans) designed to link reforms with investments across the European Union to support its 2030, 2040 and 2050 targets for energy and climate, as well as the needs of local communities and businesses in a clean transition (European Commission, 2025[19]). These NRP Plans would support a just transition by focusing on reducing economic, social and territorial disparities across regions of Member States, and by prioritising unique regional challenges (European Commission, 2025[19]).

While this European Commission proposal is now subject to co-legislative negotiations, there is some way to go before political consensus is achieved on the future MFF, with negotiations set to continue for the next period (before 2028) and coal regions calling for earlier dialogue and certainty on this matter. For example, the report of the Just Transition Platform's "Future of Just Transition" Working Group, published in July 2025, called for continued EU funding to support long-term just-transition efforts and retaining a territorial approach, which allows tailored support to the specific needs of each territory under transition (European Commission, Directorate-General for Regional and Urban Policy, 2023[20]).[4]

Against this backdrop, Slovenian coal regions should be prepared for all possible future scenarios in terms of transition funding from the European Union, and thus actively explore diverse funding mechanisms in advance. Among the new priorities of the European Commission (2024-2029), the strong emphasis on clean-energy sources and clean-energy technologies for improving the competitiveness of industries and

businesses (for example, by scaling up the manufacturing capacity of net-zero technologies and their supply chains) are directly relevant to coal regions.

Another focus should be the ability of these regions to attract new industries, as well as planning for the associated social and skills needs to support the energy and climate transition. As set out in the Clean Industrial Deal (the EU strategy for competitiveness and decarbonisation), a major boost to the competitiveness of European industry is required in the face of high energy costs, fierce global competition and changing political, social and technological dynamics (European Commission, 2025[21]).

In this context, updating the transition strategy while dealing with uncertainty on the future of current economic activities and funding sources is a core activity for the planning process in SAŠA and Zasavska. For example, SAŠA must prepare for the end of coal mining and coal-based power-generation activities, while also contending with uncertainty over whether the TEŠ power plant will continue to operate until the planned closure date of 2033. Slovenian coal regions have unique assets that can be leveraged to develop manufacturing capacities in net-zero technologies and their supply chains, including clean-energy supply. With a history of energy supply and manufacturing activity, these regions are potentially well suited for further development in these areas, given their existing networks (electricity capacity, hot water pipelines, water pipelines, gas pipelines, etc.), relevant technological and engineering know-how, and academic knowledge.

Implementation of the Net Zero Act and accompanying actions, such as net-zero acceleration valleys or academies, open up additional opportunities for coal regions (European Commission, 2025[22]). For example, the study on the net-zero manufacturing industry landscape across EU Member States recommends paying special attention to enabling the transitioning regions to become potential clusters for net-zero technologies (European Commission, 2025[22]). As noted by the European Commission (2025[22]), Slovenia stands out as a notably competitive exporter of grid technologies (components such as automatic circuit breakers, relays, parts of electrical boards, devices for protecting electrical circuits and liquid dielectric transformers), with specific assets like the Carbon-Free Technology Demonstration and Training Centre in Zagorje ob Savi.

Summary

The transition-planning process has provided both regions with clear advantages, establishing institutional foundations and identifying projects to unlock new economic opportunities. Each region has outlined sectors and initiatives aligned with its endogenous assets and relevant to driving economic transition. While these choices are broadly consistent with regional potential, the recent planning experience in Slovenia's coal regions, SAŠA and Zasavska, highlights important lessons for future just-transition plans and for strengthening alignment with local priorities. Looking ahead, priorities include improving prioritisation and coherence across projects, updating TJTPs according to new needs and looking for funding opportunities beyond the JTM. At the same time, a strategically aligned approach to help both regions move beyond fragmented initiatives, leveraging flagship innovation projects as anchors to attract new businesses and support SMEs, would be needed while embedding social actors more systematically in policy planning and delivery.

As the following section explores, the policy framework for transition would gain from moving beyond a project-based approach towards a stronger focus on strategic actions that address structural challenges in the business environment and improve overall quality of life in the regions.

Enabling conditions to build transition paths for SAŠA and Zasavska

Coal mining has shaped the economic trajectories of **SAŠA** and **Zasavska** for decades. It has provided economic stability and driven prosperity, but also generated economic dependence and created vulnerabilities that weakened the local conditions for economic diversification. As mentioned before, these

regions are in different stages of phasing out coal, and thus have different priorities with regard to enhancing their regional ecosystems to support the transition to new economic activities.

However, despite differences in certain priority areas, both regions would benefit from ensuring that the basic enabling factors for development are in place. This would help guarantee that transition plans and projects build on strong local conditions for success and generate long-term development impacts locally. In this context, a transition-policy framework that shifts from a project-based approach to a comprehensive regional development strategy can be strengthened by focusing on:

- a competitive regional innovation ecosystem
- a stronger local labour market
- improved public infrastructure for citizens/residents and businesses.

This section will outline strategies to improve the above-mentioned enabling factors to support transition pathways.

Towards stronger regional innovation ecosystems

Innovation is known as a cornerstone to economic transition processes (OECD, 2023[23]) (Diluiso et al., 2021[24]). Innovation can boost productivity levels in industrial regions, creating new job opportunities and wages, and preventing such opportunities from being concentrated in certain – often metropolitan – regions.

Both regions have notable examples of support programmes and infrastructure to promote networks and innovation in the local economy.

Notable projects in SAŠA include:

- The biomass biorefinery research lab in Velenje, built by the National Institute of Chemistry as part of the Technology Park Velenje-TecHub incubator. This includes a laboratory for biomass research, which can become an innovation anchor to attract researchers and provide applied R&D support for clean-tech businesses.
- The pilot renewable energy source (RES) plants developed by the state-owned energy company HSE Group and its subsidiary TEŠ (Šoštanj thermal power plant). The plant aims to reduce reliance on lignite in the energy mix through clean-energy technologies. To this end, HSE Group and TEŠ are using existing TEŠ infrastructure (land, grid connections, utilities) to test and scale renewable alternatives, and establish a demonstration site for future large-scale deployment of renewable-energy technologies in Slovenia. The pilot RES plants would include solar photovoltaic (PV), battery storage systems, potential geothermal feasibility assessments and green hydrogen production.
- Circular-economy initiatives at the Velenje coal mine landfill explore how to turn waste streams into new industrial inputs.

Notable projects in Zasavska include:

- The Development, Demonstration and Training Centre for Carbon-Free Technologies Centre (DUBT Centre) developed by the National Institute of Chemistry and located in Kisovec, in the municipality of Zagorje ob Savi,, focuses on applied research and pilot testing in hydrogen and carbon dioxide (CO_2) conversion technologies. It would support upskilling through demonstration and training functions, and support local business innovation through collaboration.
- An operating business incubator (Katapult) supported by local company Dewesoft (test and measurement solutions) will expand into a new site, “City of Acrobats”, at the new business zone Lakonce in the municipality of Trbovlje.

- The Circular Economy Academy Zasavska, implemented in 2024 by the Zasavska JTC in collaboration with the organisation Circular Change, aims to strengthen capacities and introduce circular-economy principles into the region's economic sectors.
- The Strategic Research and Innovation Partnership MATerials as end PROducts (SRIP MATPRO) was created to bring together different stakeholders around the production of high-value materials used in complex end-products. It also aims to link SMEs and local businesses with innovative value chains.

Innovation support programmes in SAŠA and Zasavska have resulted in positive outcomes over the years. In both regions, the SPOT (*Slovenska poslovna točka*) platform was established to support SMEs. It serves as a centralised resource for entrepreneurs and businesses, offering guidance on various aspects of business development, from registration to legal and regulatory compliance

Despite these efforts, the regions still face a number of challenges to ensure innovation efforts translate into long-term economic opportunities for the region:

- Overreliance on nationally led innovation projects to spur innovation: in both regions, the flagship innovation projects are led by national actors, including the National Institute of Chemistry, but with still unclear links with local ecosystems.
- Low absorptive capacity for innovation funding in medium and small firms: in SAŠA, manufacturing is led by a few large companies with an international scope and investors, that have the scope to better integrate SMEs in their value chain. This is specially the case of Hisense Gorenje and BSH Hausgeräte GmbH, whose value chains have scope to further integrate SMEs.
- Gaps in matching innovation-related funding with project ideas emerging from local strategies/entrepreneurs result in short timeframes for application and project ideas without matching funds.
- The Zasavska RDA has limited human resources to enhance co-operation with stakeholders in the regional and national business ecosystem to support innovation and SMEs.
- Despite the focus on circularity, there is low exchange between interested circular players across both regions. SAŠA and Zasavska would benefit from synergies in circular-economy projects and business outcomes. For example, greater collaboration among Zasavska's Circular Economy Academy, the Just Transition Academy (certified and non-certified training programmes), SAŠA's Interreg Commit and Interreg Plastix would help support circular activities across regional business.

The JTPs of these regions have already identified many of these challenges, yet concrete actions are needed to address these challenges within a set timeframe.

Better linking innovation projects with local SMEs and entrepreneurs.

National or flagship public innovation projects can trigger positive innovation dynamics at the subnational level: they bring scale in knowledge and funding and serve as anchors to other businesses, skilled workers and additional private innovation investment (Njøs and Fosse, 2018[25]; OECD, 2022[26]; Lembcke and Lee, 2025[27]). Analysing the impact of government support to regional innovation in the United Kingdom, Lembcke and Lee (2025[27]) found that a 1% increase in government R&D investment results in a 1% increase in private-sector R&D investment. OECD mining towns in transition such as Outokumpu (Finland) have also shown how a nationally led project in the form of a pilot plant of mineral testing has supported the municipality to transform into a hub for mineral research and testing.

However, without planning, those projects on their own will not necessarily benefit or scale up local business, nor will they boost entrepreneurship (OECD, 2022[26]). A lack of active regional innovation policy could lead to isolated projects that rely fully on expertise and value chains outside the region, producing only operational jobs locally. OECD and other regional innovation studies have shown that boosting

innovation in rural contexts requires a combination of top-down and bottom-up approaches promoting innovation flagship projects or high innovation actors while supporting the local system, for example through greater linkages among actors (OECD, 2022[26])

SAŠA and Zasvaska have a great opportunity to capitalise on flagship innovation projects or international innovation actors to offer new opportunities for entrepreneurs and ultimately support a transition based on new value-added activities. Both regions have already secured relevant projects led by national actors, such as the National Institute of Chemistry or the TEŠ power plant in Šoštanj. Against this backdrop, the RDA and chambers of commerce should collaborate to identify concrete areas to link projects with local ecosystems. To this end, they could:

- Ensure the RDA and chambers of commerce have the necessary capabilities to engage with innovation projects and institutions to understand their scope and timeframes, and align them with forthcoming RDPs.
- Facilitate workshop meetings with leaders of national innovation projects, which should be well communicated and with an established frequency.
- Identify innovation needs to promote opportunities for joint ventures, equity sharing and participation in R&D consortia. This would require further mentoring, to help SMEs and entrepreneurs capitalise on potential opportunities and the needs of future projects. The JTCs and firm-to-firm mentorship are useful means to this end.
- Promote innovation competitions or challenge-based approaches for local entrepreneurs and students, to address the regions' needs for flagship innovation/industrial projects.

To this end, Zasvaska can further strengthen SRIP MATPRO in the region and leverage it to connect local business to various innovation-related value chains, including the DUBT Centre, the Circular Economy Academy and large private companies (e.g. Herz Company). SAŠA could promote a similar type of institutional network to help connect innovation players.

Box 3.4. The Strategic Research and Innovation Partnership MATerials as end PROducts (SRIP MATPRO)

Founded under Slovenia's Smart Specialisation Strategy (S4), the regional innovation framework SRIP MATPRO was created to unite companies, research institutions and innovation intermediaries around the goal of advancing the production of high-value materials used in complex end-products. Its core mission is to build value chains by linking material producers, technology developers and product manufacturers, enabling end-to-end innovation from material development to market.

SRIP MATPRO is funded through a combination of public sources (through Slovenia's S4 and EU Cohesion Policy tools) and private-sector investment. The chamber of commerce co-ordinates SRIP MATPRO. The network includes 20 core companies and 4 knowledge institutions (universities and research centres).

Key institutional hubs of this initiative include Ljubljana (home to GZS and partner research institutions) and the regional centre in Zasavje, where outreach events and workshops have been held to promote and expand the initiative across Slovenia's regions.

In Zasavje, the Zasavska Gospodarska Zbornica (the local chamber of commerce) supports the project's office operations related to SRIP MATPRO. In 2023, the Ministry for Cohesion and Regional Development organised a workshop on smart specialisation, and specifically on the MATPRO priority area, at the RDA Zasavje in Zagorje ob Savi. The event aimed to root the smart specialisation concept in regional innovation ecosystems, and to identify new companies and actors for SRIP MATPRO.

Although the central co-ordination of SRIP MATPRO is in Ljubljana, a few local firms (such as AFormX d.o.o., based in Zasavje) are members of SRIP MATPRO.

Source: (Gospodarska zbornica Slovenije, 2025[28])

Beyond public-led innovation projects, SAŠA has untapped opportunities to scale up local business by collaborating with large firms connected to international markets. SAŠA has innovative manufacturers with international linkages such as Hisense Gorenje, BSHG and Podkrižnik. The diffusion of knowledge from the most innovative firms to other firms is an instrument that spurs innovation by linking SMEs to new markets and knowledge (Mitchell and O'Neill, 2016[33]). Engaging in better partnerships with these firms to understand their innovation needs can help unlock innovation ideas locally. The example of the Windcluster in the Verdal Municipality of Norway can guide the strategic plan to promote such links (Box 3.5).

Box 3.5. Linking local and external networks for economic transition: Verdal Windcluster Mid-Norway project

Since the 1960s, Verdal, a small industrial town in Central Norway, has specialised in oil and gas after a major Norwegian industry corporation started developing a yard for the fabrication of steel structures for the offshore oil and gas industry. For almost three decades, Verdal fared well, and the yard grew to become a cornerstone in the region and a large industrial site in Norway. However, in 1999 and 2009, the oil and gas industry experienced important shocks which hit the Verdal economy.

Following the first external shock, the Aker Verdal company underwent a restructuring process that resulted in significant loss of employment. In 2000, subsidiary companies started forming in Verdal, many of them focusing on mechanical engineering and formed by previous Aker employees.

Verdal Municipality, in close co-operation with Aker, supported the transition by applying for a restructuring programme from central government to reduce the negative effects of plant downsizing and help revitalise the local economy. The programme conducted three adaptive strategies to address the issues in the Aker company and set a new industrial development path in Verdal Municipality.

1. A comprehensive training programme was developed, aimed at laid-off workers, workers at the Aker plant and individuals who had left to work in spin-offs or other new firms.
2. Entrepreneurial support and programmes were delivered to attract new (external) firms into the Verdal Industrial Park, to diversify the local economy.
3. The infrastructure at Verdal was developed to facilitate new ventures.
4. In 2009, Verdal faced a second economic shock as a result of the global financial crisis. The response to this event was even more proactive than the response to the first shock, as it was decided to support the creation of the Windcluster Mid-Norway.

The local government decided to include the development of infrastructure to promote new ventures and facilitate the sectoral agglomeration of existing firms. However, the most important feature of the second response is its focus on developing inter-company networks and extra-local linkages to new markets and knowledge sources, specifically the Windcluster Mid-Norway project. The project aimed to develop a wind-energy cluster, with an initial focus on the emerging offshore wind market.

In 2009, the local strategy was to apply for an "Arena" programme, which is typically financed for three years and aims to increase value creation in regional business environments. This external state funding was crucial to the launch of the cluster project. It is therefore evident that the top-down strategy of cluster creation in this case fitted with the bottom-up aspirations in Verdal.

Source: (OECD, 2019[29]).

Other OECD mining regions have partnered with companies to develop support for economic diversification through contests, funds and knowledge-sharing. For instance, companies in Antofagasta (Chile) or Northern Ontario (Canada) run competitions or challenges based on identified business needs. These are effective actions to support new ideas and tailor seed funding.

While leveraging the flagship innovation projects in Slovenian regions seems to be the most immediate strategy to create new jobs and reboots local economies, other long-term strategies to support business ideas are worth exploring. These include tailored support for entrepreneurship and other types of innovation, such as social innovation.

Supporting entrepreneurship to build the transition

As described in the previous sections, SAŠA and Zasavska recognise the relevance of targeted assistance, including access to funding, mentorship opportunities and training initiatives tailored to local needs, for start-ups and established businesses alike. The RDAs have already made progress in providing support to project preparation and conducting networking events. Yet tailoring actions to support innovation in these regions requires further attention. Such actions include adapting support to entrepreneurs in a transition context and helping them navigate administrative procedures.

Promoting an entrepreneurial culture

In OECD regions undergoing transition out of extractive activities, entrepreneurship levels and attitudes tend to be relatively low. This is due to a number of factors, including the historic crowding effect of high salaries and job security generated by the extractive sector, community uncertainties about the future of the local economy and scarce access to funding. Broad studies of European coal regions highlight weak start-up cultures – for example, lignite areas in Greece have relatively lower start-up rates than the regional average in the country (Makris, Apostolopoulos and Anastasopoulou, 2024[30]). In Zasavska and SAŠA, these structural issues stand, albeit with certain particularities, including a relatively low share of young population in both regions (particularly in Zasavska) and a narrow industrial base (Zasavje Regional Development Agency, 2024[31]).

There is scope to adapt funding and support for entrepreneurship to the characteristics of entrepreneurs in SAŠA and Zasavska. In both regions, uncertainty on the future can impact the capacity of some actors to react to public support and invest or create a new business. As in other OECD non-metropolitan regions, most of the entrepreneurs outside big cities are young (OECD, 2022[26]). Therefore, particular support for youth entrepreneurship is needed. This can be done by supporting an entrepreneurial culture early in high school (Box 3.6), improving communication on inspiring entrepreneurial examples to adolescents and their parents, and providing tailored funding and mentoring programmes. In Zasavska – where the population of young people is relatively low – special effort should be made to attract youth (either from other regions or the capital) to the area, or encourage former inhabitants to return.

Box 3.6. Supporting an entrepreneurial culture

The entrepreneurial function is a vital component of economic growth. The business environment regulates the opportunities, feasibility and desirability of entrepreneurial action, as well as its outcomes. OECD countries have conducted a number of strategies to boost entrepreneurial culture. Many of those actions aim to improve education, promote training and mentoring, and provide second chances.

Table 3.6. Promoting an entrepreneurial culture: Policy developments

Policy approaches	Examples	
Entrepreneurship education	Denmark	Danish Foundation for Entrepreneurship: created in 2011 following a partnership between different ministries, it aims to create a coherent national commitment to education and training in entrepreneurship, and to become a national knowledge centre for entrepreneurship education and training.
	Netherlands	Education and Entrepreneurship Action Programme: launched in 2007, it aims to promote entrepreneurship in education and bring the education sector and the business community closer together. Education Networks Enterprise: set up in 2009 as a subsidy scheme, it is designed to help educational institutions integrate entrepreneurship education into their policies, organisation and curricula.
	Portugal	Strategic Programme for Entrepreneurship and Innovation 2011-2015: it has introduced entrepreneurship as a transversal competency in school teaching programmes, including non-formal training. This includes the INOVA! Ideas contest, which provides young people with the opportunity to develop ideas that can contribute to resolving issues in their local communities.
Information, advice, coaching and mentoring	Canada	Expert Panel on Championing and Mentorship for Women Entrepreneurs: set up within the framework of the Economic Action Plan 2014, it aims to consult with business leaders and entrepreneurs, and advise the Minister of Status of Women on best practices for mentorship and championing to support women entrepreneurs.
	France	*Entreprendre au Féminin*: the national plan to develop women entrepreneurship, launched in 2013, includes initiatives that sustain entrepreneurship education and raise awareness among female students about opportunities for entrepreneurial careers.
Second chance	European Union	Second chance for honest entrepreneurs: to address the stigma and consequences of business failures, the Small Business Act for Europe promotes a second-chance policy by supporting actions and facilitating exchanges of best practices between Member States. It includes promoting a positive attitude in society to give entrepreneurs a fresh start, as well as enabling the completion of all legal procedures to wind up a business, in the case of non-fraudulent bankruptcy, within a year.
	Portugal	Revitalise Programme (*Programa Revitalizar*): this makes it easier to save economically sound businesses which are facing insolvency through the provision of financial instruments, the development of an out-of-court credit restructuring system and improvements in the legal framework. The Insolvency and Corporate Recovery Code introduces an early warning mechanism which aims to facilitate timely signalling of financial difficulties. New "pre-executive extrajudicial procedure": gives creditors prior knowledge about the attachable assets of debtors, enabling better decisions on further action to be taken.

Source: (OECD, 2017[32]).

Promoting entrepreneurship within the currently employed population is a strategy that other regions in transition have also undertaken (Box 3.7). In SAŠA, the workers affected by the transition would need support to identify future opportunities and to rely on a safety net to reduce the risk of starting a business. In Zasavska, where practically no coal workers remain and many residents commute daily to work in other regions, opportunities can emerge from supporting spin-off ideas developed by workers holding down jobs in other regions.

Box 3.7. Motivations of corporate intrapreneurship programmes

Intrapreneurship programmes are rapidly becoming popular among many large corporate groups throughout OECD Member countries. Despite this being a relatively new corporate phenomenon, intrapreneurship development policies are being implemented in order to reach different objectives. Intrapreneurship expert Nicolas Bry has compiled a list of these policies (Bry, 2020[33]):

- bringing new products and services to market more quickly, with less risk of failure, and improving customer intimacy
- protection against start-ups aiming to disrupt your business model
- motivating and retaining your best staff and grooming new leaders
- developing a nimble way to innovate
- creating an environment where new ideas can be systematically tested and iterated until they fit the market and company culture
- making a societal impact and linking with internal corporate social responsibility policy.

Specific examples: for Deutsche Telekom, the purpose of adopting an internal intrapreneurial approach is simply to help “employees who want to realise their idea and become entrepreneurs”. This differs from the French telecommunication company Bouygues, which uses intrapreneurship programmes to “innovate like a start-up”. Deutsche Bahn implements intrapreneurship mainly to foster new digital business models and encourage long-term cultural change amongst its employees and business units. Similarly, Air France seeks to “develop new business with an innovative approach”, and to build a team-driven ecosystem that shows “initiative, want to commit, and take responsibility” (Bry, 2020[33]).

Source: Based on Nicolas Bry (2020[33]).

Among the various programmes and initiatives implemented by Zasavska to support entrepreneurship, PONI is seen as a positive example supporting entrepreneurship with direct engagement and a follow-up process, and has been highlighted as a good practice for other coal regions (Box 3.8). This initiative could be supported by other actors, including the Katapult business incubator, the Faculty of Economics and Business, and other relevant faculties in the country (in Ljubljana, Maribor or Nova Gorica), to create a more sustained programme for the region.

Box 3.8. Examples of entrepreneurship support in Zasavska

PONI, a wider entrepreneurial project for Slovenian regions

Running from 2023 to 2028, PONI Zasavje is a four-month entrepreneurship training programme, part of the national Agreement for the Development of Regions implemented in all 12 development regions and funded by the MCRD. It supports up to 106 participants from the Zasavska region in developing and launching their business ideas through training, mentoring and practical support. Participants receive a formal employment contract with RDA Zasavje during the programme. This provides financial stability and allows them to focus entirely on refining their entrepreneurial projects.

The programme includes structured training in entrepreneurship, individual and group mentorship, and practical sessions to help participants develop viable business models and products. It welcomes candidates of any age or education level, as long as they reside in Zasavska, and emphasises inclusivity and accessibility.

Expected outcomes include training 106 individuals, generating 106 new business plans, delivering products to market and establishing at least 32 new businesses (approximately 30% success rate).

The European Commission's Social Innovation Research Unit has recognised PONI Zasavje as one the top 100 EU social innovation projects. The programme also drew interest from Spanish coal regions seeking to replicate its success (Iolov, 2025[34]). SAŠA also recently started a PONI project.

Preplet

Preplet is a regional project in the Zasavje region aimed at creating a learning hub (*učno stičišče*) that links schools (from kindergartens through secondary), teachers, students and regional economic actors (Municipality of Zagorje ob Savi, 2025[35]). It is part of the "just transition" (*pravični prehod*) efforts for Zasavje, with funding and policy support from the JTF and related public funds.

The aim is to improve both what is taught and how it is taught, making schooling more relevant, modern and adapted to current economic needs. This includes innovative pedagogy, peer co-operation among teachers, exchange of best practices, development of new teaching materials and the inclusion of more digital, green and entrepreneurial skills.

The plan is to repurpose the "Partizan" building in Zagorje ob Savi into the learning hub. In addition to the physical space, there will be a virtual space for teachers to network, share materials and collaborate on didactic teaching approaches. Multiple primary and secondary schools (and some kindergartens) in Zasavje participate in the project. The full rollout of all the planned activities (teacher training, new curricula, virtual networking) is still in progress.

Sources: (Regional Development Agency Zasavje, n.d[36]); (Lolov, 2025[37]).

In summary, actions to promote entrepreneurship in these regions include:

- Tailored entrepreneurial programmes for the young population in the region or those interested in relocating to the area: combining communication of inspiring examples for youth and parents with tailored support programmes early in school can be useful tools.
- Expanding financial incentives and risk capital to foster entrepreneurship in transition regions: both regional just-transition plans already highlight the need for alternative funding for new firms, combining grants with InvestEU or other risk capital instruments foreseen in national plans. Building on this, the Slovenian government and regions should provide clear, sustained support through low-interest loans and co-investment programmes. In Zasavska, financial support for workers

starting businesses should include mechanisms to provide a safety income net during the first months. While earlier Employment Service schemes had mixed success (24ur, 2011[38]), smaller, better-targeted funds linked to transition-related sectors could be more effective and easier to monitor.

- Building an entrepreneurial culture: this is a long-term strategy, particularly relevant to changing the economic structures of these regions. This is particularly useful for SAŠA, which still has time before the closure of its coal mine. Building an entrepreneurial culture can include a combination of entrepreneurial education, coaching and mentoring, and support for second-chance entrepreneurs.
- Keep working on communicating about the transition pathways identified and available support for entrepreneurs: design campaigns that reach all types of populations, especially youth.
- Particularly for Zasavska, evaluate actions to leverage PONI, Katapult and other innovation infrastructure to support entrepreneurship: these actions should target youth and the workers commuting to other regions in order to link new ideas to upcoming productive activities in the region.

Easing access to support and streamline administrative processes for entrepreneurs and SME expansion

Streamline administrative procedures and offer clear incentives for new businesses. As happens in other EU regions transitioning from coal (Makris, Apostolopoulos and Anastasopoulou, 2024[30]) – local business and actors in these Slovenian regions highlight that grant programmes are rigid, complex and time-consuming. In many cases, this is a consequence of the regions' reliance on EU funds to support local business. The calls to access these funds, as well as the burden of applying and reporting outcomes, also comprise disincentives for innovation actors across other EU non-metropolitan regions (OECD, 2025[39]).

Slovenian regions already benefit from streamlined initiatives to support SMEs, such as SPOT. This instrument provides SMEs with a single window of information on administrative simplification, as well as other business-support services such as business consulting, mentorship, workshops, and up-to-date information on government programmes and incentives (Republica Slovenia, 2025[40]). The RDA in Savinjska seems to have expertise in supporting its businesses through this platform.

RDAs, in co-operation with chambers of commerce and chambers of crafts, can play a stronger role in mapping, channelling and promoting funding accessibility to innovation actors. As this report outlines, there exist a number of funds beyond the JTF to support innovation in regions, including Horizon Europe, the ERDF and Erasmus+. Regions can either apply to some of these funds for financing or promote local consortia to access such resources. Other funds – such InvestEU and European Investment Bank funds – can also support innovation ideas. Although SMEs and entrepreneurs might be unable to apply directly to large funding calls, promoting partnership with universities or larger firms can help integrate small businesses in such calls.

A greater focus on social and government innovation to secure the transition

As is the case with other coal regions in transition, innovation initiatives tend to place strong emphasis on R&D and technology-based innovation, with less attention paid to other types of innovation that can be instrumental to the economic transition. For example, social, public or organisational types of innovation could help address more place-based challenges, such as keeping active ageing populations, mitigating outmigration and improving access to services. Non-tech/social innovation also tends to involve local stakeholders (communities, non-profits, municipalities) more directly and increase participation by marginalised groups, which can help build social capital, trust and local networks (OECD, 2022[26]).

In SAŠA, the business ecosystem is dominated by some relatively large companies, including Hisense Gorenje (the fourth-largest manufacturer of household appliances in Europe) and micro and small companies. In Zasavska, the business ecosystem is dominated by micro, small and medium-sized enterprises.

The planning processes for the just transition in these regions already involve social actors and enterprises, but could provide greater support for their ideas on social innovation. These actors have particular expertise in supporting vulnerable and disadvantage groups (including long-term-unemployed people) and promoting inclusive transition processes by offering alternative routes for social (re)integration (European Commission, Directorate-General for Energy, 2024[41]). Coal communities in these regions have shown high solidarity in the transition. Thus, social enterprises and third-sector groups alike can benefit from such solidarity to complement the main transition sectors by incubating local economic projects.

Beyond the consultation mechanism to involve social enterprises in transition planning, SAŠA and Zasavska can use targeted tools to promote innovation and economic activity among these actors. This includes a clear classification of what social enterprises are, and the benefits they can obtain from national and EU support. Other regions in transition have supported such social enterprises and co-operatives to some extent through public procurement (Box 3.9).

Box 3.9. Promoting social innovation in a coal-transition region

Preston, United Kingdom

Preston is the administrative centre of the county of Lancashire, featuring a population of 114 000. The area underwent significant economic restructuring starting in the 1980s, leading to high unemployment and a loss of local income. Just over a decade ago, the unemployment rate in Preston was 15% (2012).

One action to spur economic activity was the adoption of a “community wealth-building” approach since 2013. This approach ensured that procurement processes were simplified for potential local and regional suppliers, and that the procurement of goods and services benefitted local communities. As a result, over a five-year period, locally retained spend increased within Preston from 5% to 18%.

To make this possible, the city leveraged the Public Services (Social Value) Act, which came into force in 2013. The Public Services Act encourages commissioners to talk to their local provider market or community to design better services, often finding new and innovative solutions for difficult problems. Social value is evaluated based on qualitative responses from bidders, not on volumes. This means that larger suppliers are not able to win on scale alone. All bidders must set out what they will deliver and how they will deliver it, and it is this information that is scored in bid evaluations

Eastern Wielkopolska, Poland

Eastern Wielkopolska is an example of efforts to leverage social-economic development and progressive procurement to help convert coal job losses into durable local employment. In planning actions to absorb displaced workers from the region’s large lignite power and mining company (ZE PAK), which will cease mining activities by 2030, the region adopted a social approach to secure legitimacy, and leverage skills and social capital via public procurement. The region involved coal workers, unions and local organisations in the co-design of policies, leading to the creation of co-operatives and training programmes. Concrete actions undertaken by this region to support social actors include:

- Involving workers in co-designing skill programmes for retraining and job creation.
- Involving co-operatives and social enterprises in the creation of transition projects and business plans for growth.

- Creating of a supplier database and events to communicate to local companies the processes and rules for accessing public procurement ("meet the buyer" events). It also added legal flexibility and clarity to tender processes. These measures increased public spend in the local economy.

Source: (Centre for Economic Local Strategies (CLES) and Preston City Council, 2019[42]); (European Commission, 2024[43])

In parallel to supporting social innovation, DA SAŠA and RDA Zasavska, with assistance from the regional branches of the Chamber of Commerce and the Chamber of Crafts, could further use an experimental approach to governance and programming to test new methods for supporting innovation or involving entrepreneurial ideas or companies in decision making. For example, in East and North Finland, the region experimented with a new funding mechanism based on the voucher system: the High Impact Action presented an opportunity to leverage directly a European Commission grant, without reliance on national funding to support ideas to develop new innovative products and methods related to the circular economy in the forestry value chain (OECD, 2023[44]). Likewise, the Hauts-de-France region in France tested an experimental policy methodology to support the digital transition of traditional companies (Box 3.10).

Implement most of the innovation-related actions outlined above requires a joint work from different institutions beyond RDAs in Slovenian coal regions. RDAs would benefit from partnering with clusters, academic and research institutions, or intermediary organisations to implement innovation strategies, identify needs, and help local actors join consortia to apply for funds and support.

Box 3.10. Government experimental approaches to supporting SMEs in a transition context

Hauts-de-France's SMEs are confronted with a need to adapt to complex digital and personalised production systems to remain competitive. The region elaborated the High Impact Action plan to help industrial SMEs acquire the skills needed to integrate digital technologies into their production processes, product design, product distribution and service provision by offering coaching and advisory services. The primary goal of this action was to enhance the competitiveness of regional companies, which would lead to future job creation in the region.

The Hauts-de-France region experimented in order to tackle three large industrial transition challenges: (i) supporting SMEs with innovation potential for innovation; (ii) supporting SMEs in their digital transition; and (iii) strengthening the breadth and depth of public support for regional innovation.

The pilot action offered an in-depth diagnosis of digital maturity and coaching to SMEs. It also created a collaborative ecosystem that brought together companies, digitalisation experts and the public sector to co-develop innovative solutions to the challenges of digital transformation in industrial SMEs.

The example of Hauts-de-France highlights the critical role of coaching and mentoring programmes in supporting traditional companies through industrial transitions. In Hauts-de-France, policymakers have recognised that every company's transition process is unique. Therefore, a targeted coaching approach based on a company audit is more effective than a standardised digitalisation-support programme that is broadly applied across companies and industries. Additionally, experimenting with coaching and mentoring programmes can foster a culture of learning and development within the company, and inform policymakers in regions undergoing industrial transitions.

Source: (OECD, 2023[45])

Improving the local labour market

Ensuring an appropriate skill base is a significant challenge for many regions in transition. SAŠA and Zasavska have already benefitted from important steps to strengthen the local labour market. These include programmes to incentivise companies to hire people and improve the employability of the residents (Regional Development Agency Zasavje, 2023[46]), as well as national laws like the Law on Transitional Financing for an Accelerated and Fair Coal Phase-out, which provides social security and job protection for employees of the Velenje coal mine and the Šoštanj thermal power plant (The Slovenia Times, 2024[47]).

However, the non-metropolitan characteristics of these areas, combined with uncertainty surrounding the transition, have affected demographic dynamics in SAŠA and most notably Zasavska, undermining the skill supply in these regions. As highlighted in Chapter 2, these regions face net outmigration, particularly among young people who leave to study or seek employment in other regions (mainly in the capital). Furthermore, the limited provision of public services (education, health) and recreational amenities might affect their capacity to attract new workers permanently.

Like many other coal regions, SAŠA and Zasavska also face challenges regarding their planning and implementation capacity to support the local workforce in embarking on new economic pathways. Notable bottlenecks include:

- information and data gaps necessary to improve the link between labour-market demand and supply at the regional level
- top-down design of reskilling programmes, with gaps in meaningful involvement by regional stakeholders
- limited national-subnational co-ordination to deliver and implement skill programmes
- bureaucratic hurdles and communication of skill programmes.

Labour-market challenges not only call for targeted actions to improve opportunities for coal workers, but also for improved efforts to supply the right skills to attract new businesses.

Improving foresight labour data at the regional level

SAŠA and Zasavska face a lack of reliable foresight data on workforce characterises vis-à-vis the future needs of new industries, making it difficult to adapt retraining efforts effectively. For example, national policymakers in labour policy acknowledge the uncertainty inherent to setting up training programmes, as future job demand is unclear. Companies and unions suggest that more support should go to providing applied training that matches evolving business models and technologies.

In SAŠA, an important current issue is recruiting and retaining workers in mining activities, especially given the ageing workforce, as post-closure activities to secure the mine and rehabilitate former mining areas are expected to last several years beyond the closure. Tracking the overall evolution of labour demand and supply in the final phases of the coal sector, along with the progress of the upcoming transition project, could benefit from mapping workforce skills against future industry demands. Monitoring this situation is important to ensure that labour-market support programmes – including support for early retirement, job search and reskilling – are appropriately and proportionately designed.

Labour-market intelligence tools can help identify labour shortages and facilitate better matching between local vacant positions and available workers, including the unemployed. Novel approaches produce timely estimates on regional occupation and skill demand, going beyond aggregated information based on employer surveys, which usually comes with a longer time lag. While many statistical offices provide estimates of job vacancy rates and the extent of labour shortages at an aggregated level, for example at the industry level or by firm size – and sometimes for an entire country – advances in data availability (e.g. from online job postings) and text analysis (i.e. natural language processing) have given rise to more granular insights. For example, the VDAB pre-employment screening system in Flanders (Belgium) uses

the *Jobbereik* ("job reach") tool to provide jobseekers with occupations they could pursue, based on their competencies and transferable skills (Box 3.11).

Slovenia's National Platform for Competencies is developing data on workforce characteristics and industry needs to build tailored educational programmes for the country's 12 regions. Coal regions also have platforms to support labour intelligence, which can be improved to adapt data to local workforce characteristics. For example, Zasavska has the Platform for Skills Forecasting, which can be strengthened with the latest technology to enhance the pre-employment screening analysis and the matching between industry needs and labour supply (Employment Service of Slovenia, 2021[48]). SAŠA has conducted a SAŠA Career Opportunities Fair (*Poklicne priložnosti SAŠA 2025 – Pravični prehod SAŠA*) to better inform youth and connect them with current and future employment possibilities in the area (Center za pravični prehod SAŠA, 2025[49]). A regional institutions (such as the JTC) can manage this regional workforce information to help meet the labour forecast for the transition.

In parallel, vacancy-to-employment ratios in green and information and communication technology (ICT) jobs tend to be consistently higher than in other economic sectors. While there are not enough data to measure vacancy ratios in SAŠA and Zasavje, previous OECD work has shown that in almost all OECD regions (95%), labour shortages in ICT occupations are greater than in other jobs or sectors. Labour shortages are also more pronounced for green jobs than non-green jobs in nine out of ten (90%) regions.[5] OECD regions are therefore adopting new approaches to support job mobility into green jobs, based on tools that measure skill similarities among occupations – based on data from online job postings – to inform public employment services that provide career guidance and design training programmes (Kleine-Rueschkamp, Baertsch and Peñalosa, 2024[50]).

Box 3.11. Pre-employment screening (PES) approaches to improve skill matching

New types of labour-market data, along with advances in statistical and artificial intelligence (AI) methods, allow PES in many OECD countries to better support job seekers and employers. As of 2024, half of OECD PES approaches augmented their services with some form of AI technology. Yet the use cases and tools substantially differ among PES approaches. Matching systems that recommend suitable job opportunities for job seekers, which are currently used by 20% of OECD PES approaches, are the most common application.

VDAB, the PES in Flanders (Belgium), uses the *Jobbereik* (job reach) tool to provide job seekers with occupations they could pursue based on their competencies in their current role and transferable skills. Based on data from job vacancies and deep learning, this tool supports job mobility and transitions. VDAB is also developing a new functionality which identifies a jobseeker's skill gap, maps it against alternative career paths and suggests training courses to close the gap. Additionally, *Competentiecheck* (competency check) allows jobseekers to assess whether their skills are up-to-date by letting them evaluate their level of familiarity with their occupation's most important competencies. This tool is also designed to provide users with training and job suggestions.

Another example is *France Travail*, the French PES, which uses two versions of an AI-powered tool to help job counsellors and job seekers navigate available active labour-market policies if a job seeker is unlikely to find a job quickly. Since 2017, job counsellors can use the Mon Assistant Personnel (My Personal Assistant) tool to obtain individual-specific recommendations for active labour-market policies support and job opportunities, based on a job seeker's CV. This tool, based on various types of AI (reinforcement learning, machine learning and an expert model), assists job counsellors and allows them to spend time on other important tasks, rather than replacing them.

Source: (OECD, 2024[51])

Tailoring skill programmes with greater stakeholder involvement and partnerships

Many reskilling programmes are designed at a national (top-down) level, with gaps in meaningful regional stakeholder involvement. Training programmes for these regions are largely nationally designed and not tailored to regional needs. While employment services exist regionally, training and upskilling strategies are not driven by regional development requirements and demand.

Furthermore, there is scope to further involve trade unions and local stakeholders in labour-market strategies. Some trade union members in SAŠA report a lack of meaningful participation in early JTF planning and programme design, as their input was limited to public consultations or post-hoc feedback, rather than being involved in shaping reskilling policies. This resulted in weak alignment with workers' real needs.

DA SAŠA and RDA Zasavska could address this issue by establishing an ad-hoc advisory group comprised of trade union members and other worker representatives. This advisory group could gather information on skill needs in order to inform Ministry of Labour about policies and implementation strategies that can help advance upskilling and reskilling goals in the regions. SAŠA can further leverage the Just Transition Academy within the RDA to involve actors in designing skill programmes. The example of the Netherlands can serve as a practical guide to reinforce workers' involvement in transition plans and skill programmes (Box 3.12).

Box 3.12. A multi-stakeholder arrangement to relocate coal workers in the Netherlands

To limit the negative impacts from the closure of the Hemweg coal-fired power plant, the Netherlands implemented a model transition plan, the Westhaven arrangement, showcasing how proactive, stakeholder-driven strategies can mitigate job losses and support just transitions. When the Dutch government announced the early closure of the Hemweg plant in 2018, approximately 1 500 workers in and around the plant faced job losses much earlier than expected. The announcement triggered strong reactions from unions, who demanded a robust "work-to-work" transition scheme to ensure no one was left behind.

Recognising the socio-economic risks, the Ministry of Social Affairs and Employment, in collaboration with trade unions, employers and public agencies, committed to reaching an inclusive solution. The result was the creation of the Mobiliteitscentrum Kolenketen Westhaven (MCKW), a mobility centre co-developed by:

- FNV, the largest trade union
- Vattenfall and OBA Bulk Terminal, the main employers affected
- the Ministry of Social Affairs and Employment
- UWV, the Dutch public employment service.

This broad coalition of actors was essential to ensure that reskilling and career-transition programmes were aligned with the actual needs and aspirations of workers, and adapted to regional labour-market opportunities. The centre worked individually with each worker, identifying who wanted to remain in the energy/logistics sectors or to switch to a new field entirely.

- Workers who wished to stay in the industry but shift roles received targeted upskilling support.
- Those seeking to switch industries accessed reskilling programmes designed to help them enter new sectors.
- Employers directly offered alternative jobs to many displaced workers, facilitating quick redeployment.

Crucially, these training and job-matching services were complemented by a generous income support programme, inspired by previous coal-region transitions in Limburg. Affected workers received up to three years of 100% income compensation in cases of unemployment, underemployment or job transitions with lower pay. This financial stability gave people the time and confidence to pursue meaningful reskilling, rather than accepting low-quality or short-term work.

The initiative had a budget of EUR 22 million and delivered rapid results: by 2020, the majority of workers had transitioned into new employment, avoiding long-term unemployment traps.

Source: (OECD, 2023[52]); (Research Institute Bureau & Beleid, 2019[53])

Tailored curricula in vocational education and training (VET) can also provide students with the necessary technical skills and practical experience to meet the demands of companies in SAŠA and Zasavska. VET can prepare students for technical professions, many of which experience shortages linked to transition sectors, while also facilitating school-to-work transitions and offering a pathway to higher education. For example, Austria has adapted the educational content of more than 80 apprenticeship programmes to the needs of the green and digital transitions, in collaboration with companies and social partners. It also created new apprenticeship programmes to this end, such as the "Climate-oriented and urban gardening" programme (*Klimagärtner/-in*) and the "Community heating" programme (*Fernwärmetechnik*) in 2024 (Austrian Ministry of Labour and Economy, 2024[54]).

Enhancing government co-ordination and regional capacity to delivery skill programmes

Government co-ordination and regional delivery capacity are also key priorities to implement skill programmes effectively. For example, the national government has set a programme to support 1 500 workers who are expected to be directly impacted by the Velenje mine closure. The programme will be complemented by a forthcoming law on the closure of the Velenje coal mine. However, the specific roles and co-ordination of labour-market support measures across ministries is still unclear. Furthermore, the co-ordination of national institutions with subnational institutions – such as the regional chamber of commerce, regional employment services, trade unions and municipalities – to improve the delivery of large-scale reskilling programmes could be improved. An effective implementation of skill programmes requires multilevel-government co-operation to help tailor programmes to regional needs and characteristics. This tailored process would benefit from clear timelines to track and show progress on skill programmes. For example, other OECD governments have established specific plans to co-ordinate different ministries and local stakeholders, with the goal of building readiness in local labour markets to address future shortages for green industries (Box 3.13).

Box 3.13. Government co-ordination to train workers for the transition in Austria and the Netherlands

Labour foundations in Austria

Labour foundations (*Arbeitsstiftung*) in Austria are co-ordinated mechanisms among companies, regional labour-market actors and territorial authorities to address mass layoffs (outplacement foundation) and skills shortages in the region (in-placement foundation). These mechanisms involve a wide variety of counselling and skill-development opportunities.

In response to the impact of the green transition on the labour market, an environmental in-placement foundation was created by the Austrian Trade Union Federation, the Austrian Federal Economic Chamber and the Public Employment Service. The foundation has a budget of EUR 10 million and aims

to help 1 000 unemployed individuals with no vocational training acquire qualifications required in the environmental sector. The available support includes training, apprenticeships and mobility packages (subsidies for relocation costs, housing and travel expenses up to EUR 17 000).

The Dutch Action Plan for Green and Digital Jobs

The Action Plan on Green and Digital jobs is a response of the Dutch government to labour shortages identified as a barrier in the green transition. The government anticipates that shortages in both green and ICT skills could significantly slow efforts to reach the country's 2030 and 2050 climate goals.

To address these shortages, the Dutch government is working with many stakeholders and government bodies. At the inter-ministerial level, the ministries of education culture and science, economic affairs and climate, and social affairs and well-being are involved. Regional governments, municipalities and representatives of the private sector participate in stakeholder-input meetings.

Source: (Aufleb, n.d[55]) (European Union Digital and Skills Platform, 2025[56])

Reducing bureaucratic hurdles and improving the communication of skill programmes

Bureaucratic hurdles and communication of programmes also appear to be common issues in these regions. During the OECD visits to the SAŠA and Zasavska regions, businesses and stakeholders expressed frustration over delays and difficulties in accessing funds for workforce development, with project calls for training or job-transition that lacked clarity or featured a timing mismatch between short project timelines and long-term local needs. Some programmes are not promoted. For instance, on-the-job training is provided, but not widespread or known across industries.

Enhancing the public infrastructure for residents and businesses

Retaining and attracting people in these regions involves requires going beyond securing new employment opportunities after the mine closure. It requires enhancing the regions' attractiveness and liveability for residents and businesses through targeted improvements in services and infrastructure. Some horizontal actions for both regions include:

- improving the affordability and sustainability of energy supply for businesses and residents
- improving the transport infrastructure
- enhancing access to land for industrial and housing purposes.

Improving the affordability and sustainability of energy supply for businesses and residents

Improving the attractiveness of SAŠA and Zasavska and encouraging new businesses to establish themselves in the regions also requires a green and affordable energy supply. SAŠA still relies on a fossil fuel-based energy supply (Velenje coal mine and Šoštanj thermal power plant), and makes limited use of its renewable-energy potential. At the centre of this region's energy transformation is the decarbonisation of the district heating system, with Velenje municipality planning to replace the ageing infrastructure with a system that allows renewable-energy solutions. To this end, the country adopted the Act on Transitional Financing of an Accelerated and Equitable Withdrawal from Coal, which regulates the temporary provision of heat production and supply in the municipalities of Velenje and Šoštanj (as a public utility service) while laying down obligations regarding the provision of alternative production sources by the heat distributor (Uradni list Republike Slovenije, 2024[57]). In addition, the Law on Transitional Financing for an Accelerated and Fair Coal Phase-out aims to ensure a stable supply of heating for the residents of the Šaleška Valley. Furthermore, the MCRD has approved almost EUR 20 million of JTF funding for Phase 1 of the overhaul of the district heating system (Republic of Slovenia, 2025[58]).

While this first step marks an important progression, the work done so far is mainly preparatory and the necessary transformation, including integration of renewables and widespread upgrades to buildings' energy efficiency, has not yet been implemented. Ensuring the full transformation of this system requires an accelerated integration of renewables, with clear milestones for share of renewables in the district heating supply, as well co-ordinated operations among several actors (e.g. state, municipality, heat distributor) to ensure support that the heat distributor can fulfil its obligations regarding alternative energy sources. A comprehensive transition from fossil fuels to renewable energy will also require clear financial planning, likely based on different funding options beyond the JTF, to ensure the project can meet the 2033 timeline for the coal phase-out (European Commisson, 2022[59]).

Zasavska region is also progressing deliberately towards a renewable-based future, yet its renewable-energy capacity remains moderate and concentrated in solar, with further diversification and scale-up needed to build a truly resilient, green energy system. Zasavska has made several strides towards its goal of a 40% share of renewables by 2034 (European Commission, 2025[60]). This includes ramping up solar power production through projects such as the Prapretno solar park and Zagorje ob Savi Solar Initiative, and development of the Small Hydrogen Valley Zasavska, which will integrate clean hydrogen technologies in various sectors (Pravični Prehod Zasavja, 2024[61]). With a capacity of 3 MW, the Prapretno 1 solar power plant was the largest solar power plant in Slovenia when it started operating in 2022. A second phase of the development (Prapretno 2 and 3), partly funded by the JTF, should add a further 9.9 MW. There are potential opportunities for other RES (hydropower and geothermal energy), but questions remain over their environmental impact (for hydropower) or economic viability (for geothermal energy).

Overall, securing more self-sufficient green and affordable energy supplies in both regions requires concrete implementation actions, in line with the 2033 decarbonisation timelines. This includes planning for financing gaps beyond the JTF by focusing on further public funding opportunities or public-private partnerships.

Addressing energy poverty

Energy affordability is also relevant to improving liveability in communities. In Slovenia, energy poverty is especially acute among single-person households, seniors and single-parent families, particularly in rural communities (Republic of Slovenia Statistical Office, 2024[62]). In SAŠA and Zasavska, many homes use legacy district heating systems that were built decades ago, with low efficiency and high costs. Poor-quality housing with energy-inefficient appliances further contributes to energy poverty, with almost 10% of households across both regions experiencing energy poverty, compared to 7% nationally (SiStat, 2024[63]). The reasons lie in the socio-economic status of the affected households, comprising low-income families living in old and energy-inefficient building stocks. The average age of the dwellings in Zasavska is over 45 years; less than one-third of the dwellings built before 1970 have been renovated (Papantonis, 2024[64]).

SAŠA has already advanced an initiative to improve housing efficiency with the "Warming up to SAŠA's transition" programme, which includes stakeholder mapping, community workshops, information centres and gamified campaigns to facilitate planning for heating systems integrating renewables. Zasavska region would also benefit from further programmes to improve energy efficiency in homes and information-sharing on energy-efficient practices. In turn, RDA Zasavje has an ongoing co-operation with the national environmental NGO Focus (project Renoverty).

Common actions that can help increase the affordability of energy in the regions include:

- Promoting local energy self-sufficiency, including by developing renewable-energy communities and citizen-energy communities: to this end, the regions can further promote the use of national targeted grants and interest-free loans for low-income households to retrofit homes with insulation, efficient windows, biomass heating or solar solutions. For example, the national action plan for 2024-2026 intends to halve energy poverty and features a EUR 33.8 million budget. The regions

can also incentivise residents collectively to invest in solar or biomass solutions. Retrofitting must also be accompanied by policies to prevent "green gentrification", which drives up rental prices and negatively impacts lower-income families and property affordability (Anguelovski et al., 2022[65]).

- Integrating housing affordability with energy efficiency: ensuring people (especially in low- and middle-income households) can access housing at a cost that does not overburden their income is key to reducing energy poverty. Their homes must also be renovated to increase energy efficiency (e.g. with insulation, energy-efficient appliances). For example, Zaragoza (Spain) and Ghent (Belgium) combine energy coaching, peer networks and renovation advisory centres to drive uptake of affordable housing retrofitting.

Efficient transport for freight and workers

In SAŠA, Velenje city-municipality offers free public bus routes with bike-sharing and hydrogen buses in a rollout phase, advancing sustainability and accessibility. While helpful, some Velenje's existing routes lack synchronisation during peak travel to move around reach rural areas. Suburban and rural communities are poorly connected: most rely on private cars or walking rather than punctual, frequent transit, with gaps in alignment of bus schedules with typical working hours. The dispersed settlement pattern compounds access gaps, making last-mile connectivity unreliable (Forbes Slovenija, 2025[66]) (Government Office for Development and European Cohesion Policy, 2022[67]).

In contrast, Zasavska faces greater challenges in regional connectivity because a larger share of workers are commuting daily. While recent projects – including railway upgrades – have improved regional accessibility, significant challenges remain in road transport. Most notable is the need to update the G2108 road (Hrastnik–Zidani Most) and Trbovlje-Prebold tunnel to ensure adequate mobility and freight transport. Current difficulties are compounded by poor public transit alternatives and lengthy travel times.

Some policy priority actions that can help improve transport and mobility solutions in these regions include:

- SAŠA should undertake further cost analysis to expand integrated mobility with reliable bus service frequency to connect urban centres with suburban and rural communities. This includes reliable bus service timetables to accommodate shift work and suburban travel, integrating bus service with the existing cycling infrastructure and shared bike systems.
- National and regional co-operation should help accelerate the G2108 reconstruction project as part of the Just Transition strategic infrastructure investment, building on funding from JTM and the European Investment Bank. This can be complemented by regional multimodal hubs linking fees and uses for buses, trains, bike paths, and ride-sharing.

Access to land for industrial and housing purposes

Timely access to land has been highlighted as one of the challenges in both regions to attract business and expand housing supply. There is a particular shortage of ready-to-develop land for suitable industrial or commercial land, especially for SMEs seeking relocation or expansion. Difficulties in navigating the landscape of land-use regulations and ownership issues are compounded by the fact that some land parcels are still occupied by mining and power plant sites or legacy areas, whose decontamination and repurposing is costly and legally complex. Navigating these processes, especially for the redevelopment of former mining areas, can still be demanding for local administrations.

In SAŠA, the Velenje coal mine will undergo a structured rehabilitation process extending beyond 2045. This process can create opportunities for land repurposing into green infrastructure, ecotourism assets, energy production or business zones. SAŠA's multi-municipal co-operation has helped co-ordinate land refurbishing and unlock disused urban-industrial plots for redevelopment.

In the case of Zasavska, the region has further experience in using JTF funding to prepare former mining assets for new productive uses. Through this fund, the region has secured support for several initiatives:

- Kisovec II business zone (Municipality of Zagorje) includes extending business zones on remediated land in Zagorje ob Savi and Hrastnik, alongside the DUBT Centre for Carbon-Free Technologies, listed as strategic projects in the regional transition plan (Pravični, 2024[68]).
- LAKONCA business and industrial zone (Municipality of Trbovlje) includes installing roads and utilities for the Lakonca industrial zone in Trbovlje (RRA Zasavje, 2024[69]), as well as developing the Lakonca Craft-Industrial Zone project in the former mining complex in Trbovlje by building essential economic infrastructure required for the effective operation of the business zone (Zasavje Just Transition Center, 2024[70]).
- RUDNIK business zone (Municipality of Hrastnik) is developing the former mining area in Hrastnik municipality by building roads, water supply and sewer networks, and other necessary infrastructure to facilitate the establishment and expansion of businesses (Zasavje Just Transition Center, 2024[71]). A big endeavour by the municipality was leading the remediation of degraded areas to leave them ready for repurposing options.
- KOMPRESHAUS business incubator (Municipality of Hrastnik) is converting the disused Kompreshaus compressor station in Hrastnik into a start-up incubator (total cost of EUR 1.4 million, including a EUR 0.6 million JTF grant) (Pravični, 2024[72]).

Zasavska has also intended to introduce initiatives to renovate the existing (public) housing stock. The first attempts were made by applying for EU calls (Horizon and LIFE) on social and affordable housing development.

However, there are still around 42 brownfield sites spanning 135 hectares in Zasavska, many of which lack remediation and serviced plots (utilities, roads) for SMEs and innovation-driven investment. Industrial and housing developments within these repurposing strategies are not fully co-ordinated, risking a shortage of affordable, serviced housing near new business zones, which could create future mobility challenges for workers accessing employment opportunities.

To address these issues, RDAs should collaborate with the national government to:

- Further streamline procedures and ensure transparency in land-acquisition processes to foster confidence among potential investors; to this end, special attention should be paid to simplifying brownfield remediation procedures.
- Leverage the rehabilitation of brownfields and legacy coal lands for new industrial, community or recreational developments, and when possible, housing supply: enabling mixed land uses in rehabilitated lands – for example, integrating municipal service or community infrastructure with industrial purposes – can also help ensure urban development with less sprawl.
- In SAŠA, as land is repurposed for industrial or clean-energy uses, attention could be also given to promoting appropriate housing availability at a safe distance from new industrial work opportunities, to prevent urban sprawl.
- In Zasavska, the region needs to accelerate the remediation of documented brownfields, unlocking more land for business and housing. This can be complemented with greater integration of residential planning near business zones to support workforce housing, reduce commute and foster live-work communities.

Other OECD coal regions have adopted similar repurposing actions to increase the housing supply and improve urban development in their coal communities (Box 3.14).

Box 3.14. Repurposing coal areas for housing

Katowice (Poland) – "First District" housing estate

In Katowice's city centre, developers converted the shuttered Katowice coal mine (closed in 1999) into a high-density residential district called the "First District". TDJ Estate acquired the northern part of the former mine site for housing and enlisted architects (Medusa Group) to design eight multi-story apartment towers surrounded by landscaped green space (Wyrzykowska, 2024[73]).

The first construction phase (three 12-story towers with ground-floor retail) was completed in 2021. The project preserved extensive park-like greenery and limited building footprints to honour the area's character. It requires the city to update its spatial plan to allow residential reuse of the former mine.

Heerlen/Brunssum (Netherlands) – Redevelopment of the "Emma" State mine

In the Dutch region of Limburg, the site of the defunct Emma coal mine (closed in 1973) was transformed into mixed residential and park land. Decades of coal waste had contaminated the area (notably with polycyclic aromatic hydrocarbons), so that extensive remediation was carried out before reuse.

The region agreed to split cleanup costs between the DSM mining company and the government, and to cover shafts and pits safely. Gradual demolition and land reclamation allowed building a modern neighbourhood in stages. Today, the large Emma site (partly in Heerlen, partly in Brunssum) hosts a new housing area, public parks and even light industrial uses – all linked by new roads (van de Weijer, 2018[74]).

Mixed-use project in Utah (United States)

In 2006, the Former Kennecott copper smelter (with slag piles and mining pollution) was redeveloped into "Bingham Junction". After the United States Environmental Protection Agency cleaned up the northern half of the site and declared it ready for reuse, the city and developers transformed 20% of the area into a mixed-use project which currently features over 1 000 new homes (apartments and townhouses), a light-rail transit station, retail/office space and parks. The site was redeveloped in phases, with strict oversight on soil stability and groundwater, supported by public–private partnerships to attain the goal. In 2015, the project received a federal reuse award from the Environmental Protection Agency.

Sources: (Wyrzykowska, 2024[73]); (van de Weijer, 2018[74]); (Schneider and Greenberg, 2023[75]).

Summary

A policy framework that embeds both a sectoral and project focus into actions to improve key development conditions could help Zasavska and SAŠA to not only support the business environment for current and new projects, but also ensure a higher quality of life for people living in or moving to these communities. A first priority is strengthening the innovation ecosystem to ensure transition projects boost local capacities. This includes building RDA capacity, integrating SMEs into flagship projects, reducing barriers hindering entrepreneurs from connecting with funding and scaling up social innovation – particularly in tourism, the social economy and circular-economy models.

The labour market represents another structural priority to strengthen the regional business ecosystem. Both regions face fragmented training offers, weak industry-education links and bureaucratic hurdles, all exacerbated by a shrinking workforce due to rural characteristics and youth outmigration. Key actions

include ensuring stronger co-ordination among ministries, RDAs, education providers and firms; aligning curricula with future skills; and streamlining access to training funds, to ensure that workers receive timely and targeted upskilling.

Finally, improving the energy, transport and industrial infrastructure offers a cross-cutting solution to mobilise transition projects and broader development. Slovenian transition plans should accelerate renewable-energy integration and housing retrofits to reduce energy poverty, expand sustainable transport and connectivity, and streamline land remediation and redevelopment for industrial and residential use.

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Notes

[1] For example, the Savinjsko-Šaleška RDA, d.o.o. (RA SAŠA), co-operates with the managing authority on setting up a just-transition implementation system and activities at the regional level to ensure partnership. It also co-operates with the national co-ordinator on the preparation of the TJTP and changes to the TJTP. It co-operates with the intermediary bodies (e.g. ministries) on procedures for selecting operations (by issuing an opinion), monitors the implementation of the TJTP and participates in the evaluation of the implementation of the TJTP. The SAŠA Development Agency also acted as the SAŠA Region Just Transition Centre (JTC SAŠA), which will be co-financed directly through technical assistance from the JTF (Razvojna agencija Savinjske regije, 2022[76])

[2] Operations covered under the JTM include upskilling and reskilling of workers, job-search assistance and active inclusion of jobseeker programmes, support for productive investments in SMEs, the creation of new firms, research and innovation, environmental rehabilitation, clean energy, and the transformation of existing carbon-intensive installations when these investments lead to substantial emission cuts and job protection

[3] Productive investments in large enterprises are only eligible when they are necessary for implementing the TJTP, when they contribute to the transition to a climate-neutral economy of the European Union by 2050 and to achieving related environmental targets, when their support is necessary for job creation in the identified territory and when they do not lead to relocation. The TJTPs for both SAŠA and Zasavska contain an indicative list of operations and enterprises to be supported, and a justification of the necessity of such support through a gap analysis demonstrating that the expected job losses would exceed the expected number of jobs created in the absence of the investment.

[4] The working group's final report reflects findings from 3 surveys of stakeholders and 23 position papers submitted by diverse actors on the current and future design and implementation of the just transition in Europe.

[5] "Green jobs" are occupations with at least 10% green tasks, in other words, they contribute to environmental objectives, such as preserving the environment and reducing greenhouse gas emissions

4 Just transition in coal regions: Policy tools and implementation strategies for Zasavska and SAŠA

This chapter addresses the implementation phase of the just transition in Slovenia's coal-exit regions of Zasavska and SAŠA. It explores how these regions can move from high-level transition goals to implementation and measurable results. It sets out a regional vision to align EU, national and local priorities. It recommends light governance adjustments to improve co-ordination and participation. And it proposes a simple monitoring and evaluation system to track economic, social and environmental progress.

Assessment and recommendations

Assessment

Slovenia has built strong foundations for a just transition in its two coal regions, SAŠA and Zasavska, through targeted territorial just transition plans (TJTPs), institutions and funding. In Zasavska, already established projects following coal-mine closures demonstrate tangible progress towards innovation and entrepreneurship-led renewal. In SAŠA, efforts to diversify the economy and redevelop industrial sites are beginning to take shape.

Still, the transition framework could be strengthened through slight improvements. These include co-ordination at the ministerial level, a shared long-term vision, stronger regional capacity within the Just Transition Centres (JTCs), alignment of investments (both public and private) with development goals and long-term monitoring. These aspects are closely linked to the legal framework governing Slovenia's coal phase-out, which defines the timelines, responsibilities and instruments for managing mine closures and regional restructuring. Slovenia's Integrated National Energy and Climate Plan (NECP) and National Strategy for the Exit from Coal and Restructuring of Coal Regions (adopted in January 2022) set the national trajectory for the energy transition and coal phase-out by 2033, and provide the overarching framework for just-transition governance and funding. The Act on Transitional Financing of an Accelerated and Equitable Withdrawal from Coal also shapes the energy transition. The act provides the temporary framework for heat production and supply in Velenje and Šoštanj, and sets obligations for the development of alternative production sources by the heat distributor. These provisions are relevant both for reducing reliance on TEŠ for district heating and advancing decarbonisation.

For SAŠA, implementation of the coal phase-out is tied to the, recently approved, two legislative acts. First, the act on the developmental restructuring of the SAŠA coal region. Second, for the closure of the Velenje coal mine. This is co-ordinated by the Ministry of Cohesion and Regional Development (MCRD), in co-operation with relevant line ministries, as each of them is responsible for calls in its respective sector, co-ordinated by the MCRD as the managing authority.

Complementarily, the Act on the Promotion of Balanced Regional Development (ZSRR-2) provides the legal basis for regional development more broadly. Under this framework, the regional development agency (RDA) in Zasavska (RDA Zasavska) and the development agency (DA) in SAŠA (DA SAŠA) operate JTCs which provide day-to-day guidance to local stakeholders. In parallel, the governance mechanism established for the implementation and monitoring of the TJTPs grants RDAs a formal role in reviewing and giving opinions on the compliance of applications for the decision on support from the JTF, participating in the planning of the just transition implementation system, and, where relevant, cooperation with the Intermediary Bodies/ministries in the operations selection procedures. Together with the adopted TJTPs as the main tool, these instruments provide the policy and regulatory framework supporting the implementation of projects funded by the JTF under Slovenia's 2021-2027 European Union (EU) Cohesion Policy programme (2021-2027).

Under the JTF, Slovenia's coal regions have been allocated EUR 258.7 million (euros) in EU funding, complemented by EUR 21.2 million in national budget co-financing for public-sector beneficiaries and an estimated EUR 24.5 million from private-sector beneficiaries. By October 2025, funds allocated to selected operations reached 60% in Zasavska and 44% in SAŠA, while expenditure stood at 12% and 0%, respectively. According to Slovenia's implementation timeline, approximately EUR 140 million must be utilised by the end of 2026, while the remaining EUR 109 million can be absorbed by end-2029. This timeline has been eased by the 30% JTF pre-financing mobilised under the Strategic Technologies for Europe's Platform, adopted in 2024, which provided early liquidity for spending targets. Several projects are awaiting approval. If successful, they will accelerate implementation and fund absorption in late

2025, indicating progress in selection and planning despite differing implementation paces across the two coal regions:

- **Early calls and fast approvals:** initial calls (e.g. business/economic infrastructure; incubators) began in 2023, with additional and republished calls in 2024 and 2025. A flagship operation (Centre for Development, Demonstration and Training for Carbon-Free Technologies [DUBT], National Institute of Chemistry) received approval in December 2023, supporting pipeline development in Zasavska.
- **Active co-ordination by the managing authority:** the MCRD Directorate for Cohesion (managing authority) has held regular co-ordination meetings with intermediary bodies and has involved both JTCs and other stakeholders.
- **Regional delivery capacity-building:** the technical-assistance component of Slovenia's JTF allocation has been used to fund JTCs within RDA Zasavje and DA SAŠA – which, in turn, have undertaken awareness-raising, information and liaison functions, and supported project pipeline development.

However, there are also factors influencing the pace of implementation, including:

- **Procedural load and complex co-ordination:** some funding calls experienced delays due to administrative steps and the need to align multiple bodies (e.g. Public Agency for Entrepreneurship, Internationalisation, Foreign Investments and Technology's [SPIRIT Slovenia] call cancellation in February 2025 and October 2025 reissue). For investment-heavy files, "do no significant harm", climate-proofing and JTF-specific requirements add preparation time.
- **Regional differences in call timing and implementation:** in Zasavska, earlier ministry-run calls and the DUBT decision aided progress. In SAŠA, the 2023 incubator call was first cancelled and then republished in April 2025, with applications now progressing. On 3 October 2025, SPIRIT Slovenia launched a new call, allocating EUR 68.7 million for projects in both Zasavje (EUR 26.2 million) and SAŠA (EUR 42.5 million) regions. These calls should accelerate implementation and fund absorption.
- **Capacity at delivery interfaces:** staffing limitations and a shortage of specialist know-how within agencies, applicants and some municipalities is an issue, especially for complex files. More systematic use of existing low-intensity tools (e.g. templates, checklists, short-duration targeted technical support and peer exchanges) could help address such constraints.

A long-term vision is a critical pillar to manage effectively the socio-economic goals and challenges of a just transition. In both regions, this is emerging, but requires consolidation of the various exercises, programmes and strategies that have helped signal the way forward for the regions. In Zasavska, recent exercises (e.g. Zasavje Beyond 2027) have identified key axes and investment areas for achieving a just transition. Yet these do not provide a unified framework that links transition measures to region-wide development objectives for the coming decade and beyond. In SAŠA, the recently approvedacts on mine closure and regional restructuring, will establish the legal and financing framework for the coal phase-out, while the regional development programme (RDP) sets broader strategic directions. However, a consolidated long-term vision that specifically aligns the just-transition process and the National Regional Development Strategy has yet to be formalised. With the strategy under preparation, regions can use existing national documents and spatial-planning guidance to frame an interim vision, and then refine it once the strategy is in place. A shared long-term vision, aligned across national and regional levels and reflecting top-down strategic objectives and bottom-up regional priorities, could better support identification and implementation of measures and projects contributing to a long-term structural transformation of the regions.

Municipalities are at the forefront of the transition, responsible for spatial planning (under the Spatial Planning Act [ZUreP-3], effective since 2022), shaping project pipelines through elected councils, and fostering trust through proximity to residents and local businesses. However, given their small scale – with only 2 of 10 municipalities in SAŠA exceeding 5 000 inhabitants (about 9 000 in Šoštanj and 33 000 in Velenje) and the 4 larger municipalities in Zasavska (over 10 000 inhabitants), many municipalities face capacity constraints for complex investment projects. In this context, JTCs and RDAs/DAs provide targeted technical and advisory support that helps municipalities identify, prepare and implement projects, with each actor retaining its own role and responsibility. Strengthening capacity at the JTC level, combined with shared staffing models and inter-municipal co-operation, can help optimise limited local resources without recentralising functions away from municipalities.

Slovenia has laid important foundations for a just transition of its two coal regions, including dedicated plans, institutional support and funding. In Zasavska, a set of operations supported under the TJTP, including DUBT in Kisovec, the upgrade of business zones such as Kisovec II and Rudnik (Hrastnik), and the Kompreshaus incubator in Hrastnik, are creating infrastructure and services for new enterprises and innovation. Preliminary evidence indicates that these initiatives are starting to attract firms, support entrepreneurship and improve the regional business environment. However, the framework for transition could be reinforced in several interconnected areas: co-ordination of actors, articulation of a long-term vision, local/regional transition capacity and expertise, integration of investments into regional development trajectories, and creation of a monitoring and evaluation framework within the rationale of a post-coal industrial transition.

Recommendations

- **Explore adjustments to finetune interministerial co-ordination of the just transition, by:**
  - **Formalising senior-level interministerial check-ins** at predefined project gates (e.g. post-technical assessment) to strengthen high-level alignment and improve timely decision-making: this includes developing clear operational guidance on who does what at each governance level to avoid duplication and ensure efficient decision-making.
  - **Simplifying and streamlining public-funding call procedures within the existing management and control system:** under Slovenia's Management and Control System for the 2021-2027 EU Cohesion Policy, line ministries act as intermediate bodies, and may delegate tasks to designated implementing bodies. Experience from recent cycles, including the public agency SPIRIT Slovenia call for productive investments and the SAŠA incubator call, shows that changes in co-financing conditions, thresholds or other parameters can lead to cancellations and re-launches. Drawing on lessons from these cases to clarify procedures, roles and decision sequences between intermediate and implementing bodies could support more predictable timelines for future calls and reduce delays for applicants.
- **Explore strengthening regional and municipal capacity and co-operation, by:**
  - **Assessing options to draw on extended JTC support within RDA/DA structures** for on-demand assistance to municipalities in permitting, procurement, financial planning and environmental engineering by increasing staff and building capacity internally: the managing authority could further strengthen co-ordination meetings – currently a good practice – by facilitating topic and specific discussion on policy priorities to guide RDAs/DAs on cross-sectoral partnerships and sequencing for forthcoming funding cycles.

  - **Strengthening co-operation between national and regional-level development actors**, including research institutions and non-governmental organisations (NGOs), to foster innovation, knowledge-sharing and community engagement in the transition: this also entails identifying options to maintain the transition function beyond the current JTF cycle (e.g. evolving JTCs into longer-term regional transition hubs within existing agencies, subject to available financing).
  - **Explore expanding staff capacity through multiple pathways to address recurrent capacity gaps:** (i) flexible hiring supported by development project funds where public-employment legislation is restrictive; (ii) shared staffing models, such as rotational experts and secondments across regions; (iii) national-level training and capacity-building on specific topics (e.g. JTF procedures, strategic planning, environmental compliance); and (iv) ready-to-use templates (e.g. environmental impact assessments, procurement frameworks) to reduce dependency on external expertise.
  - **Exploring flexible eligibility frameworks and consortium arrangements** that allow companies and projects from neighbouring municipalities and specially regions (e.g. SAŠA and Zasavska) to participate in cross-regional calls where economically justified: this enables smaller regions to achieve economies of scale, maximises spillover effects and fosters collaboration beyond administrative boundaries, particularly for flagship initiatives such as the Hydrogen Valley (Kisovec) and DUBT Centre.
- **Consider embedding a shared, future-focused regional vision, by:**
  - **Drafting and validating a long-term vision, where possible,** to consolidate existing visioning exercises (e.g. Zasavje Beyond 2027, SAŠA restructuring act) into a formally endorsed long-term vision aligned with the forthcoming National Regional Development Strategy: the vision could be drafted by the RDA/DA of Zasavska and SAŠA, validated by the Regional Development Council and approved by all stakeholders from the local to ministry level.
  - **Defining measurable objectives** over the short (1-2 years), medium (3-5 years), and long term (+10 years), using indicators and rationale that draw inspiration from the OECD Mining Regions Well-Being Toolkit to measure the transition over the coming decades (OECD, 2022[1]).
  - **Running annual reviews** to recalibrate priorities and update the vision, based on evidence, to feed into analysis and evidence on project prioritisation and sequencing.
- **Consider approaches to integrate financing sources and maximise local economic spillovers from investment, by:**
  - **Branding and visibility of the SAŠA subregion and Zasavska region as attractive and forward-looking investment locations:** this includes developing distinct regional identities that go beyond coal phase-out narratives and focus on clean energy, manufacturing and other higher-value activities.
  - **Strengthening co-operation between national and regional development actors**, including research institutions and NGOs, to foster innovation, knowledge-sharing and community engagement in the transition: this includes formalising the role of chambers of commerce and business associations to support local economic anchoring and competitiveness.
  - **Attracting foreign direct investment and broader external private investment.** This includes developing strategies showcasing flagship projects such as the Hydrogen

Valley and DUBT Technology Hub, alongside participating in outreach activities and investment fairs.

- **Maximising the activity of the local economy by linking incoming investments with small and medium-sized enterprises (SMEs) and local supply chains,** supported by capacity-building of interested businesses and technical assistance, so that transition funds are anchored locally and generate wider economic value: the RDA/DA could be supported in co-ordinating these linkages and identifying common projects across functional/thematic areas (e.g. energy, manufacturing, research) to enhance regional productivity and competitiveness.

- **Monitor, evaluate and communicate progress to build local community trust and keep delivery on track. For this, Slovenia could:**
  - **Consider expanding data granularity to the SAŠA subregion** for selected and relevant indicators: this entails tagging calls in e-MA with municipal codes to enable tailored tracking (e.g. at the municipality level).
  - **Explore developing a permanent "transition well-being scorecard"** beyond the JTF cycle and TJTPs time horizon: this entails using data from the Statistical Office of the Republic of Slovenia (SORS) and the Environmental Agency of the Republic of Slovenia (EARS), structured around economic, social and environmental resilience metrics.

4.1 Introduction

SAŠA coal region still has a window before the mine closure (2033) to prepare the local economy and community for the post-coal period. Production at Zasavska's last coal mine ended in 1994, and closure operations are mostly completed. Having absorbed this shock, the region continues to face pressures linked to demographic decline, brownfield remediation and the need for new jobs (Gov SL, 2021[2]) (Gov SL, 2021[3]).

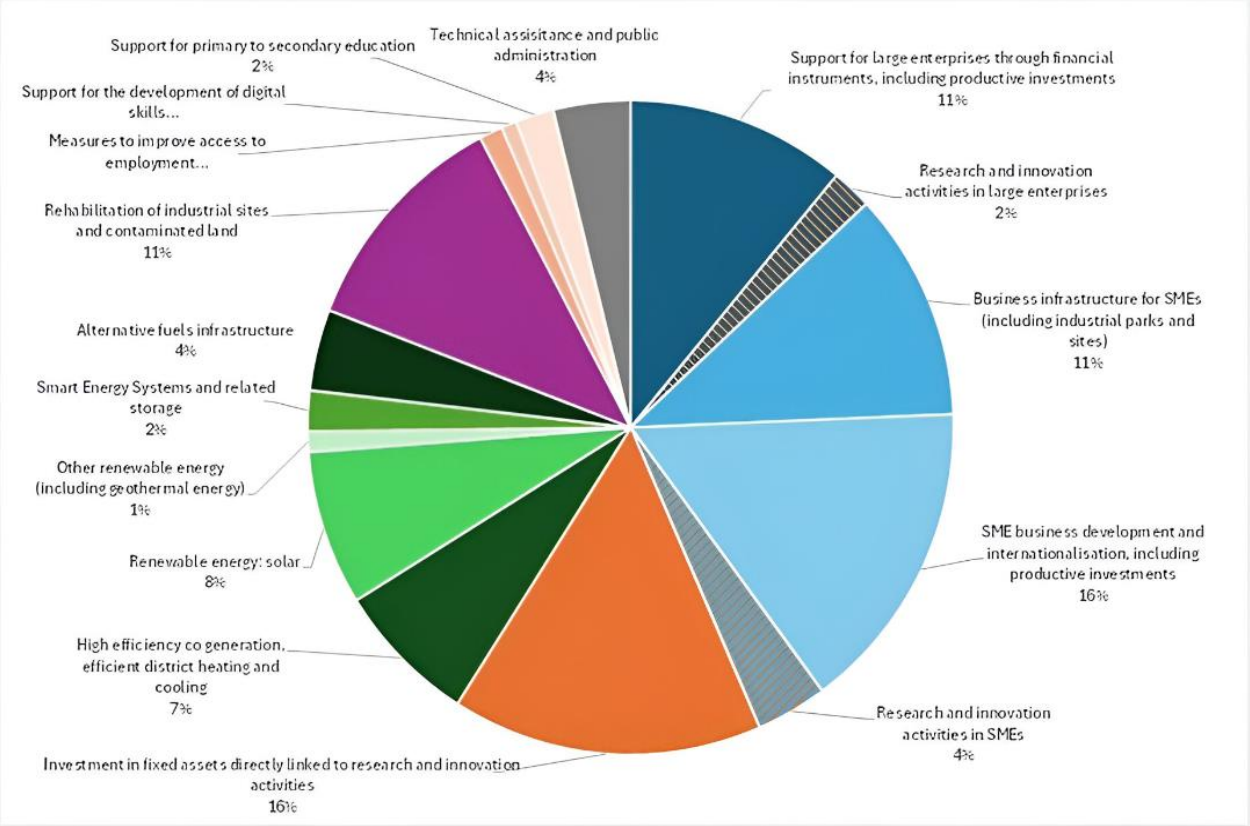
Delivering a just transition now depends on implementation capacity. This requires co-ordinated work across levels of government, clear institutional roles and fit-for-purpose funding routes. Zasavska has been implementing measures while dealing with closure impacts, including by supporting the most affected municipalities. SAŠA has used the lead time to plan. It now needs to shift from planning to implementation, with targeted adjustments from project prioritisation (Chapter 3) to embed a shared long-term vision in core regional documents.

Both regions have advanced planning with the adoption of national activities: Slovenia adopted a national coal phase-out strategy and its two TJTPs were approved (GODC, 2022[4]). Under the JTF, Slovenia's coal regions receive EUR 258.7 million in EU support. National co-financing includes EUR 21.2 million from the state budget for public-sector beneficiaries, with an estimated additional EUR 24.5 million provided directly by private-sector beneficiaries, bringing total co-financing to EUR 45.7 million. The TJTPs have successfully provided access to JTF resources as well as to pillars II and III of the Just Transition Mechanism, while the RDPs have identified relevant regional and local needs beyond the just transition. Yet stakeholders note that RDP priorities often lack corresponding funding commitments at the ministerial level.

Planned spending concentrates on business capacity and innovation, research infrastructure, clean energy and energy efficiency, and brownfield regeneration (Figure 4.1). The JTF's technical assistance and co-management role allocation has been used to establish JTCs in both RDA/DA. Alongside EU cohesion

instruments, national measures also shape the energy transition. The Act on Transitional Financing of an Accelerated and Equitable Withdrawal from Coal regulates the temporary provision of heat in Velenje and Šoštanj and sets obligations for the heat distributor to develop alternative production sources. Complementarily, the Government of Slovenia has adopted both laws: the law on the closure of the Velenje coal mine (27 November) and the law on the development restructuring of the SAŠA coal region (11 December). Together, they set out comprehensive financial frameworks to support the subregion's further development.

Figure 4.1.Slovenia's share of planned EU JTF, breakdown by theme (2021-2027 EU share)



Source: (European Commission, 2022[5]).

Implementation accelerated in 2025 but remains uneven across the two territories. By October 2025, financial resources decided to selected projects represented 60% of the JTF allocation in Zasavska and 44% in SAŠA. The spent funding reported by selected projects stood at 12% in Zasavska and 0% in SAŠA; numerous projects are queued to progress in late 2025. The TJTPs, approved in 2022 and last amended and approved in 2024, provided the strategic framework. Early public calls in Zasavska were launched in July 2023 (business and economic infrastructure) and November 2023 (incubators), positioning Slovenia among the early movers. Yet final implementation of the funds could benefit from addressing the following factors:

- **Cross-cutting regulatory requirements:** the application of horizontal obligations, such as climate-proofing, the "do-no-significant-harm" principle (where applicable) and JTF-specific provisions (e.g. links to the national coal-exit strategy), has extended preparation timelines, particularly for infrastructure and capital-intensive operations.

- **Public-call mechanics and implementing capacity:** the SPIRIT Slovenia call for productive investments was cancelled in February 2025 due to a change in co-financing capacity and thresholds. It was relaunched on 3 October 2025, with EUR 68.7 million available (EUR 26.2 million for Zasavje and EUR 42.5 million for SAŠA) and a 1 December 2025 deadline.
- **Active co-ordination, but sequencing still matters:** the managing authority has maintained regular co-ordination with line ministries and both JTCs. Even so, for multi-actor projects, late-stage steps such as state-aid or environmental checks can lengthen processing time when not sequenced early. Ministries using simplified procedures saw faster timelines, indicating that administrative design, staffing and technical expertise drive delivery speed.
- **Resource stretch across programmes:** human-resource capacity is shared across the Recovery and Resilience Plan and the Cohesion Policy 2021-2027 programme, leading to overlapping tasks and delivery pressures. These are compounded by the need to comply with newer horizontal requirements.
- **Applicant-side readiness under programme criteria:** some project ideas that emerged entered application/implementation phase with limited maturity. Smaller applicants and municipalities often face capacity limitations on procedural demands, although support from JTCs and RDAs is largely perceived in practice as helpful instruments. The use of standardised templates targeted technical assistance; peer-learning initiatives may further support readiness and reduce preparation time.

Against this backdrop, this chapter focuses on practical delivery gaps and how to close them. Remaining challenges include procedural bottlenecks and complex co-ordination affecting calls and timelines, especially in SAŠA. Capacity constraints at the local level also slow preparation and uptake of projects. At the same time, Slovenia holds strong co-ordination activities and frameworks, the managing authority convenes regular meetings with implementing bodies, and the two regions submit periodic reports. For complex, multi-ministry projects, stakeholders indicated the need for earlier technical alignment (e.g. sequencing of permits and state-aid steps) and for utilising existing data to create a short SAŠA/Zasavska scoreboard (drawing on e-MA/EMMA, SORS and EARS) to track progress results (European Commission, 2024[6]). Similar patterns appear in other EU JTF territories: technical-assistance cases highlight the need to navigate state-aid rules (in Sisak-Moslavina, Croatia), the value of peer learning among managing authorities (in France), and capacity/co-ordination hurdles at the regional/municipal level (e.g. Ireland's community-energy projects). Accordingly, the Commission supports regions through JTP Groundwork (targeted technical assistance and peer exchanges delivered within the Just Transition Platform). Thus, building on international practice and local experience, the following sections will explore potential recommendations for the implementation of the just transition in Slovenia.

4.2 Governance for implementation of the transition

Translating transition strategies into actionable measures and concrete projects depends largely on the governance structures connecting national, regional and local functions. In Slovenia, these core elements are already in place: a dedicated MCRD, legally defined roles for RDAs in both Zasavska and Savinjska, and local-level actors with strong territorial insight. In SAŠA, a DA covers the subregion, while the RDA Savinjska oversees a broader regional agenda. Locally, regional development councils, councils of mayors and municipal administrations contribute detailed territorial knowledge and implementation capacity.

Co-ordinating the just transition across levels of government requires aligning planning and funding across municipal, national and EU scales. At the municipal level, the direct effects of mine closures and restructuring are most visible, while the main strategic and financing frameworks are set at the national level. These include the Act on the closure of the Velenje mine and the Act on Development Restructuring of the SAŠA coal region, recently approved, and EU Cohesion Policy programmes implemented under shared management, including the JTF as part of the Just Transition Mechanism. Cohesion Policy

regulations already contain clear requirements on partnership and the involvement of local and regional actors. In practice, however, stakeholders report that differences in timing, procedures and priorities between municipal processes and national and EU programmes can complicate vertical co-ordination and require continued effort to ensure coherent policy design and effective resource alignment. The co-ordination mechanism is embedded in the interplay between:

- **RDPs:** prepared and adopted under ZSRR-2 (Art.13) by regional bodies, RDPs cover the full regional agenda (economy, people, places, services), and set priorities and projects for the Multiannual Financial Framework period and strategic governmental priorities. They are prepared by the RDA/DA and adopted by the Regional Development Council, comprising municipal representatives, business associations and civil-society organisations, before confirmation by the Regional Council (comprising all municipal mayors).
- **TJTPs:** TJTPs are mandatory instruments required to access the JTF in the 2021-2027 programming period. TJTPs are prepared by national authorities through social dialogue and broad stakeholder consultation – including regional development councils, municipal representatives, and civil-society actors – in accordance with the partnership principle, and consistent with integrated national energy and climate plans. EU Member States must demonstrate a clear and effective governance framework for implementation which ensures continued multi-level co-ordination and sustained stakeholder engagement. TJTPs are linked to, but distinct from, RDPs. Regional bodies may be engaged in drafting or implementation where appropriate, though they are not a formal EU-prescribed requirement for JTF approval. Formal approval of a TJTP is granted by the European Commission following submission by the Member State and subsequent negotiations.
- **Relationship:** within the Cohesion Policy framework, TJTPs are the programming tools supporting the JTF, while RDPs provide a broader regional development framework. Regional stakeholders in SAŠA and Zasavska describe the two documents as closely linked in practice: RDPs set wider development objectives for 2021-2027, and TJTPs specify a focused set of just-transition priorities and investments consistent with the national coal-exit strategy. From a regional perspective, TJTPs and RDPs are therefore used together to guide planning and implementation of just-transition efforts in the coal regions.

Within this framework, JTF delivery in Slovenia follows the governance mechanism described in the TJTPs and the national management and control system for Cohesion Policy and is organised through the following roles:

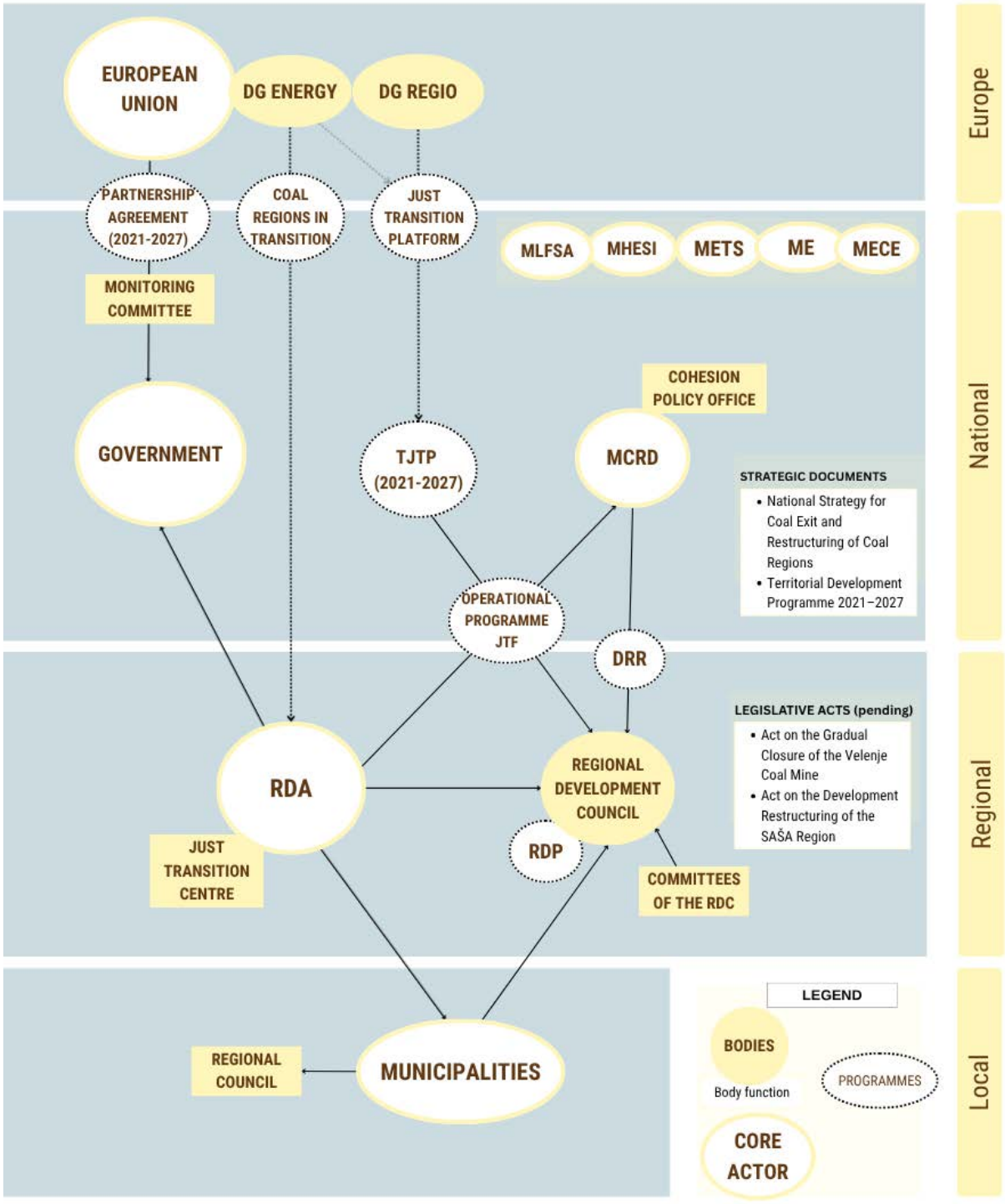
- **Programme framework:** the JTF is implemented as part of EU Cohesion Policy 2021-2027. The MCRD's Directorate for Cohesion Policy acts as the managing authority. The MCRD's Directorate for Regional Development acts as an intermediate/implementing body for relevant operations, alongside other intermediate bodies defined in the national management and control system.
- **Line ministries involved (intermediary bodies):** MCRD; Ministry of the Environment, Climate and Energy (MIZŠ); Ministry of Economy, Tourism and Sports (MGRT); Ministry of Higher Education, Science and Innovation (MIZŠ); Ministry of Labour, Family, Social Affairs and Equal Opportunities (MDDSZ); and Ministry of Education (MŠ).
- **JTCs:** operated by RDA Zasavje and DA SAŠA and financed with JTF technical assistance (2021-2027). Their day-to-day role is to operate an applicant helpdesk, provide pipeline support and liaise with all stakeholders involved in the transition.
- **Regional bodies and monitoring:** regional development councils and regional councils, made up of mayors and other regional partners, have an advisory role and approve regional development plans (such as RDPs); they do not exercise executive functions in the implementation of individual projects. For the TJTPs, regional-level reporting is examined by regional development partnership

councils (for example in SAŠA), while annual and final reports are discussed at the national level by the monitoring committee.

The SAŠA subregion has a number of particularities regarding its programmes within Savinjska regional structure. For instance, SAŠA has articulated sub-regional priorities in its subregional development programme (*Območni razvojni programme*) 2021-2027, which sets short- to medium-term objectives aligned with the EU programming cycle for the ten municipalities of the SAŠA area. This sub-regional instrument is prepared and managed by DA SAŠA (the DA for the subregion), which operates at a functional rather than territorial administrative level (ra-sasa, 2021[7]).

Simultaneously, the broader Savinjska region (Territorial Level 3 [TL3]) has its own RDP 2021-2027, prepared by RDA Savinjska under ZSRR-2. In practice, the SAŠA sub-regional programme feeds into and informs the broader regional strategy. The RDP Savinjska aligns with and references the priorities of the TJTP for SAŠA subregion (linked to, but separate from, the RDP), while providing the legal and financial framework that legitimises and supports the concrete actions outlined in the SAŠA sub-regional programme. This nested approach ensures co-ordination between local coal-transition priorities and wider regional development objectives within Slovenia's multi-level governance system.

Figure 4.2. Current governance for the just transition in Slovenia



Notes: DG REGIO = Directorate-General for Regional and Urban Policy. MLFSA = Ministry of Labour, Family, Social Affairs and Equal Opportunities. MHESI = Ministry of Higher Education, Science and Innovation. METS = Ministry of the Economy, Tourism and Sport. ME = Ministry of Education. MECE = Ministry of the Environment, Climate and Energy.

Interministerial co-ordination for complex files could help unlock selected JTF projects

Slovenia's institutional framework for managing the transition provides a strong basis for a successful use of JTF funding. The MCRD serves as the managing authority for Slovenia's EU Cohesion Policy programme 2021-2027, which encompasses the JTF alongside other Cohesion Policy funds. Both DA SAŠA and RDA Zasavje host their respective regional JTCs and perform functions which include co-operating with the managing authority on the design and monitoring of the just-transition implementation system, supporting partnerships at the regional level, contributing to the preparation and amendment of the TJTPs, reviewing the consistency of calls and operations with the TJTPs when they are not beneficiaries, and co-operating with intermediate bodies in selecting operations. As JTCs, they co-ordinate local partnerships and networking, provide information, training and capacity-building, support project preparation and management, keep up-to-date information on degraded areas and act as the main information point for local just-transition stakeholders.

Existing interministerial co-ordination operates through established mechanisms. Within the 2021-2027 Cohesion Policy programme, the roles of the managing authority, intermediate bodies, and the Programme Monitoring Committee as the formal body overseeing programme and TJTP implementation are defined in the national management and control system and in the TJTPs. In practice, municipal-ministerial meetings address specific project-implementation issues and regulatory clarifications on an ad-hoc basis, while the multi-ministerial steering group, convening MCRD, MIZŠ, MGRT, and other relevant line ministries, sets strategic priorities and approves annual implementation workplans for the entire Cohesion Policy programme. This steering group could operate as a dedicated working group within the broader Council for Regional Development, to enhance visibility and stakeholder alignment (Forthcoming OECD report “Building More Competitive Regions in Slovenia“).

However, delays have been observed between the completion of technical project assessments and high-level ministerial approval decisions. For example, projects that have passed technical reviews for state-aid compliance, environmental assessments and eligibility verification can experience bottlenecks when awaiting formal sign-off from competent ministries. To address this, predictable and formalised high-level meetings should be established at the state-secretary level, with specific operational objectives: reviewing progress on TJTPs, co-ordinating funding calls, resolving interministerial implementation barriers and providing senior political support to priority projects. These enhanced meetings should be scheduled at defined project milestones, especially when technical assessments, documentation review and eligibility verification have been completed but final approval decisions are pending. This timing ensures that technically ready projects receive prompt senior-level validation without delays that could compromise implementation schedules. Participants should include relevant ministry representatives, both JTCs and the RDAs when territorial-level input is required for decision-making.

The meetings could systematically: (i) confirm implementation timelines and next steps; (ii) assign clear responsibilities among specific ministries and implementing bodies; (iii) escalate unresolved co-ordination issues to the MCRD for political resolution; and (iv) document decisions for subsequent phases. Sessions should follow a fixed schedule aligned with project milestones, ensuring completed technical work receives clear senior-level hand-off authority so that processes continue to advance efficiently. No new institutional structures are needed: the objective is to formalise and enhance existing co-ordination through predictable senior-level engagement.

Developing the capacity and prospects of JTCs could strengthen implementation capacity beyond the current JTF programming period

The JTF supported the creation of a JTC in each region. The objective was to promote local partnerships, provide training and capacity-building, support project preparation and co-ordinate just-transition activities in the two regions, including with youth, NGOs, social and economic partners, and local communities. This

approach is consistent with the European Commission's evolving framework, where just transition objectives are expected to be addressed in a cross-cutting manner across cohesion and partnership instruments rather than through a single dedicated fund. Since 2022 in SAŠA and 2023 in Zasavska, the transition helpdesks hosted by the development agencies (DA SAŠA in the SAŠA area; RDA Zasavje in Zasavska) have operated as JTCs. They guide promoters through calls, run targeted training, and act as day-to-day contact points between line ministries, applicants and municipalities. The directors of both the RDA and DA participate in the national Programme Monitoring Committee for 2021-2027, which anchors them in the co-ordination set-up and reinforces their institutional role in strategic oversight.

Stakeholders (municipalities, chambers, unions) point to the JTCs as accessible, "one-stop" interfaces for the transition. Their knowledge base has grown quickly, driven by an approach of "learning by doing". Both RDAs and their staff have benefitted from extensive support from the European Commission's Just Transition Platform, which has enabled bilateral and multilateral exchanges of experience on lessons learned and best practices, reinforcing the quality and consistency of transition guidance across regions.

The JTCs do, however, face a challenge with medium and long-term sustainability once the current JTF programming period ends. In 2024, around 72-74% of the host agencies' income came from EU project/technical assistance lines, and less than 5% from the national budget (Table 4.1). DA SAŠA also has a unique structure compared to RDA Zasavje as a development agency at a sub-regional level (the official TL-3 regional RDA for Savinjska is RRA Savinjska). This is relevant when clarifying roles and future mandates to provide stability beyond political cycles.

Slovenia could explore initiatives to strengthen the JTCs and ensure their medium- and long-term impact:

- **Keep the JTCs as the operational hub and evaluate lifting capacity where most useful:** focus added expertise on complex files (e.g. infrastructure and larger investment projects) by promoting trainings (including those under the JTF), templates and peer-to-peer exchange, and increasing staff. To address capacity gaps, particularly in smaller municipalities, this expansion could follow multiple pathways:
    - expanding internal capacity through flexible public employment arrangements where legislation permits or by channelling support through development project funds, which offer more flexible hiring modalities for specialised expertise
    - sharing models across regions, including rotational experts, secondments, and peer-to-peer clinics on recurrent technical issues (e.g. environmental impact assessments, procurement frameworks, financial planning)
    - leveraging national-level support through targeted training and capacity-building courses delivered by national agencies and development actors on specific topics (e.g. JTF procedural requirements, strategic project forecasting, environmental compliance, permitting processes)
    - complementing these with ready-to-use templates and toolkits that reduce the need for ad-hoc expert support in smaller municipalities.

Furthermore, to enhance co-ordination and avoid duplicating efforts, the JTCs could:

- Strengthen topic and policy priority-specific co-ordination meetings facilitated by the managing authority: these would guide RDAs/DAs on cross-sectoral partnerships, consortia opportunities and sequencing across forthcoming funding cycles (EU and national), ensuring coherent regional planning and efficient project preparation.
- Support cross-regional collaboration and spillover effects by helping municipalities and enterprises identify common projects and investment opportunities across administrative and functional boundaries: for example, the JTCs could facilitate consortia arrangements between SAŠA and Zasavska for flagship initiatives such as the Hydrogen Valley (Kisovec) and DUBT Technology

Hub, where economies of scale and inter-regional synergies strengthen project viability and regional competitiveness.

- Clarify roles and facilitate information flow: the managing authority could guide the JTCs on whom to meet and when, based on topical requirements, ensuring municipalities access the right expertise and decision-makers at the right time. This reduces co-ordination gaps and streamlines the flow of information between the national, regional and local levels.

Another alternative is to include expert representatives from different national agencies as advisory participants in the JTCs. For example, the Employment Service could assist the JTC/RDA advisory groups and co-ordinate with the national Competence Forecasting Platform to streamline labour-market insights, ensure the efficient use of resources, and avoid duplication of forecasting and skill-needs activities.

Additionally, due to the low readiness of project applications in certain public calls, the enhanced JTCs could also help screen new proposals against EU, national and regional priorities, as well as test their technical maturity and permitting status before they enter funding calls.

- **Plan for a longer-term transition function:** due to the valuable knowledge built over the first JTF cycle (2021-2027), which will provide JTCs with financing until 2029 (Interreg, 2025[8]), the JTCs could evolve into performing longer-term regional transition functions within existing RDA/DA structures and future cohesion policy arrangements, ensuring continuity of expertise without creating parallel governance structures beyond the JTF. Currently, RDA Zasavje and DA SAŠA derive 71-74% of their operational revenues from EU project funding. Without a sustained funding model post-2029, this expertise risks being lost. By integrating JTC functions into permanent RDA/DA operations, the accumulated knowledge can be preserved regardless of EU funding cycles. The aim would be to retain this expertise across programme cycles using diversified funding sources, including technical assistance in future Cohesion Policy/JTF arrangements, targeted national restructuring funding sources and complementary domestic sources (e.g. Climate Fund).

Table 4.1. Revenue structure of Slovenian RDA/DA Zasavska and DA SAŠA, 2024 (%)

RDA/Region	EU project funding	National budget projects	Municipal/ subnational funding	MCRD general development tasks	Municipal general development tasks	Market-based activities	Total
RDA Gorenjska	64	2	20	5	3	6	100
RDA Goriška	41.89	20.47	15.94	7.96	6.28	7.46	100
RDA Jugovzhodna Slovenia	31.6	5.7	18	5	5.9	33.8	100
RDA Koroška	54.09	4.47	15.69	8.52	11.6	5.63	100
RDA Obalno-kraška	64	4	2	12	8	10	100
RDA Osrednjeslovenska	53	0	6	6	24	11	100
RDA Podravska	52.86	5.72	18.92	3.35	1.74	17.41	100
RDA Posavska	52	8	12	11	14	3	100
RDA Pomurska	38	,	22	5	1	24	100
RDA Primorsko-notranjska	74	10	0	10	8	5	100
RDA Savinjska	60.36	3	0.5	11.75	23.27	0	100
RDA Zasavje (larger scope and including mining through the JTC)	74.3	4.62	0.5	11.4	10.3	2.4	100
DA SAŠA (mostly mining through the JTC)	71.93	1.1	5.08	1.57	10.39	4.98	100

Source: Data provided by **MCRD**.

Municipalities are frontline actors whose capacity and co-operation can accelerate transition delivery

Municipal governments manage the day-to-day realities of the coal transition. In SAŠA subregion, the ten municipalities of Solčava, Luče, Ljubno, Gornji Grad, Rečica ob Savinji, Mozirje, Nazarje, Šmartno ob Paki, Šoštanj and the City Municipality of Velenje issue spatial-planning permits and host key assets such as the Šoštanj thermal power plant (TEŠ) and the Velenje lignite mine, alongside multiple brownfield sites. In Zasavska, the four municipalities of Trbovlje, Hrastnik, Zagorje ob Savi and Litija contain the DUBT Technology Hub in Kisovec and roughly 42 inventoried brownfield sites spanning 135 hectares (Pravični Prehod Zasavja, 2022[9]).

The local authorities in these regions are the first contact point for affected communities, directly experiencing job losses, infrastructure restructuring and challenges related to land reuse. As the level of government closest to citizens, they combine operational responsibilities with political legitimacy: their decisions shape public acceptance of the transition, and can determine the pace at which national and EU-funded projects move from approval to implementation. Despite their central role, municipal administrations face some constraints specific to the transition pathways in SAŠA and Zasavska:

- **Limited staff capacity for complex projects:** for example, just two core municipalities employ a full-time environmental engineer; none have in-house financial modellers or procurement experts, with the exception of Velenje. However, there exists one potential opportunity for municipalities to address part or all of these capacity gaps through inter-municipal co-operation arrangements. Slovenia has successfully expanded such arrangements, with 202 of 212 municipalities now participating in at least one joint management body covering services such as legal advice, financial management, environmental protection and spatial planning (Forthcoming OECD report “Building More Competitive Regions in Slovenia“). Leveraging these existing inter-municipal frameworks to consolidate procurement and financial expertise across coal-region municipalities could help address identified capacity gaps for complex JTF projects.
- **Fiscal capacity is limited and uneven**: most municipalities rely on shared taxes and state transfers through formulas that are sensitive to local economic activity and workforce size. As mining operations wind down, municipalities will face reduced tax revenues from declining business activity and employment. This could trigger corresponding reductions in state-transfer allocations, requiring formula adjustments to maintain adequate local fiscal capacity.

To help address some of these constraints and improve delivery capacity, two targeted levers could be implemented in both coal regions:

- **Where relevant, maintain access to enhanced JTC support for tailored needs of the municipalities:** most municipalities in SAŠA and Zasavska face recurring gaps in engineering, procurement, legal and financial expertise. An increase in the capacities of JTCs could include staff support for environmental engineering, procurement, permitting and financial planning (among other relevant professions). This would help municipalities prepare high-quality projects, provide on-demand advice and offer ready-to-use templates for environmental impact assessments (EIAs), brownfield redevelopment and other transition priorities. The Project Acceleration Unit (Unidad de Aceleradora de Proyectos)) in Andalusia, Spain is a “one-stop shop” for mine-permitting processes, providing a useful example of consolidating processes for project approvals and improving administrative efficiency (OECD, 2025[10]).
- JTCs should assess the demand for these services. Where demand is limited or intermittent, an alternative could be a voucher or subsidy scheme allowing municipalities and other local actors to procure expertise from external providers.
- **Formalise inter-municipal procurement to achieve economies of scale:** ad-hoc co-operation between municipalities could help organise local capacities for future investment needs. This can

include co-operation for joint procurement to reduce unit costs and improve quality. RDAs/DAs could play a role in detecting overlaps to induce co-operation.

Stakeholder participation and inclusiveness is key to ensuring a just transition

Stakeholder participation supports legitimacy and the practical delivery of projects (Mohedano Roldán, Duit and Schultz, 2019[11]). Slovenia has institutionalised participation through national and regional mechanisms, and has been identified at the EU level for successful stakeholder engagement in the just transition. The JTCs in Slovenia have been recognised for their mission of supporting the fair and inclusive transition (Interreg, 2025[8]) (Box 4.2).

At the national level, the Programme Monitoring Committee is comprised of ministries, RDAs/DAs, municipalities and social partners, and oversees fund implementation. At the regional level, the JTCs in SAŠA (subregion) and Zasavska act as operational hubs that facilitate ongoing engagement formats and provide direct support to municipalities, SMEs and community actors. According to JTC SAŠA reporting (2022-2023), the centre supported more than 70 project submissions and organised targeted outreach for trade unions, cultural associations and local administrations.

Consultations also take place during planning cycles. RDAs/DAs run open workshops, focus groups and online surveys when preparing or updating RDPs under ZSRR-2. TJTP processes are separate and EU-driven for JTF access, with participation requirements defined by the cohesion framework. These dual tracks are complementary. They help ensure that community input informs both EU-funded transition plans and national strategies, achieving coherence and synergies among resources such as manpower and finance. The joint call for an educational hub in Zasavska combining funds is one example.

There exists a risk of participant fatigue in some cases: a high number of meetings, unclear follow-up and limited visible outcomes may lower motivation to engage. Smaller municipalities and civil-society actors face administrative and logistical constraints, while long intervals between call announcements and disbursements have affected trust. Light-touch adjustments which lower the cost of engagement, make feedback loops visible and broaden participation within existing structures could help reduce this fatigue. This could include:

- **Publishing an annual engagement calendar** that consolidates consultations, thematic events and feedback deadlines in a predictable schedule so that shared milestones, overlapping working groups/committees (where feasible), and common consultation templates can increase coherence and also create synergies in the planning processes
- **Refreshing stakeholder group membership** periodically and extending participation to youth councils, social enterprises and cultural actors
- **Consolidating digital communications** by continuing the existing “you said/we did” summaries in a quarterly bulletin, collated by each JTC and distributed through RDA/DA newsletters, municipal websites and local media
- **Raising awareness of project activities** and results through local news media, mail-outs and social media posts.

Box 4.1. The European Commission's recognition of stakeholder engagement in Zasavska and SAŠA

Both regions have demonstrated highly inclusive governance approaches to the just transition, which are recognised by the European Commission. Each region hosts a broad stakeholder development council, mandated under the Act on the Promotion of Balanced Regional Development (ZSRR-2), bringing together municipal representatives, trade unions, businesses and civil-society groups. Both councils are supported by dedicated working groups focused on infrastructure, skill development and social support, ensuring wide representation alongside targeted issue resolution.

The JTC model, which originated with DA SAŠA, was subsequently replicated in Zasavje under the national coal phase-out strategy. Both regions operate JTCs under the same governance framework defined by ZSRR-2, although each maintains distinct annual action plans reflecting territorial priorities and ongoing stakeholder engagement activities.

Figure 4.3. Image of the Regional Conference on the Just Transition of Zasavje

Sources: (European Commission, 2024[6]); (RRAZ, 2024[12]).

4.3 A shared regional vision for a just transition

A shared long-term vision (e.g. the Silesia 2030 strategy or Asturias 2030 Just Energy Transition Strategy) is an essential instrument for managing structural transitions in coal-dependent regions. In SAŠA and Zasavska, where the phase-out of coal overlaps with demographic decline, industrial restructuring and environmental legacies, a territorial vision not only provides direction and coherence to public and private action, but also serves as a powerful narrative tool to engage communities, counter opposition and build local ownership of transition efforts.

Rather than reacting to change, a forward-looking vision helps regions guide it, focusing collective efforts on future-oriented outcomes in employment, infrastructure and well-being. In practice, such a vision can:

- align stakeholders among government levels and across sectors around common transition objectives
- provide a strategic filter for prioritising investments (including under the JTF)
- de-risk private investment by signalling long-term certainty
- support synergies and complementarities across planning frameworks (e.g. TJTPs, Regional Development Agreements [DRRs], municipal development plans)
- serve as a reference for monitoring progress and adjusting strategies over time.

The regional transition process can be understood as a triangle connecting three levels: long-term vision at the top, supported by medium-term strategies and translated into concrete investment projects. This framing helps sequence decisions and clarify the roles of different institutions in turning ideas into action. Regions undergoing complex transitions often face fragmented initiatives, short political cycles and competitive funding pressures. A shared vision helps mitigate these risks by anchoring short-term decisions to long-term goals and ensuring continuity across policy cycles. Moreover, alignment with national and EU-level strategies enhances funding eligibility and strategic coherence. SAŠA and Zasavska are not starting from scratch. Both regions already have components of strategic visions embedded in different instruments and initiatives:

- **RDA Zasavska,** through support from the European Commission's Directorate-General for Energy and in co-operation with local stakeholders, has produced the "Zasavje Beyond 2027" visioning exercise identifying pathways for economic diversification, community well-being and environmental regeneration (European Commission, 2025[13]). This process reflects a narrative-oriented and forward-looking effort that reaches beyond the current programming cycle and serves as a valuable foundation for a long-term vision. However, it remains relatively exploratory in nature and lacks a more formal institutional anchoring or an implementation framework. In parallel, the region's DRR for 2021-2027 presents a strategic orientation aligned with EU funding cycles, but primarily reflects short- to medium-term priorities, and remains fragmented across sectors and municipalities (Gov SL, 2021[2]). RDA Zasavje also entered the Joint Research Centre programme "Territories in Action" aiming to draft a "shadow" RDP based on the values and principles of the New European Bauhaus to further enhance the development ambition of JTF, similar to the model of Sachsen-Anhalt. The DRR for Zasavska consists of 12 regional projects aligned with 5 strategic government priorities, with pre-allocated quotas and funding in line with national strategic priorities.
- **SAŠA** has articulated sub-regional priorities in its Sub-regional Development Programme (*Območni razvojni programme*) 2021-2027, which sets short- to medium-term objectives for the ten municipalities of the SAŠA area aligned with the EU programming cycle. This sub-regional instrument is prepared and managed by DA SAŠA (the DA for the subregion), which operates at a functional rather than administrative territorial level (ra-sasa, 2021[7]).

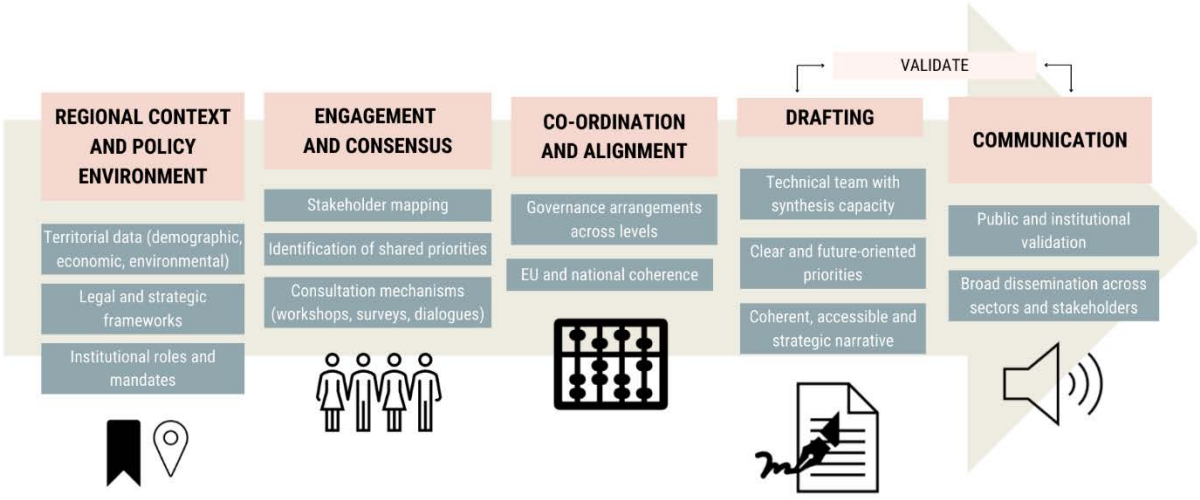
  Simultaneously, the broader Savinjska region (NUTS-3) has its own RDP 2021-2027, prepared by RDA Savinjska under ZSRR-2. In practice, the SAŠA sub-regional programme feeds into and informs the broader regional strategy: the RDP Savinjska incorporates JTF content from SAŠA as part of the region's TJTP, while providing the legal and financial framework that legitimises and supports the concrete actions outlined in the SAŠA sub-regional programme. This nested approach ensures co-ordination between local coal transition priorities and wider regional development objectives within Slovenia's multi-level governance system.

Figure 4.4 illustrates a series of sequential steps involved in constructing a shared regional vision for the just transition. It begins with an assessment of the regional context and policy environment, drawing on demographic, economic and environmental data, relevant legal and strategic frameworks, and existing institutional mandates. This is followed by a phase of engagement and consensus-building, where stakeholders are mapped, shared priorities are identified, and consultation mechanisms such as

workshops and surveys are used to collect inputs. For instance, these consultation mechanisms should, insofar as possible, be integrated with existing regional structures to minimise the additional burden on stakeholders and limit "consultation fatigue".

Co-ordination and alignment ensure that the emerging vision is consistent with governance arrangements across and among levels of government, and coherent with EU and national policy frameworks. In the drafting phase, a technical team synthesises inputs into a clear, future-oriented document that is accessible and strategic. The vision must then be formally validated through institutional processes, and broadly communicated to ensure visibility and ownership across sectors and stakeholder groups.

Figure 4.4. Vision development in the mining regions of Slovenia



Box 4.2. Germany's Commission on Growth, Structural Change and Employment

An example of multi-level, multi-actor co-ordination takes place at Germany's Commission on Growth, Structural Change and Employment, widely known as the Coal Commission. The commission was established by federal cabinet decision in June 2018 and brought together:

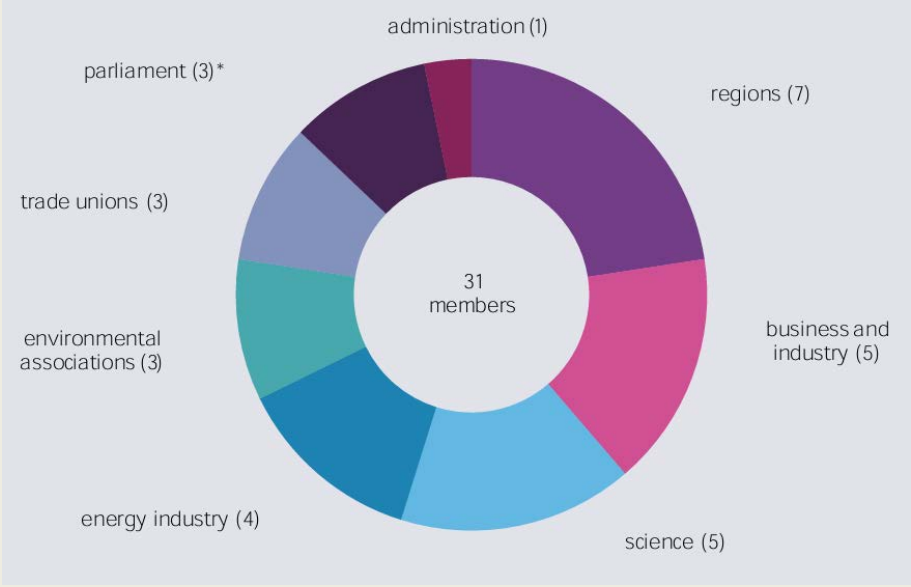
- eight federal ministries (economy and energy, environment, finance, labour, transport, interior, agriculture, research)
- the six coal-producing *Länder* (North Rhine-Westphalia, Saxony, Brandenburg, Saxony-Anhalt, Lower Saxony and Saarland) and the city of Berlin
- municipalities from the lignite areas
- trade-union confederations and works councils
- energy utilities, industry associations and chambers of commerce
- environmental NGOs and research institutes.

To keep the debates focused, the commission split its work into two internal working groups – one on climate-target scenarios and the other on regional development and employment – each with a six-month deadline to produce draft chapters. The final report (January 2019) set out a consensus pathway to phase out coal-fired power generation by 2038 and recommended a EUR 40 billion package of federal investment for the affected regions, providing a common reference for subsequent legislation

on both climate policy and regional structural funds (Agora Energiewende und Aurora Energy Research, 2019[14]), (CLEW, 2018[15]).

The Coal Commission's architecture sat federal ministers, the six coal-producing *Länder*, municipal representatives and social partners under a single umbrella, so technical energy choices were weighed alongside territorial and labour concerns in real time. Much of the detailed drafting was delegated to two sector-specific working groups, one on climate targets, the other on regional development and jobs, each bound by a six-month deadline, which kept the plenary free for strategic decisions rather than line-by-line negotiation. When consensus was reached, the Commission's report was handed directly to the federal cabinet and the *Länder*, who embedded its EUR40 billion investment package and 2038 coal-exit timetable in subsequent legislation and funding agreements, providing an unambiguous implementation chain (Agora Energiewende und Aurora Energy Research, 2019[14]).

Figure 4.5. Composition of the Commission on Growth, Structural Change and Employment



Source: (Agora Energiewende und Aurora Energy Research, 2019[14]).

Key enablers for vision development and implementation in the coal regions of Slovenia

Developing a regional vision requires co-ordinated effort across multiple actors, each with distinct responsibilities during different phases of the process. In Slovenia, this cycle typically follows three interlinked stages: vision development, vision alignment, and vision implementation and validation (Figure 4.6).

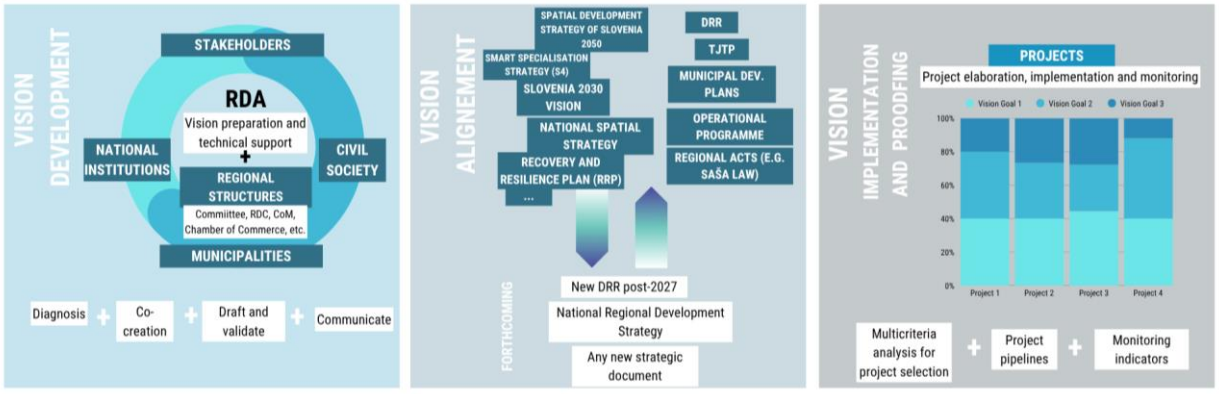
- **Vision development** begins with the RDA/DA convening participatory workshops, engaging municipalities, businesses, education and civil-society partners, to map local needs, territorial priorities and investment gaps. Slovenia could be inspired by Asturias with regard to the development of the vision (Box 3.4).
- **Vision alignment** embeds the emerging vision within existing planning frameworks. Line ministries and the MCRD ensure compatibility with national strategies (National Regional Development

Strategy, Smart Specialisation Strategy, Spatial Development Strategy 2050, Recovery and Resilience Plan) and upcoming post-2027 DRRs, while RDA/DA co-ordinate with EU programming cycles.

- **Vision validation and implementation** translates strategic priorities into project pipelines. RDAs/DAs and municipal authorities help structure to a limited extent the public calls, apply multi-criteria filters linked to the vision and monitor progress through common indicators (e.g. ex-miner jobs, hectares rehabilitated, carbon dioxide reductions). Formal endorsement by the Regional Council, whose members hold a political mandate, lends the vision political standing and drives continuous learning loops.

Importantly, validation of the vision requires political endorsement to give it formal standing. In Slovenia's governance system, this role can be performed by the Regional Development Council once the correct alignment with goals and priorities from the national level are agreed upon.

Figure 4.6. Vision development, alignment and implementation cycle



Crucially, the vision anchors regional plans within broader strategic frameworks: it should reflect and complement national development strategies, EU priorities and Sustainable Development Goals, so that regional actions reinforce higher-level goals. This can include potential guidance on infrastructure (ensuring they fit the post-coal economic model), skill programmes (targeting future industries), or land reuse projects (aligned with the envisioned economic diversification). In this way, the vision acts as a bridge between the broader map of planning documents – from Slovenia's National Regional Development Strategy and sectoral plans to TJTPs and RDPs – ensuring coherence across all levels. An aligned vision provides continuity and mutual reinforcement: regional goals are consistent with national climate targets or EU Cohesion Policy and, conversely, local initiatives give life to abstract national goals.

Box 4.3. Vision in Asturias, Spain

Asturias, once Spain's largest coal-mining territory, adopted its Just Energy Transition Strategy for Asturias 2030 in 2021. The document set out a EUR 6.5 billion investment horizon and an ambition to create around 6 300 net new jobs by re-orienting the regional economy towards green hydrogen, circular-economy manufacturing, low-carbon steel and sustainable tourism. Anchoring those objectives in a single narrative proved decisive for mobilising both national and EU instruments, including Spain's share of the JTF.

To translate the vision into action, the principality created the Observatorio de Transición Justa de Asturias (OTJA), a standing forum which brings together the regional ministries of industry and environment, Spain's Institute for Just Transition, the Asturian Energy Foundation (FAEN), eight coal-

area municipalities, trade-union confederations, the University of Oviedo and the regional employers' federation. OTJA maintains a public dashboard which tracks more than 500 indicators covering emissions, employment and land reuse, and publishes half-yearly scorecards for the regional parliament. The observatory also operates a step-wise pipeline filter. Project promoters first upload proposals to a common web portal, where FAEN applies an alignment matrix linking each idea to the EU Green Deal, the Spanish National Integrated Plan for Energy and Climate (*Plan Nacional Integrado de Energía y Clima*), and the four pillars of the Asturian 2030 strategy. Short-listed projects then undergo an inter-departmental "quality gate," which reviews permits, cost-benefit ratios and social-impact safeguards, before they are forwarded to national JTF or Recovery Plan calls. Democratic validation comes at an annual *Transition Desk* (Mesa de Transición) held in the regional parliament, where elected representatives endorse (and, if necessary, reshuffle) the ranked list and publish it on an open-data site.

By mid-2024, roughly one-third of the regional JTF envelope had already been legally committed, with flagship operations including the Asturias H_2 Valley, the conversion of two former coal plants into flexible storage hubs and a "Green Skills Academy" expected to reskill up to 3 500 miners. According to OTJA, the average time from first submission to funding decision has fallen from about 18 months under earlier schemes to just under 9 months.

Sources: (OTJA, 2023[16])

Branding SAŠA and Zasavska for post-coal investment and visibility

Coal regions in Europe have adopted structured approaches to rebranding in order to attract investors. A common sequence comprises: (i) preparing a concise narrative that highlights an intended regional transition from coal to a diversified set of other economic activities; (ii) translating this narrative into communication tools, such as a visual identity, a website and investment factsheets linked with national investment-promotion platforms; (iii) developing hands-on solutions, such as searchable brownfield inventories to match projects with available land or a map of local SMEs for potential business-to-business agreements; and (iv) participating in targeted sectoral fairs to present regional opportunities under a common transition framework.

Former coal regions in Europe have developed various branding approaches. In Limburg (Belgium), former mining sites have been converted into thematic hubs for clean technologies, creative industries and tourism under a shared regional narrative. In Poland and Czechia, the Upper Silesia and Moravian-Silesian regions use online databases of investment-ready brownfields, combined with guided visits for investors, which have facilitated logistics and advanced manufacturing projects on regenerated land. These examples suggest that a clear regional profile, supported by accessible information on available sites, can help overcome negative perceptions linked to past coal activities. Across both regions, there exist various opportunities to capitalise on existing strengths in order to build a regional brand:

- **SAŠA** can capitalise on its distinctive energy-sector expertise and clean-technology focus through three comparative assets: (i) a strong skill base, rooted in the University of Maribor's Faculty of Energy Technology and complemented by the highly skilled engineering workforce from the thermal power plant and Velenje coalmine, with particularly specialised knowledge in tunnel construction and deep-mining operations; (ii) available brownfields and land near the Šoštanj thermal power plant complex, positioned for pilot projects in energy-related equipment and hydrogen technology; and (iii) the presence of established large exporters capable of anchoring supplier-development chains.

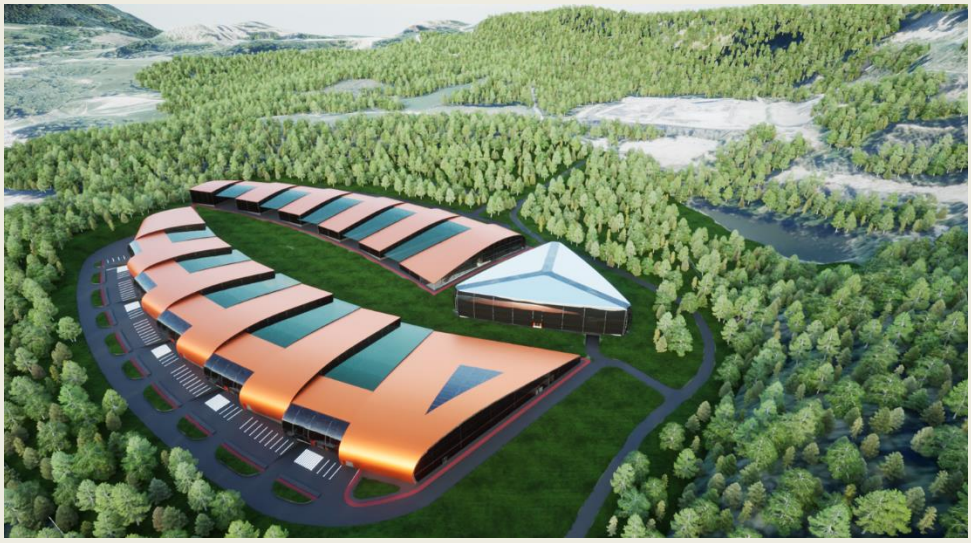
- Branding and investment attraction strategies should emphasise SAŠA's Hydrogen Valley initiative as a signature offering for energy-transition investors. The planned TecHub incubator and Old Powerplant-Future Centre will anchor advanced energy and innovation activities. An English-language investment brief highlighting hydrogen and advanced energy solutions should be published and integrated into SPIRIT Slovenia and InvestSlovenia platforms to reach international investors and technology partners.
- **Zasavska** can leverage its compact industrial zones, competitive labour costs and burgeoning high-tech sector, anchored by Dewesoft, the DUBT Technology Hub in Kisovec and the Kompreshaus incubator in Hrastnik. The region is developing a "valley of startups" concept, extending innovation support through specialised incubators that complement the existing infrastructure. Branding should emphasise the region's ready-to-use business parks and incubators, reinforced by RDA Zasavje's collaboration with Zasavje Chamber of Commerce and Industry, including the Investor Support Service, a one-stop shop that guides firms through funding applications and permitting processes.
- Beyond industrial assets, the renovated colliery sites present tourism opportunities. Moreover, the three restored lakes represent exemplary environmental regeneration, recognised with multiple international awards, including Best Natural Swimming Area in Slovenia (8 consecutive years), Slovenia's Hidden Gems Finalist, Green Destinations Top 100 Stories, European Green Leaf Award 2024 and Entente Florale Europe Gold Medal 2024. These heritage and environmental assets complement RDA Zasavje's Tourism Development Strategy until 2035.
- Both regions are positioned as pilot regions for live JTF investments, showcasing co-financing and development-finance opportunities to unlock the full potential of their clean-technology and digital deep-tech innovations.

Box 4.4. Katapult, the City of Acrobats

The Katapult flagship initiative is an innovative start-up environment in Zasavska combining advanced data analytics, robotics and community engagement to drive post-coal innovation. Launched in 2024 by Dewesoft, a global leader in measurement and control systems, the programme transforms former mining sites into living laboratories for deep-tech experimentation. Using modular sensor networks and real-time data dashboards, Katapult enables startups and research teams to prototype solutions in energy storage, industrial automation and environmental monitoring directly on regenerated brownfield land.

A core feature is the “City of Acrobats,” a repurposed colliery complex in Trbovlje where multifunctional work pods, co-working spaces and outdoor test tracks host collaborative research and development events. Stakeholders participate in themed “hack weeks,” drawing on Dewesoft’s technology and local SMEs to trial artificial intelligence-driven process controls, autonomous inspection drones and circular-economy manufacturing methods. By mid-2025, Katapult had supported 12 pilot projects, attracted EUR 3 million in private investment, and created a network of 25 partner organisations.

Figure 4.7. Render image of Katapult, City of Acrobats facilities



Note: Katapult leverages JTF-funded brownfield remediation and national innovation grants to underwrite infrastructure and technical support. It started in 2024 and is expected to be finished in 2034.
Source: (Katapult, 2025[17]).

4.4 Mobilising finance and visibility for public and private capital

Evidence from transition regions shows that coal areas that succeed in presenting a clear and forward-looking economic profile are better placed to attract external investment (European Parliament, 2023[18]). In this regard, the SAŠA and Zasavska regions could benefit from developing distinct identities that position them as destinations for investment, entrepreneurship and tourism. The aim is to move beyond generic post-mining narratives and highlight pathways consistent with clean energy while also seeking opportunities for diversification into activities with higher added value, such as advanced manufacturing. Given the relatively small population of both regions, even modest inflows of new economic activity could generate noticeable local effects. Developing such identities can support the communication of investment opportunities, facilitate SME participation in new value chains, and help connect the regions to wider national and European development frameworks.

A time-phased co-ordination for financing a fair transition

Bridging the financing gap for the region's development plans will require deliberate alignment of three funding types: (i) EU Cohesion Policy funds, the European Regional Development Fund, the European Social Fund Plus (ESF+), the Cohesion Fund and the JTF, including support delivered through financial instruments and territorial tools (such as Integrated Territorial Investments and community-led local development), together with climate-related instruments such as the Modernisation Fund; (ii) national funding lines (Climate Fund, SID Bank, restructuring acts); and (iii) private capital, including foreign direct investment. Municipal financial resources play a supporting but essential role, particularly for co-financing requirements. However, municipalities face tight fiscal constraints and should not be expected to bear primary financing responsibility for transition infrastructure (Forthcoming OECD report “Building More Competitive Regions in Slovenia“).

Because transition needs evolve over different horizons – short-term exit cushioning, medium-term repurposing and long-term diversification – available instruments must be sequenced and combined rather than spent in parallel. International experience demonstrates that correct project prioritisation (see Chapter 3), anchored in a clear regional vision, supports more consistent absorption and longer-term outcomes. For example, in Upper Silesia (Poland), JTF grants have been blended with EU Modernisation Fund resources to advance energy and industrial projects. In Lusatia (Germany) and Asturias (Spain), sequencing between EU and national funding lines has helped stabilise employment during early mine-closure stages.

With fewer than 60 000 inhabitants, Zasavska's small population means that well-timed investments can yield large local impacts. However, generating durable spillovers in employment, land use and enterprise creation requires both strategic alignment with the region's long-term vision and deliberate co-investment, with capacity-building support. This entails consistent institutional co-ordination, a challenge requiring active support from RDAs and national-level actors. A time-phased approach can help:

- **Short term (2025-2030):** European Cohesion Policy 2021-2027 provides the primary source of support, with co-financing from national budgets, targeting implementation through 2029/30.
- **Medium term (2030-2040):** once the current JTF cycle ends in 2027 (with implementation continuing through 2030), the shape of a successor JTF remains uncertain pending EU budget negotiations for 2028-2034 and Slovenia's programming decisions. During this transition period, national instruments, including Climate Fund grants for renewable energy zones, SID Bank loans for industrial infrastructure, the SAŠA restructuring act, and the Act on Transitional Financing of an Accelerated and Equitable Withdrawal from Coal, can become more central in supporting the shift towards alternative heat sources in SAŠA. Blended approaches combining these national instruments with InvestEU or European Investment Bank guarantees are already in use in comparable coal regions such as Lusatia (Germany) and Moravian-Silesia (Czechia), where they have improved project bankability.
- **Long term (post-2040):** attracting private, new-to-region investors will require establishing an attractive business environment that emphasises regional strengths (community cohesion, skilled labour) and a predictable project pipeline. This links closely with regional competitiveness and attractiveness strategies.

Linking incoming investment with local SMEs

In both SAŠA and Zasavska, emerging transition investments create concrete opportunities for local SMEs to tap into new value chains. Integration of local SMEs into these emerging value chains remains limited, highlighting the need for improved integration of local businesses with new economic activity to bring increased local benefits (see OECD work on foreign direct investment/SME linkages in countries like Poland, Czechia, Portugal, Slovak Republic (OECD, 2022[19]), (OECD, 2025[20]), (OECD, 2022[21]), (OECD, 2024[22]).

In Slovenia’s coal regions, anchor projects, such as the DUBT technology hub, the renovation of the district heating system in SAŠA and JTF-funded business zones, generate clearly defined project-based demand – short-term contracts for brownfield remediation and construction work, and longer-term opportunities in clean-energy installations and circular-economy solutions. Construction contracts, for example, boost the local economy by securing work for regional builders and tradespeople, and can be leveraged to include affordable-housing components through public-private partnerships linked to project sites. This integration of housing development ensures that new workers and young families can access rental or ownership options near employment hubs, strengthening community stability. By packaging these transition assets together, investors find a “ready-made” local ecosystem and SMEs have already benefitted from technical assistance and capacity-building, reducing their time to market.

- For **SAŠA**, the planned Hydrogen Valley and future incubators (TecHub and Old Powerplant-Future Centre) frame focal points for engineering firms, equipment manufacturers and energy-services providers. Collaboration with the University of Maribor's Velenje Faculty of Energy Technology and use of existing TEŠ infrastructure could create testing and pilot production possibilities that align foreign investment with local technical expertise.
- In **Zasavska**, compact industrial sites, such as the upgraded Kisovec II zone and Kompreshaus incubator, offer a concentration of facilities within a few kilometres. SMEs there benefit from proximity to advanced testing at DUBT, streamlined administrative support via the regional agency, and co-location with investors in environmental engineering, logistics and specialised manufacturing.

Leveraging cross-regional and functional economic linkages for wider spillover benefits

Projects in both SAŠA and Zasavska need not be confined to statistical regional boundaries. Transition investments can be structured to generate spillover benefits across coal and non-coal regions, where they create complementary opportunities or access to specialised infrastructure. For example, the DUBT technology hub in Zasavska can serve SMEs in neighbouring regions, while the Hydrogen Valley and biomass research facilities in SAŠA can attract testing and production partnerships from beyond the Savinjska administrative boundary. Several anchor projects, such as the Technology Park Velenje, regional incubators and business zones, benefit from proximity to research centres, transport corridors and labour markets extending beyond immediate coal regions. By removing project-eligibility constraints based strictly on statistical administrative boundaries and emphasising instead functional economic integration, regions can unlock larger value chains, attract higher-value supply-chain activity, and create more substantial employment and innovation benefits.

This approach requires flexible implementation agreements that allow projects to serve beneficiaries and supply chains across municipal and regional lines, shifting from a place-based to a functional economic logic while maintaining JTF funding accountability. RDA/DA, in co-ordination with neighbouring regions and the MCRD, should explore annexes or a cross-regional scope of understanding to formalise co-operation, clearly define benefit-sharing arrangements and establish transparent governance for projects with multi-regional scope.

Box 4.5. SME-FDI integration from European experiences in coal transition

European experiences in coal-transition contexts provide systematic models for SME-foreign direct investment integration that are directly applicable to Slovenia's coal regions.

- **For SAŠA**, the planned Hydrogen Valley and future incubators (TecHub and Old Powerplant-Future Centre) can leverage collaboration with the University of Maribor's Faculty of Energy Technology and existing TEŠ infrastructure to create testing and pilot production facilities that align foreign investment with local technical expertise.
- **For Zasavska**, the existing hydrogen integration in industry and energy locations, combined with DUBT technology hub and compact industrial sites like the upgraded Kisovec II zone, provides strong foundations for clean-energy investments. Advanced innovation goes hand by hand with qualified professionals. Due to the findings in Chapter 1 on tertiary education, the region could benefit from partnerships, agreements and programmes across universities and companies to strengthen its professionals background.

For both regions, the Asturias H2 Valley model offers direct inspiration (EC, 2025[23]). The EUR 2.5 billion project integrates renewable hydrogen production with local steel manufacturing ArcelorMittal Avilés) and cement production, located just 3 km from the electrolyser facility (edp, 2024[24]). OTJA systematically matches SME suppliers with anchor investors through its alignment matrix, connecting projects to regional transition priorities before advancing to funding calls. This has enabled local engineering firms to secure contracts for electrolysis components, civil works packages, and specialised industrial services within the hydrogen value chain (WSC, 2024[25]).

4.5 Mechanisms for monitoring and evaluating the transition process

Slovenia already produces a large volume of territorial data, comparable to many other OECD countries. The Statistical Office (SORS) releases more than 4 000 regional indicators through its SiStat portal, covering demography, labour markets, income and the environment (SURS, 2025[26]). IMAD's annual Development Report tracks 190 socio-economic variables benchmarked against EU targets (IMAD, 2025[27]), while the Environment Agency (EARS) maintains detailed inventories on air-quality, greenhouse gas emissions and contaminated sites. At project level, every euro of EU cohesion funding is recorded in real time in e-MA, the national IT system operated by the MCRD (Evropskasredstva, 2024[28]). Business outcomes can be matched, in principle, with the AJPES business register and labour-market trajectories with the Employment Service (ESRS).

Monitoring is continuous and implementation-focused, while evaluation is periodic and learning-focused. The transition scoreboard proposed in this report can support continuous monitoring and an independent 2027 mid-point review can help support periodic evaluations.

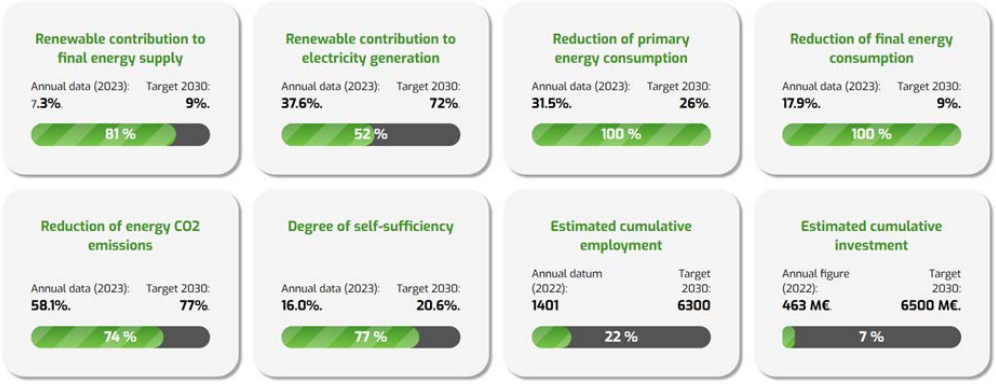
Current monitoring practices for the Just transition

Early in this report (Chapter 1), data limitations were noted: SAŠA is not a standalone statistical unit, so most presentations of regional-level data and indicators do not separately identify the subregion, leading to a limited ability to benchmark regional performance against other regions, national and international benchmarks. In some cases, the only available data is at the Savinjska TL-3 level, which does not necessarily reflect the sub-regional dynamics in the coal-dependent municipalities. Also, data per se is not enough, it requires analysis and a coherent framework to yield actionable evidence for decision-makers.

For instance, these data serve as core monitoring elements of the TJTPs within the European Cohesion Policy, yet that programme's horizon is time-bound, creating an opportunity to leverage existing data and tools to establish a more durable transition monitoring framework. Thus, Slovenia could explore:

- **Consider the possibility of expanding the data granularity to SAŠA subregion in order to provide more tailored analysis.** Chapter 1's analysis was constrained by the lack of SAŠA-level statistics, a logical result of its non-statistical status. Yet SAŠA's coal transition could benefit from a tailored lens. This includes measuring economic (e.g. gross domestic product (GDP) per capita, productivity), social (e.g. youth and elderly ratios, education, and health outcomes) and environmental (e.g. greenhouse gas (GHGs) emissions, forest change) indicators. Also, by tagging each TJTP call in e-MA with municipal codes, approvals and disbursements can be rolled up not only to Savinjska but also to the 10 SAŠA municipalities. Zasavska's four post-closure municipalities (Trbovlje, Hrastnik, Zagorje ob Savi, Litija) receive the same treatment.
- **Build on analysis from the current monitoring platforms to feed into the vision development and review**. The scorecards could play a role feeding into the regional vision development and subsequent review process by helping to strengthen evidence and data-backed insights.
- **Explore leveraging current platforms (SiStat, EARS, ESRS) to build a permanent "transition well-being" monitoring framework** extending beyond the 2021-2027 European Cohesion Policy cycle. Reframe a concise set of key variables, chosen for their ability to "speak most" to stakeholders (for example, employment of former miners, private investment leveraged, land rehabilitation, air-quality improvements), as indicators of social and economic resilience. Inspired by the OECD Mining Regions Well-Being Toolkit (OECD, 2023[29]), which groups metrics into economic dimensions – jobs, GDP, environmental (land, emissions) – and social dimensions (population, health), the country could explore developing a scorecard that informs decision-making at the municipal, regional and national levels, ensuring timely, evidence-based policy adjustments based on existing monitoring tools. Slovenia could draw inspiration from the example of Asturias with regard to progress on JTF objectives (Figure 4.8).

Figure 4.8. Follow-up of objectives from the Observatory of the Just transition in Asturias



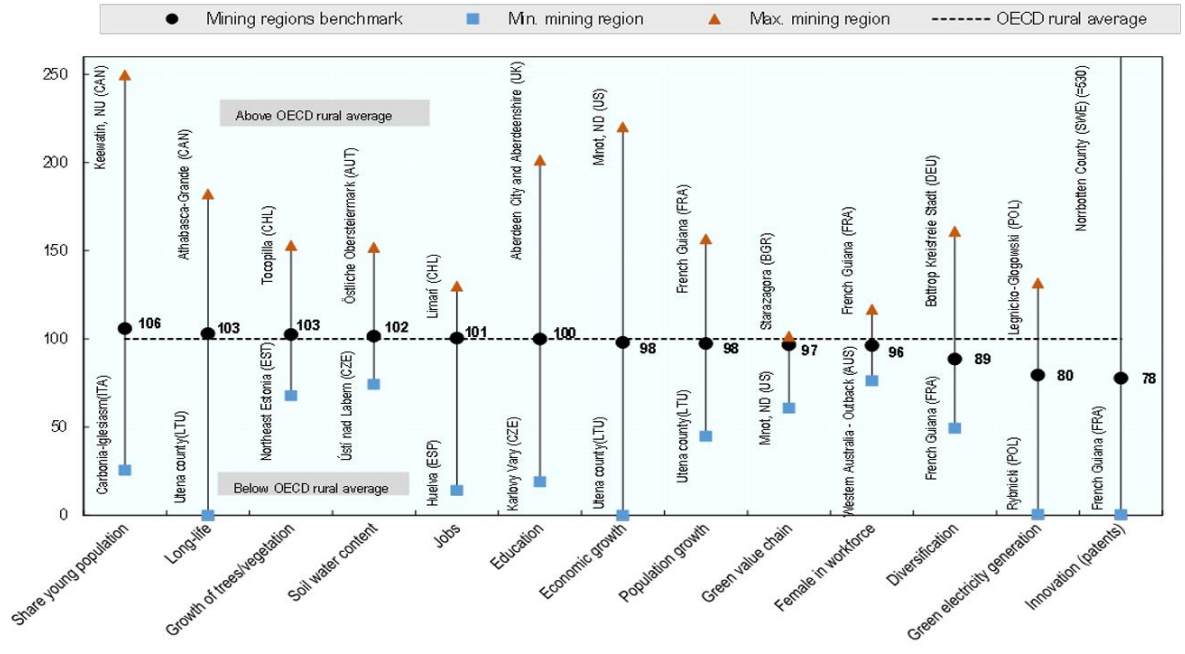
Source: (OTJA, 2023[16]).

Box 4.6. OECD well-being toolkit for mining regions

The OECD toolkit to measure well-being in mining regions provides a comprehensive and structured framework to evaluate well-being across economic, social (community) and environmental dimensions in regions specialised in mining activities (OECD, 2023[29]). It enables policymakers to identify challenges and opportunities specific to mining regions, benchmarking their performance against the OECD average and other mining-intensive regions. The toolkit was developed as part of the OECD's broader effort to support mining regions, particularly under the Mining Regions and Cities Initiative. Launched in 2017, the initiative aims to promote sustainable development in mining regions, leveraging the critical role these areas play in the energy transition and green economy. By focusing on well-being indicators, the toolkit aligns mining activities with long-term regional development goals. It aims to equip policymakers with the tools necessary to evaluate and compare well-being outcomes in mining regions, fostering evidence-based policy design and implementation.

The toolkit integrates a broad set of indicators into composite indices for each of the three dimensions. These indices aggregate multiple variables that capture the complex realities of mining regions. For example, the economic dimension considers employment rates, GDP per capita and productivity, while the community dimension includes education levels, access to health services and social cohesion. The environmental dimension reflects factors such as air and water quality, land use and greenhouse gas emissions. By consolidating these data, the toolkit offers a comprehensive view of the performance of mining regions and facilitates benchmarking against the OECD average, other mining-intensive regions and national averages (Figure 4.9).

Figure 4.9. Well-being in OECD mining regions benchmark relative to OECD rural average



Note: Normalised index where 100 = OECD TL3 rural regional average. Greater value means better performance.
Source: (OECD, 2023[29]); link to data visualisation platform (https://oecd-main.shinyapps.io/mining-regions-wellbeing/) in (OECD, 2022[1])

4.6 Conclusion

Slovenia has assembled the core elements needed for a just transition in SAŠA and Zasavska. The Integrated NECP and the National Strategy for the Exit from Coal (adopted in January 2022) set the overall direction for the energy transition and the phase-out of coal by 2033. Access to EU support is secured through the EU Cohesion Policy 2021-2027, whose implementation period runs until 2030. The TJTPs for both coal regions are part of the EU cohesion programming but serve as overall objectives linked to the RDPs, jointly reflecting a comprehensive approach to regional development while addressing the specific challenges of the coal phase-out. Two recently approved legislative acts, on the closure of the Velenje coal mine and the restructuring of SAŠA, will bring greater clarity regarding institutional roles and financing arrangements in SAŠA. The forthcoming National Regional Development Strategy will extend the planning horizon and support alignment across land use, skills, infrastructure and enterprise development, among other relevant topics for regional development.

The next challenge lies in reinforcing implementation. Much is already in motion: the managing authority has ensured regular co-ordination; JTCs are active within the RDA/DA; and the project pipeline is advancing, albeit at different speeds across the two territories. Faster progress is observed when public calls are launched early and project proposals re technically well-prepared. When timelines have been tighter, or when projects – particularly those involving infrastructure and capital investment – are more complex, additional requirements (e.g. multiple approvals, administrative capacity) have created delays. This underlines the need to make the existing architecture work more predictably, so that approvals align with project readiness and operations translate into ground-level implementation within the European Cohesion Policy calendar.

Looking ahead, a concise and shared regional vision in each coal region could serve as a stable reference over the coming decades. If validated through existing regional bodies and aligned with national frameworks (such as the National Regional Development Strategy, S4 and spatial plans), such a vision could help sequence projects across calls, guide local stakeholders and investors, and connect spending to tangible outcomes, jobs, rehabilitated land, upgraded business spaces and improved services. If kept at a high level and regularly revisited, it could evolve with evidence, rather than introducing new administrative layers.

Co-ordination for the most complex projects can be reinforced with minimal structural change. Scheduled, high-level check-ins at ministerial level once technical appraisals are complete could help confirm timelines, allocate responsibilities and resolve cross-ministerial issues. Municipalities remain central to both the pace and quality of the transition. They manage permitting, brownfield redevelopment and local engagement, but capacity varies significantly. JTCs are well positioned to continue serving as a single operational front door, offering standard templates (e.g. for EIAs and procurement), and targeted support for public-call applicants. Sustaining this practical assistance beyond the current JTF eligibility period (which runs until the end of 2029) would help retain institutional knowledge and technical expertise.

Taken together, these are incremental rather than structural steps: preserve the existing machinery, bring forward key decisions, use a shared vision as a filter, equip municipalities with practical tools and make progress visible. With these adjustments moving in parallel, SAŠA can shift from planning to execution during the pre-closure window. Zasavska can consolidate its post-closure trajectory. Strengthening absorption over the 2021-2027 period can continue until 2030. And both regions can gain the tools and support needed to navigate the next phase of economic diversification.

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5 Action plan to support the transition in Slovenian coal mining regions

This action plan is designed to support the Slovenian government in implementing priority recommendations from this present report on the transition of regions phasing out from coal (Zasavska and SAŠA). It was drafted in consultation with the Ministry of Cohesion and Regional Development (MCRD), the Regional Development Agency of Zasavska (RDA Zasavska) and the Development Agency of SAŠA (DA SAŠA), as well as relevant municipalities, civil-society stakeholders, lines ministries and other regional development actors.

With a focus on a small set of high-priority recommendations related to regional economic diversification, governance co-ordination and monitoring, this action plan provides practical guidance on how to implement the recommendations within existing institutional and financial frameworks. In light of the report's findings and feedback received from Slovenian stakeholders, the action plan focuses on four critical policy recommendations that address cross-regional and municipal co-operation, project prioritisation, interministerial co-ordination, and monitoring and evaluation of transition progress.

Table 5.1. Priority recommendations for action

Report section	Recommendation
Chapters 3-4	1. Strengthen project preparation and pipelines to advance transition strategies. Establish light pre-application support and pipeline overviews in SAŠA and Zasavska within existing selection frameworks (e.g. Merila 2021-2027 and their successors, territorial just transition plans (TJTPs), regional development plans (RDPs) and long-term regional visions) to help municipalities and other applicants prepare mature, well-documented project proposals across funding sources. Main responsibility: RDA Zasavje and DA SAŠA and related Just Transition Centres (JTCs), in co-operation with the MCRD, municipalities, and relevant permitting and planning authorities.
Chapters 2-4	2. Promote regional innovation capacity and partnerships in SAŠA and Zasavska. For SAŠA, establish a formal co-ordination mechanism among key innovation actors (higher education and research institutions, technology park, major employers, business support structures) around shared transition-related focus areas. For Zasavska, strengthen structured small and medium-sized enterprise (SME)-facing support so that local firms can connect to transition-economy opportunities, using evidence on labour-market trends and skill demand. Main responsibility: DA SAŠA and RDA Zasavje, in co-operation with MCRD, higher education and research institutions, business support organisations and major employers.
Chapter 4	3. Strengthen governance and operational capacity for timely implementation. Streamline co-ordination for complex, multi-actor projects by formalising periodic senior-level meetings at key decision gates (after technical assessment) to unblock files and align ministries. In parallel, secure the medium-term role of JTCs as one-stop shops within RDAs/DAs, with reinforced expertise in permitting, procurement, state aid and environmental compliance, and helping municipalities and stakeholders translate long-term regional development visions and existing selection guidelines (e.g. Merila 2021-2027 and their successors) into strategic, mature project proposals across different funding sources, including the 2028-2034 European Cohesion Policy period. Main responsibility: MCRD, supported by line ministries, RDA Zasavje, DA SAŠA, municipalities.
Chapters 3-4	4. Establish a light, permanent framework to monitor, evaluate and communicate transition progress in the coal regions. Develop a targeted “transition well-being” scorecard for SAŠA and Zasavska using existing systems (e-MA, Statistical Office of the Republic of Slovenia [SORS]), Environmental Agency of the Republic of Slovenia [EARS], European Sustainability Reporting Standards [ESRS]), including a small set of core indicators on jobs, investment, land reuse, emissions and quality of life. Tag calls and projects with municipal codes to track territorial effects. Publish regular summaries and use them to adjust project pipelines and communicate progress to residents and investors, including through municipal-level summaries and regional investment briefs. Main responsibility: MCRD and SORS, with RDA Zasavje, DA SAŠA, JTCs and municipalities.

Action plan methodology

This action plan was developed in consultation with the MCRD, relevant line ministries, regional development agencies (RDAs/DAs), JTCs, and business and civil-society representatives. It follows four main steps:

1. **Identify implementing stakeholders**: for each action, a lead institution responsible for implementation was identified, together with key partners. These include municipal governments, RDAs/DAs, JTCs, line ministries, research institutions, agencies such as SORS, the Public Agency for Entrepreneurship, Internationalisation, Foreign Investments and Technology (SPIRIT Slovenia), Slovenian Research Agency (ARIS), business associations (e.g. chambers of commerce and crafts), municipal associations and civil-society organisations.
2. **Define the specific action and expected outcome**: for each recommendation, specific and feasible steps were formulated, including operational adjustments, targeted investments, regulatory or procedural improvements and capacity-building measures, with a clear expected outcome linked to the just-transition objectives in SAŠA and Zasavska.
3. **Set timelines and milestones:** indicative timelines were assigned to distinguish short-, medium- and longer-term measures. Milestones are designed to support planning and facilitate monitoring of progress, ensuring that critical actions for the 2025-2030 window are prioritised.
4. **Consider risks and opportunities:** potential implementation risks (e.g. related to administrative capacity, financing gaps, political support, co-ordination challenges) and available opportunities (existing data, know-how, institutional structures, funding instruments) were considered to help lead institutions anticipate bottlenecks, reduce duplication, and align actions with existing policies and mandates.

Recommendation 1: Strengthen project preparation and pipelines to advance transition strategies

Aim of the associated action: to strengthen project quality and ensure that transition-related investments financed through the Just Transition Fund (JTF), Cohesion Policy and other funding sources are aligned with regional diversification and transition objectives while reducing delays linked to late-stage regulatory issues.

Context: the success of transition-related investments depends on the quality of project selection and strategic alignment with TJTPs, RDPs and long-term regional visions. Slovenia already has a clear and binding framework for project selection under European Union (EU) Cohesion Policy, including Merila 2021-2027 and the associated guidelines approved by the Monitoring Committee. Within this framework, regional actors still face challenges related to project preparedness, feasibility and pipeline visibility across different funding sources. A more systematic approach to project preparation and support, focused on early-stage screening, documentation quality and alignment with existing strategic documents, can help improve the effectiveness of limited public resources without altering existing selection criteria or decision-making procedures.

Action 1.1: Strengthen pre-application project pipeline support within existing selection frameworks

MCRD, together with RDAs/DAs and JTCs, establishes a light, transparent pre-application support process to help municipalities and other applicants prepare mature project proposals. This process operates within existing EU Cohesion Policy selection guidelines (e.g. Merila 2021-2027 and their successors) and strategic documents (TJTPs, RDPs, long-term regional visions), and aims to improve the readiness and clarity of proposals before they enter formal selection procedures (Table 5.2).

- **Step 1:** map current project pipelines in Zasavska and SAŠA across TJTPs, RDPs and other relevant funding sources (JTF, European Regional Development Fund, European Social Fund Plus, national funds). Identify where project ideas are first recorded, how they are developed, and at which points applicants most often encounter delays (e.g. feasibility, permitting, financial planning).
- **Step 2:** at RDA Zasavje and DA SAŠA, in close co-operation with JTCs, introduce an optional pre-application stage for transition-related projects. This stage provides basic screening and guidance on:
  - alignment with TJTPs, RDPs and the long-term regional development vision
  - consistency with existing selection guidelines, such as Merila
  - minimum documentation for technical, financial and permitting readiness.
- **Step 3:** develop a standard set of simple, non-binding tools for applicants, such as:
  - a short project concept template (objectives, expected results, link to regional vision and TJTP/RDP priorities)
  - a basic feasibility and permitting checklist
  - a simple financial plan outline, including co-financing and operating cost assumptions, supporting applicants in preparing “mature” proposals but without replacing or modifying formal application forms or official criteria.
- **Step 4:** Establish a regular information flow between JTCs, RDAs/DAs, MCRD and relevant line ministries to share an overview of the emerging project pipeline (e.g. lists of concepts at different stages of preparation). Use this overview to identify potential “strategic” projects for the 2028-2034 European Cohesion Policy period, based on existing strategic documents and selection guidelines, without creating parallel criteria.
- **Step 5:** Test the pre-application support process with a first cohort of projects; collect feedback from municipalities and other applicants; and refine templates, timelines and support modalities accordingly.

Table 5.2. Institutions, time and milestones for the action 1.1.

Lead institution	Supporting institutions	Time required	Milestones
RDA Zasavje and DA SAŠA, and related JTCs	MCRD, municipalities; relevant permitting and planning authorities.	1-2 years for design and operationalisation.	M1-3: Project pipelines mapped; bottlenecks identified. M4-6: Pre-application stage and draft tools (templates, checklists) prepared. M6-12: Pilot with first project cohort; feedback collected. M12-18: Process and tools adjusted; regular information flow established. M18-24: Pre-application support fully operational; periodic pipeline overviews produced.

Note: M = Month.

Recommendation 2: Promote regional innovation capacity and partnerships

Aim of the associated action: to build local innovation capacity and formalise co-ordination among education, research, business support and industry actors in both coal regions, creating ecosystems that are more conducive to knowledge transfer, business emergence and strategic alignment with regional transition pathways.

Context: innovation systems in coal-mining regions often suffer from fragmentation, with education institutions, research facilities, business incubators and private enterprises operating with limited co-ordination or synergy. Formalising and strengthening partnerships among these actors and tailoring them to the specific assets and contexts of each region can create ecosystems that are more conducive to innovation and knowledge transfer.

Action 2.1: For the SAŠA sub-region, facilitate and co-ordinate partnerships among key innovation actors around shared strategic objectives

DA SAŠA establishes a formal co-ordination mechanism connecting higher education, research institutions, business support structures, major employers and industry associations around two or three shared innovation focus areas linked to the SAŠA transition pathway (Table 5.3).

- **Step 1**: DA SAŠA and RDA Zasavje, in co-ordination with MCRD, convene key innovation actors (higher education and research institutions, including the Faculty of Energy; the regional incubator and technology park in Velenje; major industrial employers and exporters; the chamber of commerce; and line ministries) to map existing assets and co-ordination gaps.
- **Step 2**: compile an evidence pack from TJTPs and RDPs; conduct strategic sessions to test innovation options against the SAŠA transition pathway and feasibility in the 2025-2029 timeframe.
- **Step 3**: agree on two or three priority innovation focus areas (e.g. energy systems, clean technologies, circular production, advanced manufacturing) that are directly aligned with transition objectives. Name a lead institution for each focus area.
- **Step 4:** establish a co-ordination routine. This involves a quarterly steering meeting chaired by JTC (SAŠA); a simple role chart for each focus area; and a shared pipeline board tracking proposals from idea through feasibility, permitting and submission.
- **Step 5:** translate focus areas into joint actions. Issue challenge-driven briefs for SMEs, with mentoring from firms and universities (following Interreg Europe's "Open Innovation Challenge Brief" format and Horizon Europe's Marie Skłodowska-Curie Actions Doctoral Networks model); prepare concept fiches for shared facilities or applied research partnerships (informed by the "Activity Fiches" methodology of the EU Strategic Energy Technology Plan); maintain annual calendar of relevant calls.
- **Step 6**: map systemic gaps (in skills, testing facilities, intellectual property support, finance) and match them to existing national instruments. Consult the Labour Market Platform's sectoral skill-demand forecasts to identify priority skill gaps in SAŠA's target sectors (energy systems, clean technologies, circular production); use the platform data to align feasibility assessments and capacity-building proposals with credible employment pathways.
- **Step 7:** leverage the chamber of commerce as a convening partner to identify business-led priorities, link large firms with local suppliers and identify supplier development opportunities in clean-technology value chains. Utilise support available through Enterprise Europe Network Slovenia for tailored innovation guidance and access to EU funding opportunities.

Table 5.3. Institutions, time and milestones for the action 2.1.

Lead institution	Supporting institutions	Time required	Timeline
DA SAŠA	MCRD; higher education and research institutions; regional incubator/technology park structures in Velenje; chamber of commerce; major industrial employers.	1-2 years for partnership mapping and agreement; 3+ years for ongoing co-ordination and activity.	M1-4: Key actors mapped and convened; M4-8: Evidence pack compiled and strategic session held; M8-12: Focus areas agreed and leads named; Q2 2025+: Co-ordination routine operationalised; M12-24: Joint actions (challenge briefs, partnerships, templates) launched and refined.

Action 2.2: In the Zasavje region, strengthen structured SME-facing support to help local firms connect to the transition economy

RDA Zasavje, in partnership with local business associations, establishes a co-ordinated interface for identifying SME needs, translating them into tailored support offers and linking firms to opportunities in the transition economy (Table 5.4).

- **Step 1**: RDA Zasavje, in co-ordination with MCRD and local business associations (Zasavska Regional Chamber of Commerce and Industry, local chambers of crafts), conducts systematic analysis of local SME characteristics, constraints and sectoral composition aligned with transition priorities.
- **Step 2**: identify priority business-development and innovation needs (process upgrading, compliance, entry into new value chains, skills, digitalisation); leverage the Labour Market Platform (developed by the Ministry of Labour, Family, Social Affairs and Equal Opportunities, in partnership with the Employment Service of Slovenia) to ground needs analysis in evidence on labour-market trends and skill-demand forecasts through 2039, ensuring that support aligns with anticipated employment pathways and sectoral opportunities.
- **Step 3:** build joint capacity-building plan with business associations by strengthening outreach capacity for systematic SME engagement, establishing RDA as stable contact point for smaller companies and identifying specialist support arrangements (engineering, procurement, financial modelling).
- **Step 4:** co-design targeted support offers with MCRD, the Ministry of Labour and business associations, ensuring alignment with regional transition priorities and available national instruments.
- **Step 5:** develop practical pre-submission support materials by clarifying requirements for key support programmes, providing templates for project idea structuring and feasibility, and sharing contact matrix and support timeline.
- **Step 6**: launch structured engagement by holding regular SME roundtables, maintaining accessible feedback loop for priority-setting and tracking take-up of support and business outcomes.

Table 5.4. Institutions, time and milestones for the action 2.2.

Lead institution	Supporting institutions	Time required	Timeline
RDA Zasavje	MCRD and Ministry of Labour, Family, Social Affairs and Equal Opportunities; relevant business-support organisations and industrial representatives.	1-2 years for capacity assessment and planning; 2+ years for delivery and ongoing support.	M1-6: SME characteristics and needs analysed; M6-12: Capacity plan and specialist support arrangements defined; M12-18: Support materials and contact matrix developed; M18+: Structured SME engagement and support delivery operationalised; ongoing: quarterly review and adjustment.

Recommendation 3: Clarify roles and establish predictable timelines for implementation at strategic and operational levels

Aim of the associated action: to accelerate project approval and reduce implementation delays by formalising senior-level interministerial co-ordination at critical decision points and maintaining clear, up-to-date operational guidance for all implementation actors.

Context: while Slovenia's core institutional elements (MCRD co-ordination, JTCs as operational hubs, municipal roles) are in place, projects can face delays when responsibility passes from technical preparation to policy-level approval, particularly when multiple ministries must confirm compliance on environmental permitting, state aid and procurement. Clarifying roles across implementation phases and setting explicit timelines can accelerate approval while maintaining oversight.

Action 3.1: Establish formalised senior-level interministerial co-ordination at predefined implementation gates with clear operational guidance

MCRD establishes and operates a formal senior-level interministerial co-ordination mechanism meeting at predefined implementation gates. Meetings focus on live project files, resolve interministerial issues, assign follow-up responsibilities and confirm timelines (Table 5.5).

- **Step 1**: MCRD, in co-ordination with relevant line ministries, maps current project-cycle phases and identifies critical implementation gates where senior-level decision-making and interministerial alignment are required (post-technical assessment, post-compliance review, pre-final approval).
- **Step 2**: establish meeting schedule (monthly or bi-monthly) of senior-level interministerial steering committee at the state secretary level, focused on live project files.
- **Step 3:** develop and issue operational guidance, clarifying which ministry leads decisions at each phase, what co-ordination steps are required before decisions are finalised, the expected timelines for different decision types and escalation routes.
- **Step 4:** operationalise senior-level gates, with the steering committee reviewing project files at each gate, confirming implementation timelines, resolving interministerial issues and documenting decisions with clear next steps.
- **Step 5:** maintain document version control by designating document ownership at MCRD; establishing quarterly review cycle with line ministries, RDAs/DAs and JTCs; and publishing concise summary for applicants.
- **Step 6:** monitor effectiveness by tracking key performance indicators (KPIs), including average time at each gate, share of projects progressing without escalation and interministerial decision timelines; and adjusting the co-ordination frequency as needed.

Table 5.5. Institutions, time and milestones for the action 3.1.

Lead institution	Supporting institutions	Time required	Milestones
MCRD	All relevant line ministries, RDAs/DAs, JTCs, implementing agencies.	1-2 years for mechanism design, operational guidance development and stakeholder alignment; 3+ years for ongoing operation.	M1-4: Implementation gates and role mapping complete; M4-8: Operational guidance document drafted and consulted; M8-12: Senior-level steering committee established and scheduled; M12-18: Initial gates operationalised and refined; Q2 2025+: Senior co-ordination meetings ongoing; ongoing quarterly guidance review and monitoring.

Action 3.2: Maintain up-to-date operational guidance for JTCs and intermediary bodies within the existing governance framework

MCRD develops and maintains a concise operational handbook and supporting tools that clarify stage-by-stage roles, information flows, service standards, escalation routes and resourcing arrangements for JTCs and intermediary bodies. The handbook explains how JTCs and RDAs/DAs work within existing selection guidelines (e.g. Merila 2021-2027 and their successors) and long-term regional visions to identify and support strategic, mature project proposals for the 2028-2034 European Cohesion Policy period and other funding sources, without changing the criteria or procedures set at the national level (Table 5.6).

- **Step 1:** MCRD, in co-ordination with RDA Zasavje, DA SAŠA, JTCs and line ministries, maps current roles, tasks and decision points across the full project lifecycle (concept → design → permitting → state-aid checks → procurement → implementation → completion → monitoring); identify role boundaries between the managing authority, line ministries, RDA/DA and JTCs; flag ambiguities or overlaps.
- **Step 2:** Draft concise operational handbook for JTCs, covering:
  - **Stage-by-stage role clarity**: explicit responsibilities and decision authority at each phase, showing boundaries between the managing authority, line ministries, RDA/DA and JTCs, with practical examples
  - **Use of strategic documents and Merila:** how TJTPs, RDPs and long-term regional visions should inform the advice provided by JTCs to municipalities and stakeholders when building project pipelines, and how this advice is framed within the existing Merila selection framework rather than creating new criteria
  - **Information flows and templates**: who issues interpretations (eligibility, permitting, state aid), how these are recorded and communicated, and standard forms (sourced from EU Competency Framework, Interreg templates, PMI frameworks)
  - **Service standards**: target response times for queries and interpretations (e.g. “eligibility query response: 5 working days”); meeting cadence for different governance levels; standard preparation calendar shared with municipalities and promoters
  - **Escalation routes**: when and how to involve senior-level co-ordination (Action 3.1); who convenes cross-ministerial resolution; escalation timelines and decision documentation
  - **Multi-ministry interfaces**: lead ministry and expected timelines at gates requiring multiple sign-offs; co-ordination sequence and contingency routes
  - **Resourcing rules**: what expertise JTCs hold in-house (basic guidance, pipeline support, permit sequencing) versus what is pooled or procured externally (specialist engineering, financial modelling, state-aid assessment); how to access technical assistance and arrange short-term specialist support
  - **Monitoring**: practical indicators (query response time, complete applications, rework cycles) to track whether guidance reduces delays.

- **Step 3:** develop supporting tools and templates, such as decision trees for common eligibility questions, a contact matrix with roles and contact protocols, a sample preparation calendar with target timelines, a project file completeness checklist and a simple query log template for tracking issues.
- **Step 4:** establish governance for the handbook and tools by designating a document owner at MCRD; setting a quarterly review cycle with stakeholder input; maintaining version control and a clear change log; and preparing a short public-facing summary (two or three pages) for municipal applicants.
- **Step 5:** launch and disseminate, by distributing the handbook and tools to all JTCs, line ministries and implementing bodies; organising orientation sessions; making the handbook and templates publicly available; and designating an MCRD helpdesk contact point for guidance questions.
- **Step 6:** monitor and iterate by tracking KPIs (query response times, application completeness, rework cycles) quarterly and conducting an annual review with JTCs, RDAs/DAs and line ministries to identify needed updates; adjust the handbook and tools based on feedback, including lessons from the 2021-2027 period and new requirements in the 2028-2034 framework.

Table 5.6. Institutions, time and milestones for the action 3.2.

Lead institution	Supporting institutions	Time required	Milestones
MCRD	RDA, DA SAŠA, JTCs, line ministries.	0.5-1 year for mapping and clarification.	M1-3: Current roles and decision points mapped; ambiguities identified. M3-6: Handbook and templates drafted; stakeholder consultation. M6-9: Tools finalised (decision trees, contact matrix, checklists). M9-12: Document governance established; handbook published and disseminated. M12-18: Orientation sessions held; KPI baseline established. M18+: Quarterly monitoring and annual review cycles; handbook updated based on feedback.

Recommendation 4: Monitor, evaluate and communicate progress to build local community trust and sustain delivery momentum

Aim of the associated action: to strengthen accountability and local engagement by establishing systematic monitoring of transition indicators at subregional and municipal levels, developing a holistic transition well-being scorecard, and implementing structured communication mechanisms that demonstrate progress to residents.

Context: monitoring and communicating transition progress serves three critical functions. It enables institutions to check whether projects deliver intended results, helps residents see concrete change in their own municipality and supports accountability. Most current monitoring occurs at national or development region levels, limiting the ability to track outcomes in the areas most directly affected by mine closure. Regular reporting at a scale that is meaningful to communities can sustain engagement and keep expectations aligned with implementation realities.

Action 4.1: Expand tracking of core transition indicators at SAŠA subregional level, with municipal detail for labour-market, demographic and business dynamics

SORS, in co-ordination with MCRD, develops a data infrastructure and consistent methodology for regular tracking of core labour market, demographic, and business indicators at SAŠA subregional level and relevant municipal levels (Table 5.7).

- **Step 1:** MCRD and SORS, in consultation with EARS, JTCs and municipalities, identify a focused set of core indicators, including employment levels and trends by sector, unemployment rates and duration, business creation and closure rates, sectoral composition, population trends, migration, age structure and educational attainment; incorporate data infrastructure and forecasts (e.g. sectoral skill demand trends to 2039, occupational projections) from the Labour Market Platform into SAŠA and Zasavska monitoring frameworks to enable comparison between actual labour-market outcomes and anticipated transition pathways, facilitating early identification of skill gaps or sectoral misalignments.
- **Step 2:** map current data sources and identify gaps or frequency limitations; determine which indicators are available at the municipal level versus SAŠA subregional aggregation.
- **Step 3:** develop data infrastructure by establishing SAŠA as a stable analytical unit within SORS systems, defining data-collection and publishing schedules, creating technical specifications for indicator calculation, and establishing data-sharing agreements with EARS and project managing bodies.
- **Step 4:** pilot indicator collection and validation; test data extraction with existing data; validate results with RDA Zasavje, DA SAŠA and municipalities; refine procedures based on feedback.
- **Step 5**: establish publication and feedback system, publishing indicators regularly (quarterly or annual) in accessible formats, designating municipal contact persons at JTCs to provide municipalities with their own indicator profiles and establishing feedback loops to flag data issues.
- **Step 6**: link indicator tracking to the monitoring and evaluation framework and communication strategy.

Table 5.7. Institutions, time and milestones for the action 4.1.

Lead institution	Supporting institutions	Time required	Milestones
SORS, in co-ordination with MCRD	EARS, project managing bodies, JTCs, municipalities.	1-2 years for data infrastructure development and system design; 3+ years for ongoing collection, analysis and publication.	M1-4: Core indicators identified; data source mapping complete; M4-8: Technical specifications and data infrastructure designed; M8-12: Pilot data collection and validation; M12-18: Publication system operationalised; municipalities briefed; M18+: Quarterly or annual publication cycle established; KPI tracking (data lag, completeness); annual review and refinement.

Action 4.2: Develop and maintain a transition well-being scorecard that extends beyond the JTF funding cycle

MCRD, in collaboration with SORS and EARS, develops a comprehensive transition well-being scorecard tracking holistic progress across economic, social and environmental resilience dimensions. The scorecard is formally embedded in national policy frameworks to ensure continuity beyond 2029 (Table 5.8).

- **Step 1:** MCRD, SORS and EARS, in consultation with RDAs/DAs, municipalities, universities, research institutions and civil society, define the scorecard's scope and resilience dimensions, including economic resilience (employment, wages, business dynamism, sectoral diversification); social resilience (social cohesion, health, educational attainment, gender equality, housing affordability); and environmental resilience (air and water quality, mine reclamation, renewable energy, circular economy, biodiversity).
- **Step 2**: select indicator suite (three to five per dimension) balancing quantitative metrics from administrative sources with qualitative assessments and survey data.

- **Step 3:** design methodology by defining calculation procedures, establishing baseline measurement (2022/23) and target trajectories for 2029 and 2035, and developing comparison frameworks.
- **Step 4:** develop the scorecard with community engagement by holding co-design sessions with residents to identify priority indicators, testing scorecard prototype with municipal and policy audiences, and refining the scorecard based on feedback.
- **Step 5:** calculate the baseline scorecard and develop audience-tailored versions, such as a detailed version for policy and research, simplified municipal-level summaries and a community-facing summary in accessible language.
- **Step 6:** establish institutional embedding by incorporating the scorecard into national monitoring of Just Transition policies and post-2027 EU Cohesion Policy frameworks, designating a scorecard owner at MCRD and securing multi-year funding commitment.
- **Step 7:** publish the scorecard annually, releasing a full scorecard report with a trend analysis, disseminating municipal-level summaries, and hosting a presentation and feedback sessions with municipalities and stakeholders.

Table 5.8. Institutions, time and milestones for the action 4.2.

Lead institution	Supporting institutions	Time required	Milestones
MCRD, in collaboration with SORS and EARS	RDA/DA, municipalities, universities and research institutions, civil-society organisations.	1-2 years for scorecard development, baseline measurement and stakeholder validation.	M1-4: Resilience dimensions and indicator suite defined; stakeholder engagement plan developed; M4-8: Community co-design sessions; indicator selection finalised; M8-12: Scorecard methodology designed and tested; baseline data compiled; M12-18: Audience-tailored versions developed and validated; institutional embedding confirmed; M18+: First scorecard published; annual publication cycle established; ongoing community and stakeholder feedback incorporated; review and adjustment cycle.

Action 4.3: Implement a structured and transparent communication framework to share transition progress and ensure feedback loops with communities

MCRD and RDAs, in co-ordination with municipalities and civil-society partners, establish structured communication mechanisms and an annual calendar to share transition progress regularly, enable two-way engagement with communities, and maintain accountability and trust (Table 5.9).

- **Step 1:** MCRD develops an overarching communication strategy and co-ordination framework which defines communication objectives (inform, demonstrate progress, enable feedback, build trust); establishes roles and responsibilities across MCRD, RDAs, DA SAŠA, municipalities and civil-society partners; identifies target audiences; and develops co-ordination mechanisms for consistent messaging.
- **Step 2:** design a suite of communication mechanisms:
  - Mechanism A: Annual transition progress reports
    - published at the national level by MCRD and at the regional level by the RDA/DA
    - accessible language with visual presentation of transition well-being scorecard findings (Action 4.2), possibly drawing inspiration from the Observatory for the Just Transition of Asturias
    - celebrate achievements, acknowledge challenges and setbacks, explain next steps

    - include specific outcomes: jobs created, companies established, environmental improvements, community facilities developed, worker transitions supported
    - distribute to municipalities for local discussion and feedback.
  - Mechanism B: Municipal-level transition summaries
    - developed by municipalities with support from JTCs, and distributed annually
    - highlight projects implemented, jobs created, investments made, community benefits
    - connect local outcomes to regional diversification strategy and long-term vision
    - enable residents to see tangible progress in their own municipality
    - format as an accessible 2-4 page summary with photos, data and local stories.
  - Mechanism C: Digital platforms and social media
    - central and regional platforms share real-time updates on funded projects, job opportunities, skill programmes and transition events
    - enable two-way communication whereby community members can ask questions, provide feedback and share experiences
    - use accessible formats (videos, infographics, testimonials, frequently asked questions) suitable for diverse audiences
    - maintain responsiveness and engagement culture.
  - Mechanism D: Local media engagement
    - hold regular briefings with local journalists on transition progress, challenges and opportunities
    - feature stories on project benefits, worker transitions, sectoral changes, environmental progress
    - co-ordinate with RDAs/municipalities to ensure media access and accurate storytelling
    - position local media as a trusted channel for the transition narrative.
- **Step 3:** develop annual communication calendar outlining key milestones, feedback deadlines and communication touchpoints (Q1 scorecard release; Q2 project showcase; Q3 community consultation; Q4 annual report); consolidate consultation touchpoints to reduce fatigue; communicate calendar publicly to signal predictability and commitment.
- **Step 4:** establish governance and quality standards, designating a communication lead at MCRD and regional leads at RDAs/DAs/municipalities; define messaging principles (transparency, accessibility, accuracy, timeliness, respect for local context); develop messaging templates and technical standards (accessibility guidelines, multilingual capacity if needed), drawing on international best practices such as the European Commission Toolkit for Communicating About Just Transition, the International Institute for Sustainable Development Just Transition Toolbox for Coal Regions and the EU Governance of Transitions Toolkit.
- **Step 5:** engage civil society and social partners, identifying partner organisations (trade unions, NGOs, community associations, disability organisations, minority groups) trusted by community members; co-design communication approaches with partners to ensure cultural appropriateness; provide partners with talking points, data and materials to amplify messages authentically; establish partnership co-ordination meetings.
- **Step 6:** launch and implement: publish annual communication calendar; release first annual progress report (aligned with release of the transition well-being scorecard); operationalise digital platforms and social-media presence; begin media engagement and municipal summary distribution; conduct community engagement sessions to present progress and gather feedback.

- **Step 7:** monitor and refine, tracking communication reach and engagement (media coverage, social media metrics, municipal report feedback); conduct annual survey of target audiences on awareness of transition progress and trust in institutions; host debrief sessions with RDAs, municipalities and civil-society partners to identify communication gaps; adjust mechanisms, messaging or calendar based on feedback.

Table 5.9. Institutions, time and milestones for the action 4.3.

Lead institution	Supporting institutions	Time required	Milestones
MCRD (overall co-ordination); RDAs, DA SAŠA and municipalities (local implementation)	EARS, civil-society organisations, social partners, local media.	0.5 years for communication strategy design and mechanism establishment; 5+ years for ongoing implementation, monitoring and refinement, based on community feedback.	M1-3: Communication strategy and framework developed; stakeholder consultation; M3-4: Communication mechanisms designed and tested; templates and standards finalised; M4-5: Annual communication calendar published; civil-society partnerships formalised; M5-6: Digital platforms and media engagement operationalised; M6+: Monthly mechanism operation (reports, summaries, social media, media briefings); annual feedback and refinement cycles; monitoring of reach and trust indicators.

OECD Rural Studies

Mining Regions and Cities in SAŠA and Zasavska, Slovenia

A Regional Approach for a Just Transition Away from Coal

Slovenia's plan to phase out coal before 2033 shapes current development trajectories in the Savinjsko-Šaleška (SAŠA) subregion and the Zasavska region. Zasavska has been adjusting to mine and power plant closures since 2014, while SAŠA still relies on an active coal complex and needs to prepare for its closure. Both regions can access a number of programmes including the EU's Just Transition Mechanism, national co-financing and regional development programmes to support new activities, skills and land reuse. A mix of tools and support designed to enable lasting economic and community prosperity.

This OECD report examines how SAŠA and Zasavska can continue building a just transition beyond the current JTF programming period, grounded in the mining identity that has shaped these regions. It reviews trends, the policy framework and early implementation lessons. For national and regional policymakers, it offers practical ways to strengthen project pipelines, improve co-ordination, and prepare transition plans for 2028 and beyond, showing how coal regions can draw on their industrial know-how, research assets and natural strengths to build resilient economies where communities with mining legacy thrive.

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