

Territorial Just Transition Plan 2021

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Versions of the programme which draw reference to this territorial just transition plan

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1. Outline of the transition process and identification of the most negatively affected territories within the Member State

Legal basis: Art. 11 sec. 2 letter a) and b), Art. 6

1.1. Outline of the expected transition process (...)

The European Climate Law aims to achieve climate neutrality by 2050 and a net reduction in greenhouse gas emissions by at least 55% by 2030 compared to 1990. The climate goals for Poland have been set out in the National Energy and Climate Plan for the years 2021-2030 (KPEiK). In addition, the Polish Energy Policy to 2040 (PEP 2040) outlines the directions of Poland's energy transformation. PEP 2040 and KPEiK determine the timetable for Poland's departure from coal mining and its use in conventional energy technology until 2049, set by the signatories of the Social Agreement on the transformation of the coal mining sector. KPEiK and the Polish Energy Policy to 2040 (PEP 2040) will be subjected to updates in the context of the goals of the Climate Law. The findings of the above-mentioned strategic documents are of key importance for the shape of the Territorial Just Transition Plans, as they define the framework for restructuring activities in relation to extinguished sectors and those subjected to transformation, on the other hand, they are the basis for defining the negative socio-economic impacts of the transformation towards climate neutrality.

PEP 2040 sets the path of transformation towards climate neutrality, taking into account national conditions. According to this document, the share of coal in the electric energy production structure by 2030, will not exceed 56%. The minimum share of renewable energy sources (RES) in PEP2040 is assumed at the level of 23% in gross final energy consumption in 2030, reaching a level of 32% in power engineering and 28% in heat engineering, but 14% in transport. In addition, PEP 2040 assumes a reduction in energy poverty to the level of max. 6% of households and moving away from coal burning in urban households by 2030. The above actions are expected to lead to a reduction of CO₂ emissions by 30% (compared to the level in 1990) and an increase in energy efficiency by 23% in 2030.

Actions in the Silesian Voivodeship planned under the Territorial Just Transition Plan will have a contribution to the implementation of the national documents' goals. The TJTP assumes a reduction in the role of coal in the region's energy technology and economy by 2030. In four mines, mining will be completed or significantly reduced by 2030. Three coal power plants will also be shut down. Decarbonisation will also include other sectors of the economy. It is planned to replace public transport fleets with zero-emission ones and provide support for RES investments in favour of prosumer energy. The transformation will take place in the entire Upper Silesian Coal Basin (GZW), i.e. the area of the Silesian Voivodeship and Western Małopolska Region. The Silesian Voivodeship as a region with an active mining sector in the first stage of transformation, focuses on mitigating the effects of decarbonisation, and the intervention planned under the Territorial Just Transition Plan does not assume the support for EU ETS companies.

In the Silesian Voivodeship, the following mines will be closed down on or before 2030: Ruda (Pokój), Bolesław Śmiały, Sośnica. Until 2030, certain organizational changes will take place in the following mines: Ruda (jointly Bielszowice and Halemba) and Staszic-Wujek (jointly Wujek and Murcki-Staszic). As a result, the extraction of coal will significantly drop. In 2029, the opening of a new coal mine called Brzezinka 3 is planned. The mine obtained a concession in November of 2020. This concession is inconsistent with the policy of the Silesian Voivodeship Board. In December of 2021 the concession proceeding was renewed. The ruling is pending. The opening of a new mine will not however mitigate in a significant way the reduction of extraction planned in the TJTP. The analysis of the transformation impact on extraction and use of coal in the energy sector and GHG emissions as well as methane emissions has been presented in Annex 1 (the analysis covers the impact of Brzezinka 3 on the process of transformation).

Currently coal extraction from the GZW constitutes about 65% of national extraction. Its planned reduction until 2030 is estimated for 26% in comparison to 2021. Completion and limiting extraction until 2030 from the four operating mines in the Silesian Voivodeship will have its share in this. Currently they constitute 37% of the GZW extraction. Until 2030, the level of extraction in these mines will decrease by 54% in comparison to 2021. Due to the new mine formation, the scale of this reduction will however be lower, amounting to 40%. Estimated level of extraction in these mines in 2030 will constitute 25% of the GZW extraction and 14% of the national extraction. As a result, the share of coal extraction in the GZW in the national extraction in 2030 will decrease to 55%.

Reduction of coal extraction will contribute to limiting the level of methane emission to the atmosphere by 8% in 2030 in comparison to 2021 (already after considering the emission of methane from the new mine). It is a moderate reduction, however, mines that will be subjected to liquidation or restructuring constitute solely 9% of all emissions in the region. At the same time, the level of methane emission solely from these mines will be decreased by 51% until 2030 in comparison to 2021.

A Plant Liquidation Procedure Plan is being elaborated for the liquidated mines which specifies the manner of securing against uncontrolled methane emission. The plan is approved and controlled by the relevant mining supervision body.

Three coal power plants will be closed in the region until 2030: Rybnik (gradually closed down) as well as Jaworzno and Łaziska (closed down in 2030). Their total GHG emission in 2019 amounted to 13.8 million tonnes, constituting 52% of the emission from the power sector in the region and approx. 9% of the national emission from this sector. As a result of shutdowns, the level of GHG emission in the region will decrease by approx. 50% until 2030 in comparison to 2019. The share of this reduction in decreasing national emission from the power sector until 2030 is estimated at the level of 64%.

With the closing of these power plants production of electricity from coal will decrease in the region by approx. 62% (from the level of 14 TWh in 2021 to 5 TWh in 2030). It is estimated that this will constitute 72% of electricity production level decrease from coal on the country scale, forecasted for 2030.

It was estimated that the planned intervention as part of the JTF will translate into production of electricity from RES at the level of 145 111 MWh of energy per year. In comparison, until 2020 this increase will remain at the level of approx. 10%. The planned RES development will limit CO₂ emission by 49 kt. The estimated regional energy mix in 2030 will be based on coal (61.4%), RES (7.2%) and other sources, mainly gas (31.3%). Currently, it is respectively: 84%, 6.7%, 9%.

Detailed analysis of changes on the labour market, see 2.1.

1.2. Identifying the territories (...)

The starting point for identifying the territories most affected by the effects of the transformation in Poland was Annex D to the National Report for Poland for 2020. This annex indicates Polish NUTS 3 subregions in the Silesian voivodeship (7 subregions), Greater Poland (Koniński subregion) and Lower Silesian voivodeships (Wałbrzyski subregion), as particularly vulnerable to the negative effects of the transition towards a climate-neutral economy. In addition, the Partnership Agreement identifies subregions of the Łódzkie Voivodeship (areas in the Piotrkowski and Sieradzki subregions) and the Małopolska Region (the area of Western Małopolska) as those areas that will also be affected by the transition in the long term.

The prospect of closing two coal mines in Western Małopolska is remote. However, the transformation of nearby Silesia will have an impact on Małopolska Region commuters in Silesia and Małopolska SMEs in the supply chains dependent on Silesian coal mines. The Silesian voivodeship, the largest mining region in the EU, is still largely economically dependent on the coal mining sector. Silesia will gradually move away from coal mining until 2049 and requires additional efforts for economic diversification, retraining and upskilling, counteracting depopulation and revitalization. In Eastern Wielkopolska, activities related to lignite mining and energy generation have until recently been an important element of the local economy. The rapid abandonment of lignite mining and combustion in the Koniński subregion by 2030 (or even earlier) has already had a significant impact on the local economy

and the labour market. In Lower Silesia, the Wałbrzyski subregion has historically relied heavily on the mining industry, but due to the unfinished transition, it still suffers from low levels of economic development, infrastructure degradation, a significant share of coal for heating and unreclaimed post-mining areas. The mining and energy plant in Bełchatów will suffer in the long run due to the gradual withdrawal from lignite mining and burning. However, the power plant in Bełchatów is of key importance for the production of electricity in Poland, and the decommissioning of the power plant will be a significant challenge to the security of electricity supply in Poland.

The economy of the indicated areas is based on traditional sectors and conventional energy technology. For this reason, these areas will incur the highest costs of achieving climate goals by PL, e.g. due to rising prices of CO₂ emissions and the necessary change in the country's energy technology mix. The total contribution of coal subregions to the country's GDP has already decreased by about 1.5 percentage points over 19 years. The process of restructuring of traditional industries in the indicated areas, including primarily mining, has been ongoing since the 90s, which resulted in adverse changes in the labour market and intensification of negative demographic tendencies. This translates into existing structural problems that reduce their resilience to subsequent transformational changes.

The transformation process in the Silesian Voivodeship covered 7 NUTS 3 subregions. Areas indicated in the Development Strategy of the Śląskie Voivodeship as OSI - municipalities in the mining transformation will be predestined for support.

Bielski subregion

The subregion experiences consequences of the discontinued activity (Morcinek mine – liquidated in 1998). Extraction in the private PG Silesia mine is still ongoing (the concession valid until 2044 - employment for 1,800 persons).

Also inhabitants of the subregion employed in the mining industry in the area of Czech Republic will be affected by the consequences of this transformation (in mines which will be closed down in the coming years).

Tyski subregion

Issues stemming from discontinued extraction – the liquidated Czczott mine and the Krupiński mine in liquidation.

The mines, which are designated for liquidation, are still in operations: Bolesław Śmiały (1,654 persons), and Piast-Ziemowit (6,800 persons). It is planned that by 2030 the number of workplaces in the mines will have dropped by almost 2 800. By 2030 the extraction of coal will have decreased by a minimum of 1.520 million tonnes per annum in comparison to 2019 (effect of closing down the Bolesław Śmiały mine in 2028).

The Łaziska Power Plant is designated for liquidation by 2030 (above 350 persons).

Gliwicki subregion

In the last 25 years the following mines were closed down: Pstrowski, Gliwice, Makoszowy, Jadwiga.

Until 2030 the Sośnica mine will have been liquidated (1,886 persons) which will heighten negative effects of transformation. A drop of coal extraction by 1.853 million tonnes per annum - in comparison to 2019 - will be an effect of closing down the Sośnica mine.

Rybnicki subregion

Since 1997 the following mines were closed down: Żory, Rymer, 1 maja, Dębieńsko, Moszczenica and Anna. The challenge, however, is the unfinished transformation and the need to diversify the economy.

By 2030 no mine liquidations are planned but actions mitigating the effects of the so far transformation as well as preparation for the challenges after 2030 are needed. Subsequent mines (ROW mining

operations: Rydułtowy, Marcel, Chwałowice and Jankowice) will be closed after 2040 and the total employment in them amounts to – 11,047 persons. Until 2030 a reduction in employment in the mines from the subregion is anticipated at the level of approx. 800 persons.

Until 2030 the Rybnik Power Plant will be liquidated (employment: 530 persons).

The subregion will be burdened with the effects of closures of the mines located near the border with the Czech Republic (the Ostrawsko-Karwiński Coal Basin).

5 JSW S.A. mines operate here (21.1 thousand persons) which will not be liquidated before 2050 – the resources of coking coal (the strategic raw material according to EU).

Sosnowiecki subregion

In the period of 1996-2006 the following mines were closed down: Paryż, Saturn, Sosnowiec, Niwka-Modrzejów, Jan Kanty, Grodziec, Jowisz, Porąbka-Klimontów.

Still significant employment in mining and conducted exploitation (also the Sobieski Mining Plant in Jaworzno, employing 2,500 persons is planned to be liquidated in 2049). Furthermore, until 2030 the close down of the Jaworzno Power Plant is envisaged (employment: 600 persons) and in 2035 the Łagisza Power Plant in Będzin (200 persons).

Bytomski subregion

The region of intense exploitation of coal in the past. The closed-down mines include: Szombierki, Rozbark, Miechowice, Bobrek, Julian, Powst. Śl. and Andaluzja, a liquidation process in the Centrum mine.

Activities are still continued in a certain part of the area (the Bobrek-Piekary mine – employment 2,200 persons; designated for closure in 2040 and until 2030 – almost 1,000 persons to be let down).

Katowicki subregion

Since 1993 the following mines have been liquidated: Barbara, Siemianowice, Polska, Wawel, Śląsk and Nowy Wirek, Katowice, Kleofas, Boże Dary, Wieczorek, Mysłowice. Coal extraction continues in a significant portion of this area.

Possible launching of a new mine Brzezinka 3 in 2029 (see 1.1 and Annex 1). The concession proceeding was renewed in 2021 - case pending.

Until 2049, subsequent 3 mines are planned to be closed down (6 operations) - Ruda Śląska will experiences consequences the soonest (until 2030).

14 thousand persons are employed by the mines designated for liquidation in this subregion. Until 2030 a planned reduction of workplaces by 5.9 thousand. Launching of a new Brzezinka 3 mine means 900 new workplaces. Total reduction of workplaces will amount to 5 thousand.

Transformation actions conducted in the area of transformation in the Silesian Voivodeship will have an indirect impact on the development changes in the area of Western Małopolska. Within the area of the Oświęcim subregion eastern ends of the GZW are located. It is an area with strong functional relation to the transformation area located within the Silesian Voivodeship. The Oświęcimski subregion has similar problems as those occurring in the area of transformation in the Silesian Voivodeship.

More on WM see 2.1.

2. Assessment of transition challenges, for each of the identified territories

2.1. Assessment of the economic, social and territorial impact of the transition to a climate-neutral economy of the Union by 2050

Legal basis: Art. 11 sec. 2 letter c)

The transition area includes 7 of the 8 NUTS 3 subregions localized in the Silesian Voivodeship (which is $\frac{3}{4}$ of the Voivodeship's area) and is inhabited by 88% of the region's population. It is a heavily industrialized area, which for more than 30 years has been undergoing intensive economic restructuring processes, affecting its potential and causing significant social changes.

Restructuring processes that have been going on for years have not significantly changed the existing structure of the economy, which is still characterized by a **significant share of the mining sector and a high dependence of local labour markets on traditional industries**. Industrial heritage contributes to the decline of competitiveness of the region's economic structure, manifested in a **decline in its share of national GDP** (from 13.7% in 2004 to 12.3% in 2018) and a declining share in national sold production of industry. Gross value added of the Silesian voivodeship in the mining sector (section B) decreased from 9.7% in 2000 to 6.2% in 2019. Internationalisation of the economy remains at a low level due to insufficient innovation of companies. Average employment in the sector of enterprises in the Silesian Voivodeship in 2019 amounted to 793.3 thousand persons (12.4% of all employed persons in PL) which placed the region in second place countrywide, whilst at the same time observing a constantly high level of share of persons employed in the industry (in 2019 - 38.3%). Increasing the share of resources designated for innovation and research and development activities in the region is crucial. In 2019 in the Silesian voivodeship the expenditure on R+D per one resident reached 544,10 PLN (6th place among regions) which is an amount 244,80 PLN lower than the average for the country (788,90 PLN). In order to achieve the climate goals, the process of diversifying the economy, modernizing production processes and creating new companies in the region's areas of technological specialization, as well as raising its level of innovation, will be crucial. **The results of the undertaken actions in the process of just transition of the region will be noticeable primarily in the mining sector in which the ongoing changes will cause the reduction of employment on the level of 12,300 people by 2030 and 48,700 people by 2050.**

A significant problem of the regional labour market is **the low activity of the residents**, including among women (in 2019 the number of economically inactive in the region totalled 1,707 thousand people which was second place in PL) and a **large territorial diversity of unemployment**. The shape of the labour market is also affected by **the negative net migration and the associated strong depopulation and ageing processes**. A long-term outflow of human capital, especially among mobile persons and of intellectual capital in the form of innovative start-ups, investors and business concepts takes places in the direction of other regions and countries. Adjusting the conducted social policy to the needs of all inhabitants of the transformation area will be crucial, resulting in an increase of social and professional activity in the region. Limiting the demand for labour force conducting simple, repeatable tasks is forecasted as well as an increase in significance of professionals requiring more specialist skills, characterized by high degree of creativity. This is reflected by preparation of young persons to undertake work and to obtain vocational training that requires linking education with the requirements of new economy. Cooperation between educational facilities and employees will be important as well as constant monitoring of demand for new professions. The efficiency of professional retraining process and education of new personnel in the context of the growing migration processes will persuade qualified professionals to stay in the region, being able to find employment in new, developing industries. The development of innovations and technology requires a well-functioning higher education, both in terms of the proposed courses of study, e.g. ordered majors, as well as raising the quality of the base and infrastructure of higher education institutions in order to ensure the possibility of top-level education, especially in the fields of green and digital transformation.

The Silesian voivodeship is **the most coal-dependent region in the European Union. Although Poland's coal production has halved since the early 1990s (from nearly 150 million tons to about**

73 million tons), and employment in the mining sector has decreased quadruple (between 1990 and 2015 from about 380,000 to about 98,000); nevertheless, the Silesian voivodeship still has the largest number of employees in the mining industry (about 74,000 people, data for 2019, the IBS Report). This situation is the biggest challenge of the just transition process. Mining jobs are characterised by high geographic concentration in the area of the Rybnik Agglomeration and its surroundings, the Upper Silesian Metropolis and near the border with the Małopolska Region.

In accordance with MAP (Ministry of State Assets) data, employment in state mines in the Silesian voivodeship amounts to 61,057 persons and until 2030 this is planned to be reduced by 12,342 persons (48.7 thousand in 2030-2049). As a result of liquidation/combining mining works, by 2030, 2,499 persons will have been moved to facilities continuing extraction, while 1,847 will have obtained pension rights. In the plants in which liquidation is planned at a later stage, until 2030 reduction in employment as a result of takeover of the mining area by SRK (Mine Restructuring Company S.A.) will occur. Until 2030, 3,533 persons employed in the mining sector will not be covered by any support. The Social Agreement does not encompass mines belonging to JSW S.A. (coking coal), however those employed are covered by the above analyses.

The transformation process until 2030 will also encompass coal power plants: Jaworzno, Łaziska, Łagisza and Rybnik. The Rybnik power plant is planning to close blocks 3 and 4 until 31 December 2022. Since 1 January 2023, 4 production units will be left to operate in the Rybnik power plant. Operations of other blocks will continue until 2030. The remaining production units will be gradually disactivated (no schedule in place). As a result of the above changes, reduction of employment by 848 persons in the power plants and by 269 persons in the cooperating entities will occur. Furthermore, 474 persons will be transferred, including 246 persons being re-trained. Upon liquidation of the blocks, 1,052 employed persons will acquire pension rights while 1,080 will be authorized to obtain severance pay.

The planned changes will cause a loss of 36,5 thousand workplaces by 2030. At the same time, it is prognosed that the number of workplaces maintained as part of the TJTP realization will amount to 27.3 thousand, including as part of support for large companies - 2.1 thousand. Within the total of workplaces scheduled to be liquidated by 2030, 24.2 thousand concern mining-related companies whilst in the years 2030-2049 - this number will amount to 95.8 thousand. This estimation was based on a study prepared by the EU (University of Economics) for GIPH where the number of employees directly related to the mining sector amounts to 120 thousand persons. Similar estimates are presented by IBS, according to which at least 1.16-1.35 workplaces in other economy sectors fall per 1 workplace in mining of coal in Poland, giving 96.3-112 thousand persons employed in industries related directly to mining. The anticipated scale of persons dependant on the functioning of mines may be significantly higher if we take into consideration the indirect impact on commercial-service enterprises or families of employees. The estimates that cover this aspect, according to the economic self-government (GIPH), may even reach 400 thousand persons. Based on the above analysis and on the adopted schedule of closing down the mines it is assumed that until 2030, due to liquidation of employment in the mining sector, it will be necessary to ensure almost 37 thousand new workplaces, including 24.2 thousand for persons employed in mining-related companies. Whilst, in the years 2030-2049 the scale of liquidation of workplaces will be significantly higher, that is, approx. 145 thousand persons, including 95.8 thousand in the mining-related sector.

Due to the ongoing transformation local governments in the areas where coal mines will be liquidated will see the important declines in income items of their budgets, which are the share of PIT (the personal income tax) and the tax on real estate and mining fee. It is estimated that the decline in the income of municipalities in the mining transformation can amount to as much as 393.2 million PLN per year. Lost income will be compensated by tax revenues from newly established companies and employed residents.

Heavy dependence on coal as a raw material is also noted in the area of power generation. Coal remains the main source of electric power, whereas **the share of energy production from renewable sources is slight** (4.4%). Similarly to the electric power production, **the primary heat source is also coal** (75.4% of total production). The share of heat production from renewable sources amounted only to 2.8%. Achieving climate goals will require a reconfiguration of the energy sector toward alternative and renewable energy sources. The Region is characterised by the highest coal consumption in households,

which is the cheapest source of obtaining heat. The Silesian voivodeship is characterised by a large amount of generated and accumulated waste, including the largest amount of generated industrial waste (in 2018 it accounted for almost ¼ of such waste in PL). In Poland there are in total 153 heaps, coal waste dumps or so-called settling ponds where extractive waste is collected – most of which in the Silesian voivodeship (as many as 138). Extractive waste causes environmental hazards: pollution of soil, groundwater and surface water in the storage area, and air. Silesian Voivodeship is characterised by the **highest in PL percentage of degraded and devastated areas** requiring rehabilitation and revitalisation. So-called mining and post-mining areas are particularly challenging.

The challenge will be to create new value chains, in industries related to the green and innovative economy, that will replace the existing links in the mining and mining-related industries and contribute to the development of the economy in new areas unrelated to traditional industries. The creation of new jobs will be based on the endogenous economic and scientific and research potential in the technological areas identified in the Technology Development Program of the Silesian Voivodeship for 2019-2030, including, among others, the green economy sectors. The green economy in the Silesian voivodeship includes more than 51,000 entities according to REGON data (June 2020) and more than half of thematically related accredited and active research laboratories. Industries that will be able to absorb employees leaving the mining industry, will be companies from sectors such as transport, logistics and construction, among others. In 2020, the Silesian voivodeship record indicators were recorded related to the number of completed dwellings or the number of permits granted for construction. The number of people working in the transport and warehousing sector has increased significantly over the past eight years, reaching nearly 77,000 people in 2019 (3rd in PL; 6.6% of the region's total workforce). According to IBS estimates, the potential for new job creation in the 2030 outlook in these sectors will range from 21-37 thousand jobs.

Changes in the labour market imply developing the public transport system to improve and streamline intra-regional transport. The Silesian voivodeship is characterized by low intensity of public urban transport and a declining number of passengers carried. Improving the quality and accessibility of local and supra-local transport is intended to support transformational processes towards generating better transport connections from places where jobs will be eliminated to places where new jobs will be created. No support for rail transport is planned.

Neighbouring the Silesian Voivodeship, the Oświęcimski subregion (Western Małopolska), located in the Upper Silesian Coal Basin, with strong functional ties and remaining “in the shadow” of the transformation of the subregions of the Silesian voivodeship, has analogical socio-economic problems resulting from the transformation process, with much weaker scientific and research potential. The challenges for Western Małopolska related to the transformation concern the creation of new jobs, the reclamation of post-industrial areas and the development of a low-emission transport system (over 18,000 people from Western Małopolska commute to work in the Śląskie Voivodeship every day).

In the Oświęcimski subregion, there are problems related to the halted mining activities (in 2001, the KWK Siersza in Trzebinia was closed), which resulted in a significant increase in the number of unemployment on the local labour market. Simultaneously, there are still two mining plants in the structures of Tauron Wydobycie S.A. (ZG Brzeszcze and ZG Janina), which are planned to be closed, in the years 2040 and 2049, respectively.

Approx. 4 thousand people are employed in these two mines. Additionally, a little over 4 thousand people from the subregion work in mining plants in the Silesian Voivodeship. The effects of the transformation will also affect about 8.7-10.1 thousand people employed in the mining-related sector (in total, for 8% of all enterprises from WM, the mining sector is a client, of which 14% of this group provides more than half of the revenue).

In Western Małopolska, there is also the Siersza Power Plant, intended for closure, which employs approx. 220 direct employees (and including subcontractors approx. 300 people). In total, jobs related to mining account for about 12% of employment in the Western Małopolska.

The expected employment gap by 2030 should cover approx. 800 jobs of ZG Brzeszcze and ZG Janina and 220 people working at the Siersza Power Plant. In addition, approx. 1.8-2.1 thousand people in the mining-related enterprises will lose their jobs (this applies not only to activities closely related to mining,

but also to trade and services, construction, gastronomy and transport). A decrease in employment should be expected among about 1/3 of companies directly related to mining. At the same time, the subregion will gradually feel the effects of layoffs in plants in the Silesian Voivodeship.

The total area of mining areas in Western Małopolska is 18.3 thousand ha. After the closed mines and power plants, post-industrial areas will remain, the development of which will be a long-term process, requiring financial outlays related to giving them new functions.

The transformation processes will also be supported by improving the quality and accessibility of local and supra-local transport, which will support changes on the labour market.

2.2. Development needs and objectives by 2030 in view of reaching a climate-neutral economy of the Union by 2050

Legal basis: Art. 11 sec. 2 letter d)

The challenges formulated below and the corresponding goals for a just transition stem from the identified issues presented earlier in the Plan. The main objective of the TJTP is assumed to be:

Equitable and efficient transformation of mining subregions towards a green, digital economy, ensuring a high quality of life for residents in a clean environment.

This objective will be achieved by implementing the specific operational objectives indicated below. The strategic findings are presented in the following sequence: challenge - operational objective - results.

Challenge: Building the position of a leading centre in the area of an innovative and high-tech industry.

Operational objective: Innovative economy of mining subregions

Result:

- The increase of the R&D and implementation capacity of the R&D sector.

Challenge: Redirecting the economy of mining subregions to a path of green, smart and digital growth.

Operational objective: Diversified and resource and energy efficient economy of mining subregions

Results:

- Economic diversification of mining subregions.
- Reduction in the consumption of energy, primary raw materials and increasing the share of clean technologies in production processes to significantly reduce the weight of waste or prevent its generation.

Challenge: Strengthening the potential of local entrepreneurship for the creation of alternative jobs in mining subregions.

Operational objective: Strong entrepreneurship of mining subregions

Results:

- The increase of the employment through the creation of new jobs in alternative sectors to mining and conventional energy.
- The increase of the competitiveness of SMBs in sectors alternative to mining and conventional energy.
- The increase of the number of new companies in sectors alternative to mining and conventional energy.

- Increased access to advisory and financial support for starting a business.
- Increased internationalization of companies' activities.

Challenge: Dynamization of prosumer energy based on the potentials and resources of mining subregions.

Operational objective: Balanced distributed energy of mining subregions

Result:

- The increase of the distributed renewable energy production and storage.

Challenge: Restoring post-industrial areas (especially post-mining areas) to economic, social and environmental cycles in mining subregions.

Operational objective: Effective use of post-industrial areas in mining subregions for economic, environmental and social purposes

Results:

- Utilization of post-industrial areas for regional development purposes.
- Elimination of the effects of industrial, including mining, activities on the environment, improvement of biodiversity indicators in the areas used for environmental purposes.
- Improving water relations in the area of influence of mines.
- Systemic management of post-industrial areas.

Challenge: Improvement of the mobility of residents and transport cohesion of mining subregions.

Operational objective: Effective system to strengthen mobility in mining subregions

Results:

- Decarbonisation of transport as a result of building infrastructure for zero-emission and non-motorized transport and purchasing zero-emission transport vehicles.
- Improved transport of mining subregions through the expansion of public transport infrastructure and measures for fare integration and introduction of ITS.

Challenge: Development and adaptation of the education to build the future of mining subregions in response to the challenges of the economy.

Operational objective: Attractive and effective education and skills upgrading in mining subregions

Results:

- Development of vocational education in cooperation with entrepreneurs, universities in particular in line with regional smart and technological specializations.
- Targeted development of higher education oriented to the needs of the green economy.
- Creation of conditions for professional development.

Challenge: Maintaining professional activity of people employed in mining and mining-related enterprises in mining subregions.

Operational objective: Attractive and effective labour market support system for mining subregions

Results:

- Development of competencies that provide adequate professional opportunities for transition-affected workers (in response to local approaches to economic development), particularly to the needs of the green and digital economy.
- Increased labour force participation of subregional residents.

Challenge: Improvement of the quality of life of the residents of mining subregions.

Operational objective: Comprehensive social support system to activate residents of mining subregions

Result:

- The increase of the level of activity of communities participating in the fair transition process.

Challenge: Strengthening the social and managerial capacity to carry out a just transition in mining subregions.

Operational objective: Effective socially responsible transition management system in mining subregions

Results:

- Strengthening institutional capacity, including the personnel implementing the transformation process.
- Building a comprehensive monitoring system of transformation processes.
- Cooperation of local governments and social and economic partners participating in the transformation process based on dialogue and open communication.

It is assumed that the TJTP intervention strategy adopted above will have a horizontal impact on the labour market in three aspects:

- Job creation – the basic assumption is to counteract the increase in unemployment in mining subregions by creating a comprehensive offer in advance for employees who will be affected by the transformation process.
- Maintaining existing jobs – the activities will be directed mainly to mining-related companies, which as a result of the loss of a significant economic contractor (sometimes the main and the only one) are forced to reduce employment or even close down their activities.
- Creation of new jobs as an indirect effect of investment – activities included in the TJTP will contribute to creating conditions for the development of an innovative and green economy in the mining subregions. Actions related to investments in research and innovation activities are planned, in particular to support the transfer of hi-tech technologies to create the conditions for the technological, innovative and green development of the enterprise sector.

2.3. Consistency with other relevant national, regional or territorial strategies and plans

Legal basis: art. 11 sec. 2 letter e)

The provisions of the TJTP are consistent with the findings of the most important national documents defining development policy in the medium-term and the assumptions of climate policy. The TJTP is part of the strategic arrangements of regional documents, which define the framework for development policy in the medium-term, low-carbon policy, in the area of innovation, social policy and revitalisation.

Scope of links to national and regional documents:

POLISH ENERGY POLICY TO 2040:

- Specific objective 1. Optimal use of own energy resources - especially in the field of just energy transition.
- Specific objective 2. Extension of generative infrastructure and network of electrical energy - especially in terms of production, distribution and storage of energy from Renewable Energy Sources.
- Specific objective 6: Development of renewable energy sources – especially through the support of prosumers, energy clusters and energy cooperatives.

NATIONAL ENERGY AND CLIMATE PLAN FOR THE YEARS 2021-2030:

- THE "DECARBONISATION" DIMENSION - in terms of greenhouse gas emissions and absorption, energy from renewable sources.

REGIONAL INNOVATION STRATEGY OF THE SILESIA VOIVODESHIP 2030:

- SPECIFIC OBJECTIVE C1. Enhancing the capabilities of regional innovation ecosystem entities to generate and implement innovation and modern technological solutions in terms of, among others, strengthening the innovative potential of entities in smart specialisations, implementation of innovative solutions, including those provided by Small and Medium-sized Enterprises, and strengthening research infrastructure.
- SPECIFIC OBJECTIVE C2. Ensuring inclusionary digital transformation in the region's economy and society in terms of digital transformation of Small and Medium-sized Enterprises and support for public sector services.

In addition, the support is also consistent with such documents as:

STRATEGY FOR RESPONSIBLE DEVELOPMENT until 2020 (with a perspective until 2030)

DEVELOPMENT STRATEGY OF THE SILESIA VOIVODESHIP "SILESIA 2030" - Green Silesia

SOCIAL POLICY STRATEGY OF THE SILESIA VOIVODESHIP FOR THE YEARS 2020-2030

LOW-EMISSION ECONOMY POLICY FOR THE SILESIA VOIVODESHIP. REGIONAL ENERGY POLICY UNTIL 2030

PROJECT OF THE REGIONAL REVITALISATION POLICY OF THE SILESIA VOIVODESHIP

TERRITORIAL STRATEGIES UNDER TERRITORIAL INSTRUMENTS

The intervention will also complement Horizon Europe and FENG (European Funds for a Modern Economy) in support of R& D, the Innovation Fund under the EU ETS, FEnIKS (the European Funds for Infrastructure, Climate, Environment) and LIFE in the field of nullifying the negative effects of industrial activities on the environment and air, as well as local mobility. FERS (The European Funds for Social Development programme) funded by the EFS+ (European Social Fund +) activities complementary to actions in the field of education, including the improvement of competencies and qualifications, professional activation, social services and activities to improve the quality of life in the region.

Using the results of the above-mentioned programmes, the transition from a high-carbon economy model to a climate-neutral economy, according to the European Green Deal, will seek synergies with the acquis

of European and national initiatives undertaken for the green, digital and equitable transformation of mining subregions.

Indicative list of operations and undertakings other than SMEs to be supported:

Centrum Badań i Dozoru Sp. z o.o. – diversification of the company's offer in order to offer services in non-mining industries along with the creation of a training center (number of workplaces: 45 lost without implementation of the project (u) +35 new jobs created thanks to the implementation of the project (n))

COIG S.A. – diversification of the services offered towards cyber security in order to offer them in non-mining industries (number of workplaces: 25u + 15n)

Elektrometal S.A. – developing and launching an offer of chargers for electric cars and buses on the market (number of workplaces: 65u)

Elgór+Hansen S.A. – development of a portfolio of energy storage devices based on chemical cells for installations of various sizes (number of workplaces: 45u + 45n)

Fabryki Sprzętu i Narzędzi Górniczych Grupa Kapitałowa FASING S.A. – diversification of the company's offer by starting the production of lifting, carrying, pulling and transport chains for non-mining sectors (number of workplaces: 67u +22n)

KONKO S.A. – diversification of services in the field of delivering metal elements outside the mining market and expanding the recipients to include manufacturers of road, crane and transport equipment (number of workplaces: 154u+ 25n)

MOJ S.A. – diversification of the company's operations beyond the mining industry by establishing a modern forging shop producing forgings for prospective industries and establishing a training center (number of workplaces: 80u + 175n)

Famur S.A. – re-industry from a manufacturer of machinery and equipment for the needs of coal mining, towards a manufacturer of general industrial gears, especially for wind farms (onshore i offshore) (number of workplaces: 70u + 30n)

PKiM Carboautomatyka SA – change of the company's business profile from a manufacturer of equipment for the mining industry to the production of equipment for other industries, in particular for the power industry (number of workplaces: 130u +20n)

Europejskie Technologie Górnicze Sp. z o.o. – diversification of production activities (from current mining-related to construction/road/tunnel) (number of workplaces: 46u + 40n)

Tauron Polska Energia S.A. – creation of a Competence Center enabling the extension of the offer with new services related to vocational education related to the transformation (number of workplaces: 329u+ 17n)

All investments are aimed at the company's independence from mining customers, maintaining employment and creating new jobs and more sustainable production methods.

The planned transformation changes will result in the loss of 36.5 thousand jobs by 2030. At the same time, the number of jobs created as part of the implementation of the TJTP (excluding jobs created by large enterprises) is forecast to be 25.2 thousand, so the employment gap is 11.3 thousand. In total, the number of jobs that will be created as a result of intervention for large companies is 2.1 thousand (data estimated based on historical data).

2.4. Types of operations envisaged

Legal basis: art. 11 sec. 2 letters g)–k) and art. 11 sec. 5

In order to strengthen the level of innovation and generate new motors of growth in mining subregions replacing traditional industries, it is planned to develop centres supporting the creation and transfer of

knowledge and technology to enterprises, as well as the conduct of research, through targeted projects (including research and implementation centres, new technologies demonstrators, technology hubs) for a green, smart, digital economy. Support will also cover the creation and implementation of development programs offered by these entities.

As part of each project, it is possible to support the development of competencies of people employed in the Research and Development sector and enterprises.

Investments necessary to change the profile of the business, including the introduction of new/improved climate-neutral products, services, processes or the acquisition of new markets in companies in mining subregions will be supported. The JTF funds will not support activities related to conventional mining.

Support will be given to building the competitiveness of enterprises using eco-friendly solutions and aiming at a closed loop in designed processes and technologies as well as logistics and R&D, while reducing negative environmental impacts and optimizing the use of resources.

As part of each project, it is allowed to support the development of competencies of people employed in enterprises.

Support will be given to the development potential and competitiveness of micro, small and medium-sized enterprises that operate through providing products and services to miners, their families and those cooperating with mines or mining works. It is also important to support the development of enterprises classified as regional technological specializations. As part of each project, it is allowed to support the development of competencies of people employed in enterprises. Investments exploiting the endogenous potential of mining subregions, in particular through the use of regional identity, will be supported.

It is also planned to implement strategic projects supporting the creation of new enterprises and new investments, as well as self-employment and the creation of new, stable workplaces, based on a climate-friendly solutions using hubs and other instruments as catalysts for the activities described. Projects offering comprehensive support for enterprises will be financed, including assistance at every stage of running a business from the preparation of a business plan to assistance in obtaining financing for the development of companies, including support at the start-up stage.

Investments in RES will be supported, including on the basis of local potentials for prosumer energy (including for virtual prosumers) and local heating.

The reliance of the energy sector on distributed energy sources, energy clusters and prosumer solutions and their integration into the energy system will increase the level of energy security and will involve the local community in activities aimed at promoting RES and striving for climate neutrality, will reduce the severity of the increase in energy and heating costs for households and mining municipalities. Biomass used for energy production and biofuels must meet the sustainability criteria of Directive (EU) 2018/2001 of the European Parliament and of the Council of 11 December 2018.

Support for energy efficiency improvement is not excluded.

Support will be aimed at actions related to reclamation, remediation, regeneration, renaturalization, decontamination and development of post-industrial sites, including in particular post-mining sites, post-industrial, devastated, degraded facilities, as well as their adaptation for, among others, economic, environmental, social and educational purposes.

Actions related to both the reclamation of the site and the final development of the site for the above-mentioned purposes will be co-financed, including comprehensive preparation of post-industrial sites for an economic activity together with the necessary infrastructure.

It is allowed to finance the removal of elements harmful to people and the environment that do not fall within the legal concept of remediation.

Tasks related to the systemic management of post-industrial areas, including inventory, data collection on post-industrial areas and facilities, as well as planning activities for their re-use, will be implemented. Where appropriate, support will be provided with particular regard to the objectives of the New European Bauhaus.

Water management systems will also be supported, contributing to the prevention of swamp and flooding and the treatment of groundwater and surface water contaminated as a result of mining operations, as well as investments in the area of mine water treatment and management. This intervention will only be possible in relation to the reclamation, decontamination of contaminated ground.

Investments related to, among others, remediation, reclamation, decontamination, must take into account the "polluter pays" principle and regulations on liability for mining damage.

To increase accessibility to local labour markets by providing more integrated and high-quality public transport, better transport links to the development centres of mining subregions, and the promotion of green and zero-emission transport, investments in transport infrastructure and sustainable public transport, including the development of hydrogen technologies, are needed. The projects should complement measures that systematically solve the problems resulting from the economic transformation associated with the decommissioning of workplaces in heavy industry (counteracting the emergence of structural unemployment districts). Rail transport will not be supported from the JTF funds.

Supported projects should result from sustainable mobility plans involving mining municipalities. The document should describe the impact of a given investment on nullifying the negative effects of economic transformation.

The quality of education, especially vocational (industry and technical) and its adaptation to the needs of the green and digital economy, development industries will be improved. Support will include, among others: increasing, changing or acquiring new, specialized skills, qualifications, competences, educational and professional counselling for students and adults (including instructors of practical vocational training).

In connection with the above, the development of cooperation between employers and educational centres (schools, universities) will be supported, including internships, practical training, commercialisation of knowledge.

The support will cover infrastructure increasing the availability of education, including its construction, renovation, reconstruction along with the necessary equipment. Complementary support will be given to higher education infrastructure (in practical and vocational fields) in relation to the needs of the green economy.

Support will concentrate on providing employees affected by the transformation with a comprehensive, individual development path towards employment in the outplacement formula. Support for employers undergoing restructuring processes in order to preserve jobs will be implemented through redeployment.

Assistance on professional and social activation for family members of persons included in outplacement from enterprises affected by the transformation is also planned.

In order to ensure the effectiveness of the activities carried out, the scope of support will also include interinstitutional coordination to provide high-quality services to those affected by the negative consequences of the transition.

Support will focus on the implementation of social inclusion programmes to improve the quality of life of communities experiencing the negative effects of transition and programmes for the conscious participation of citizens in climate change and transformation.

It is necessary to strengthen the capacity of stakeholders to effectively manage and implement the transition process and to network in the economic, social and environmental dimensions, as well as to monitor and evaluate the process.

Grassroots initiatives of local communities will be supported, serving to build the capacity of social partners and civil society organisations, and to preserve regional identity.

Support will also be directed to the implementation of grant and pilot projects aimed at building awareness and acceptance of the transformation process, including through information, educational, promotional campaigns and activities, or a budget of transformation initiatives managed by the local government.

The support will serve to strengthen the institutional capacity and increase the competence to carry out the transformation process. It will be aimed at ensuring the human resources capacity to manage and implement the JTF at the regional level as well as the competences of local government employees and their representation at the subregional level.

Effective implementation of the partnership principle through instruments for cooperation and the involvement of the social and economic partners in the decision-making process and the provision of a coherent information and promotion system on the objectives, actions and benefits of a just transition will be crucial. The support will be dedicated in particular to conducting committees dedicated to this purpose, among others, the monitoring committee for the JTF and animating the social dialogue in the field of just transition.

A complementary area of support is the creation and development of tools for monitoring, analysing, planning, implementing and evaluating transformation processes, as well as pilot projects for multiplication in other mining subregions.

The JTF intervention in FEM and FESL will be reinforced by complementary investments undertaken by the public and private sectors in the 2nd and 3rd pillars of the Just Transition Mechanism, e.g. in the following areas:

- ICT in enterprises, digitalisation, digital innovation and digital connectivity;
- city based on the smart city model;
- modern business services sector, MICE industry, creative sector (architecture, design, computer games), nanotechnology company sector, start-up;
- tourism, culture and cultural heritage, which can contribute to the generation of new, sustainable workplaces;
- energy and transport infrastructure, including gas infrastructure (taking into account the conditions indicated in the regulation establishing the InvestEU Program 2021/523 of March 24, 2021) and district heating systems and electricity grids;
- projects for decarbonisation and climate neutrality (RES, energy efficiency, energy storage technologies);
- better connectivity of post-mining and post-industrial areas restored to economic and social circulation;
- environmental infrastructure in the field of municipal waste management and water management (including drinking water supply and sewage management);
- development of metropolisation and globalization - support for industries in the mining subregions to build their competencies and competitiveness in the national and international dimension;
- sustainable mobility, including rail mobility;

- development of hydrogen technologies and other alternative fuels;
- social infrastructure, including social housing and welfare;
- technology centers to improve qualifications and retrain employees;
- development of education (higher and vocational) educating people to work in the business services sector.

Intervention impact

The above activities will contribute to changing the economic profile of mining subregions and to the development of innovative industries. Support for entrepreneurship will prevent the migration of residents and generate new, permanent jobs, in particular for people leaving the mining industry and related industries.

The investments will also ensure the mitigation of the costs of decarbonisation of the energy sector in the mining subregions, and will additionally reduce the negative impact of this sector on the environment. They will contribute to the restoration of post-industrial areas and facilities to the socio-economic cycle, improvement of water conditions, reclamation and restoration of post-mining landscapes. Replacing the traditional bus fleet with a modern and emission-free one will increase the mobility of the inhabitants of the mining subregions, while reducing the emission of harmful substances from vehicles.

The planned intervention will also contribute to strengthening human capital, increasing employment opportunities and professional development of the inhabitants of mining subregions, as well as improving the quality of life of these inhabitants, including stopping negative demographic phenomena and increasing the social, professional and civic activity of the communities participating in the transformation process.

Legal basis: art. 11 sec. 2 letter f)

Partnership

Discussions in the mining subregions on the transformation process began as early as 2019. In March of that year, the Silesian Voivodeship Board established a Regional Team for the initiative of mining regions in the Silesian Voivodeship, which in the first stage focused on coordinating the region's work within the framework of the Initiative for Coal Regions in Transition, established by the European Commission. The team is consultative and cooperates with regional authorities on the planning of activities under the JTF. The implementation of the socialization process began in September 2020 with a series of expert workshops, attended by local leaders, including members of the RT, a wide range of industry specialists as well as representatives of the government and the EC. The aim of the first series of meetings was to try to capture the challenges facing the region in the process of socio-economic transformation.

The second stage of the process of socialization of works on the TJTP was implemented as an identification of problems and transformational challenges in geographical terms. At the turn of X and XI 2020, a seminar was held in subregions for representatives of local authorities, public institutions, business, scientific and social circles. Representatives of government institutions and the European Commission also participated in the meetings.

At the turn of I and II 2021, as part of the third stage of the TJTP socialization process, 6 consultation meetings were held with representatives of the environments important in the transformation process. The aim of the meetings was to involve them in the process of shaping programming documents and developing preliminary assumptions for regional projects. A diagnosis of problems in environmental terms was developed. In April 2021, workshops were conducted based on the assumptions of the TJTP project. The workshop allowed talking about the priorities and development needs of the region and discuss the concerns of residents who are and will be affected by the process in the coming years, especially in areas where mining operations are being extinguished.

By a resolution of the Silesian Voivodeship Board No. 1463/241/VI/2021 of 15.06.2021, the TJTP 2030 – v.02 project was addressed to broad public consultations with the inhabitants of the region. All stakeholders, including local governments, social and economic partners, were invited to participate in the public consultation.

In II of 2022, there was a "pre-consultation" of the provisions of the FE SL program, taking into account the intervention of the JTF. The purpose of the pre-consultation was to collect comments, remarks and opinions of potential beneficiaries on the proposed scope of intervention, with particular emphasis on Priority VIII, i.e. Silesian in transition to verify and supplement the existing provisions of the document in consultation with a wide range of programme stakeholders.

In IV-V.2022, public consultations were held on the FE SL 2021-2027 project along with the Environmental Impact Assessment, which also included the TJTP. The consultations included a conference, public hearings (for representatives of business, science, local governments, NGOs). Numerous advisory bodies, representatives of LGUs, universities, social and economic partners and entities representing civil society were invited to participate in the consultations.

Monitoring and evaluation

The Silesian Voivodeship Board is responsible for monitoring and evaluating the TJTP. The monitoring and evaluation process will involve relevant partners, including social and economic partners and civil society actors, as well as the Małopolska Region.

The progress of the TJTP will be monitored on the basis of the relevant common output and result indicators set out in Annex III of the JTF Regulation. The monitoring of products and results shall be based on the performance framework established for the specific objective of the JTF. Indicators of

output shall set milestones to be achieved at the end of 2024, which shall be reviewed during the mid-term review. For output and result indicators, final targets to be achieved by the end of 2029 shall be set. As part of the mid-term review, the Plan will be revised.

Operations under the Plan will be monitored using an IT system and reported to the EC.

Once a year, the implementation of the Plan will be reviewed at the meeting of FE MC SL 2021-2027 and at the annual meetings of the European Commission and the Member State.

Evaluation of the Plan will be carried out taking into account the following criteria: effectiveness, efficiency, relevance, coherence and EU added value in order to improve the quality of planning and implementation of the Plan based on the Evaluation Plan in the field of the JTF.

Coordination and monitoring body/bodies

The Silesian Voivodeship Board is responsible for the coordination and monitoring of the TJTP, which at the same time will act as the MA for the FE SL 2021-2027 program, under which the specific objective of the JTF will be implemented. These tasks will be carried out with the support of the relevant departments of UMWSL. The implementation of the TJTP will also involve appropriate organizational units of the Silesian Voivodeship, responsible for the implementation of European funds 2021-2027 at the regional level in the field of entrepreneurship and the labour market.

Within the scope of its statutory competences, the Management Board of the Małopolska Region performs analogous functions. Małopolska Region as the MA for FEM 2021-27, within which the TJTP is implemented in the part concerning the Oświęcimski subregion – with the support of the relevant departments. UMWM and WUP and MCP.

Representatives of key stakeholders (including trade unions, local authorities, entities representing civil society, NGOs and youth) will be involved in the monitoring and evaluation process, e.g. under FE MC SL 2021-2027. Implementation reports and the TJTP research and evaluation reports will be made public and available on the MA website.

4. Programme-specific output or result indicators

Legal basis: art. 12, sec. 1 of the JTF Regulation

Justification for the need to use programme-specific output or result indicators based on the types of operations envisaged

For monitoring the progress of the TJTP implementation, no specific indicators are expected to be used. The program implementing the objectives and operations indicated in the TJTP will use the product and result indicators for the JTF listed in Annex III to the Regulation establishing the JTF

Legal basis: art. 11 sec. 2 letters g)–k) and art. 11 sec. 5