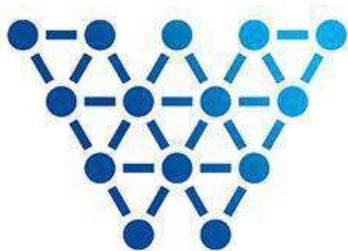


TERRITORIAL FAIR TRANSFORMATION PLAN FOR EASTERN POLAND



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PROJECT

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1. A description of the transition process and identification of the territory within the Member State that will be most negatively affected¹

- 1.1. A description of the expected transition process towards a climate-neutral economy, in line with the objectives of the national energy and climate plans and other existing transition plans, including a timetable for the cessation or reduction of activities such as coal and lignite mining or coal-fired electricity generation

The transformation of the EU economy towards a sustainable and climate-neutral one is a particularly important challenge for Eastern Wielkopolska (WW), an area heavily dependent on the economic monoculture of the mining and energy sectors. Energy transformation (ETC) is treated as one of the directions of economic change taking place in a broader process of multifaceted transformation, bringing not only economic, but also spatial, environmental or social benefits.

The transformation towards a climate-neutral economy is intended to ultimately lead the subregion to climate neutrality as early as 2040, with a fair transition. Targeted and coordinated measures will be taken, e.g. in terms of increasing energy efficiency (EE), the use of climate-neutral energy carriers, the transformation of the economy to a closed loop economy (GOZ), the development of a modern bioeconomy sector and clean mobility, resulting in a reduction in CO₂ emissions in the electricity sector of more than 90-95% by 2030 and in other sectors by 80-90% by 2040. Measures will be implemented to reduce greenhouse gas emissions by at least 55% by 2030, to increase the share of RES in total energy consumption to 32% and to increase EE by 32.5%, thus further reducing the climate disadvantage and bringing the sub-region closer to climate neutrality in 2040. It is planned that by the end of 2030, the air limit levels of PM10 and PM2.5 and the target level of B(a)P will be achieved. At the same time, work will be carried out to offset the remaining emissions by increasing their absorption. It is further assumed that coal mining and its use in electricity and heating will be phased out by 2030. In the area of EO, measures taken to decarbonise, improve EE or ensure energy security will aim to meet the objectives of the National Energy and Climate Plan 2021-2030 (NERP), contributing to the achievement of national climate and energy targets.

It is assumed that the effect of multifaceted measures will be, in the long term, the transformation of Eastern Wielkopolska into a climate-neutral area with a developed zero-emission economy, zero-emission transport and modern and energy-efficient construction. Furthermore, it is assumed that green investments will become a factor activating the local economy, influencing its competitiveness and providing new attractive jobs. The above-described transformation of Eastern Wielkopolska towards climate neutrality will be realised through targeted and coordinated actions detailed in the *Strategy for Climate Neutrality Eastern Wielkopolska 2040*.

¹ Text box 12 000 characters

Schedule of mine closures and coal block shutdowns

The two mines in operation, PAK KWB Adamów SA, which is in liquidation, and PAK KWB Konin SA, currently operate 4 open pits. In the case of the former mine, coal extraction from the Adamów open pit will cease in the first quarter of 2020. In the case of the Konin mine, the open pits of Joźwin, Drzewce and Tomisławice are in operation and will be completed in 2021, 2022 and 2022 respectively.

and by 2030. Importantly, PAK KWB Konin SA has abandoned the exploitation of the deposits: Piaski, Dęby Szlacheckie and Ościsłowo. The discontinuation of coal mining will have a significant impact on achieving the NAPE target of reducing the share of coal in electricity generation to 56-60%.

In the case of the ZE PAK Group, power generation from lignite takes place at 3 power plants:

- Konin Power Plant - equipped with 3 boilers with a nominal thermal power of 391 MWt, including a biomass boiler with a nominal power of 169 MWt and the others with 111 MWt each. The decommissioning of the 2 coal-fired units is scheduled for the end of 2022. On the other hand, the conversion of boiler K-7 to a biomass boiler is planned by the end of 2021;
- Pątnów II Power Plant - equipped with one power unit with a nominal thermal capacity of 1,080 MW. The Power Plant is scheduled to cease operation in 2030;
- Pątnów I Power Plant - the 3 power boilers in operation, i.e. boilers 1, 2 and 5, will be decommissioned by the end of 2030, according to the integrated permit. Despite the possibility of operating the above boilers until 2030. The Group plans to terminate the operation of the Power Plant in 2024.

The volume of energy produced at the power plants reached 6.6 TWh in 2019, consuming 7.3 million tonnes of lignite and emitting 6.61 million tonnes of CO₂. Such significant emissions make the Group the largest source of CO₂ emissions in the province for years - in 2019, it accounted for approximately 60% of the province's CO₂ emissions and nearly 90% of its emissions in the sub-region. The cessation of coal-fired boiler operations will therefore translate into a significant reduction in CO₂ emissions, which will be an important contribution to achieving the national reduction target for this gas by 2030. In addition, according to the ZE PAK Group's plans, in 2030 energy will be produced from RES with an installed capacity of over 1,200 MW, which will significantly contribute to achieving another target set out in the NAPE, i.e. achieving a 23% share of RES in final energy consumption.

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- 1.2. Identify the territory that is predicted to be most negatively affected by the transition and justify this choice with appropriate economic and employment impact estimates based on the information in section 1.1
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Eastern Wielkopolska was identified in the *Spatial Development Plan of the Wielkopolskie Voivodeship 2020+* and the *Strategy of Development of the Wielkopolskie Voivodeship until 2030* as a fuel and energy area particularly vulnerable to the effects of climate change and requiring integrated and coordinated actions towards socio-economic transformation. It includes the city of Konin and the districts of Konin, Kolski, Słupski and Turek, covering a total area of 4.4 thousand km², which accounts for 14.9% of the voivodeship's area, and is inhabited by 433.3 thousand people. This part of the region is characterised by a number of unfavourable trends. In terms of GDP *per capita*, it is one of the most economically underdeveloped areas of the voivodeship, with the highest unemployment rate among all Wielkopolska subregions. In the social sphere, the problem is poverty, an ageing population and a high, negative migration balance.

The structure of the economy is characterised by a high degree of specialisation focused on industrial activities, in which the ZE PAK Group plays a key role, with a strong impact on the environment and space, including through the reduction of water resources

exacerbating the drought phenomenon. The reduction or cessation of the mining and primary energy industries without appropriate mitigation measures will result in a number of negative economic and social impacts (including an economic downturn). This is due, among other things, to the fact that the ZE PAK Group is an important 'player' in the creation of the subregion's GDP - in 2019 it generated more than PLN 1.5 billion in gross added value, i.e. 6.1% of the Konin subregion's GDP. The Group is also an important source of revenue for the finance sector in Poland - the value of public and legal payments (as a result of mining activities) paid by the concern in 2019 amounted to PLN 119.1 million. A significant part of these funds went to municipal and district TSUs (approximately 60%, i.e. about PLN 70 million). Municipalities where open-pit mining is carried out receive significant revenue for their own budgets. With the end of their exploitation, a decrease in tax revenue for some municipalities will be inevitable. For some of them, the share of income from the mining activities of the ZE PAK Group in their own income reaches up to 40-60%. The local economy, including sectors unrelated to mining or energy, is also stimulated by significant funds coming from the salaries of ZE PAK Group's employees - in 2019, the costs of employee benefits amounted to more than PLN 406 million.

Taking measures to mitigate the effects of the transition to climate neutrality is also important from the point of view of the labour market, where the ZE PAK Group plays an important role (EO will involve both the saving of jobs and the need to retrain employees). At the end of 2019, Group employed more than 4,600 people (9.0% were women). 98% of the employees came from the subregion's area, with 48% of the employees coming from Konin, 32% from Konin County and 16% from Turek County. The EO problem will also indirectly affect women, who are economically inactive family members of the Group's employees who maintain households on their own. The establishment and operation of the fuel and energy complex has had a major impact on the economic and social development of the sub-region over the years and has given impetus to the dynamic development of other industries; therefore, the Group's activities also translate into employment in the direct and indirect environment, which may be reduced as a result of the transformation.

Without measures aimed at retraining employees and creating new jobs in other sectors, as well as professional activation of people from economically inactive groups, there will be a significant increase in the level of unemployment, which is already relatively high - which is due, among other things, to the elimination in recent years of a large number of jobs in the ZE PAK Group (since 2011, employment in the Group has fallen by more than 4,000 people). The registered unemployment rate in the subregion was admittedly at 6.8%, compared with 14.7% in 2011, but its decline was due to the current economic climate - invariably, however, it was much higher than the average in the province (3.7% in September 2020). In addition, the reduction of jobs and problems in finding new ones may contribute to an increase in the intensity of migration of residents, especially young people, thus aggravating the already significant problem of depopulation, as well as causing an increase in the level of social exclusion and poverty among some of the subregion's residents.

The loss of income by local governments, particularly in the case of municipalities which base their budgets to a large extent on the income of the ZE PAK Group, as well as the increase in unemployment or the migration of residents, will have a significant impact on the decline in the income of TSUs, which will consequently translate into a reduction in the implementation of development investments and further marginalisation of the subregion.

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

2.1. Assessment of the economic, social and territorial impacts of the transition to a climate-neutral economy²

WW's key development challenges related to the transition are:

- Building an innovative, resource-efficient and diversified economy
- Energy transition towards a zero-carbon and energy-efficient economy
- Developing and improving the use of human capital potential
- Tackling unfavourable demographic trends
- Reducing poverty and improving access to social services
- Building sustainable social capital and cultural capacity
- Tackling environmental degradation and adapting to climate change
- Improving internal transport cohesion and mobility of residents
- Reducing territorial inequalities

The key challenges facing WW outlined above are the result of the work carried out for the preparation of the Plan, and an in-depth description of these challenges is provided in the "Concept for a Fair Transformation of Eastern Wielkopolska".

WW is an area heavily dependent on the mining and energy sectors, which will be significantly affected by the transition. The transition to a climate-neutral economy will mean the decline of the mining sector and the need to transform the energy sector towards renewable energy sources. This will cause significant fluctuations in the socio-economic situation of the WW, in particular associated with a decrease in revenues of local governments, a possible slowdown in the GDP growth rate of the Konin sub-region, as well as an increase in unemployment and a decrease in the remuneration of some residents, which may translate into an increase in the already high level of migration of the sub-region's residents.

The need to meet the ambitious goals of the *European Green Deal* means that the further development of WW will depend on the implementation of economic transformation. ST in the economic area should be seen as a source for building a more diversified economic structure and developing entrepreneurship (the level of which is quite low), including within the IS. In this respect, it is important to create conditions for the maintenance of already existing and the creation of stable jobs (especially in the case of a possible increase in the level of unemployment as a result of mine closures), to increase the level of innovation (currently low in the subregion) and competitiveness of enterprises, to increase the digitalisation of the economy or to stimulate the activity of various entities to carry out R&D work.

As part of the economic transition, it will also be important to exploit existing potentials in the form of favourable conditions for the development of energy based on alternative energy sources, such as a developed electricity infrastructure and related human and intellectual capital or favourable environmental conditions. These will be the basis for moving EO towards a zero-carbon economy. A key challenge for EO will be the development of prosumer energy and energy clusters and cooperatives, as well as the elimination of the use of coal in electricity and heating, decarbonisation and energy intensity in construction, industry, agriculture and transport, including through the development of urban and inter-municipal public transport or the development of electromobility. Energy networks should be upgraded and expanded

² Text field [12000].

and adapt them to connect new RES capacities, as well as developing energy storage technologies and technologies related to the production and use of decarbonised gases such as green hydrogen or biomethane.

A significant challenge will be the restructuring of the ZE PAK Group, the most affected by the climate transition in WW, which will result, on the one hand, in the termination of mining and coal-fired power generation activities and, on the other hand, in the conversion of activities to the restoration of generation capacity based on alternative energy sources, as well as energy storage technologies and those related to the production and use of hydrogen. There are also other companies in the WW that are significant emitters of CO₂ that will be affected by the climate transition, in particular from the electricity and heating sectors (except ZE PAK) or from the ceramic, metallurgical, mineral, wood and paper sectors, employing several thousand people whose jobs may be at risk as a result of the lack of action directed at replacing energy/heat sources or improving EE within industrial processes. Residential and public buildings and transport are also sources of emissions.

Industry restructuring, including the liquidation of some plants and the monopolisation of the local labour market by the fuel and energy sector, and more recently the COVID-19 epidemic have led to a significant increase in unemployment in WW. Among the first four districts with the highest registered unemployment rate in the voivodeship (at the end of 2020) are the districts of Konin (1) and Słupsk (3) and the City of Konin (4). Transformation towards climate neutrality without the implementation of measures to mitigate its effects will intensify the disadvantageous situation on the labour market through the elimination of jobs in the mining and energy sectors or in associated sectors. The ZE PAK Group plays an important role in the labour market, employing 4.6 thousand people (with an average salary of nearly PLN 5.5 thousand, i.e. much higher than the national, as well as regional, average monthly gross salary), a significant proportion of whom will lose their jobs due to EO. The surplus labour force coming from the mining and energy sectors and the insufficient number of jobs outside them will aggravate the existing imbalance in the labour market, which will manifest itself in a further increase in unemployment. In order to counteract the negative trends, it is necessary to create conditions for the maintenance and creation of stable jobs, in particular based on the development of SMEs. The development of the sub-region in the new conditions will require appropriately qualified employees, who should be sought in the first instance among those negatively affected by EO, in particular those leaving/ who have lost their jobs in the fuel and energy sector, as well as other groups inactive or at risk of professional deactivation. The challenge will be to upskill and re-skill workers or jobseekers, including in terms of changing 'dirty' jobs to 'green' ones. In order to increase employability, it is also necessary to improve the quality of education and match the educational offer to the needs of the labour market, as well as to promote lifelong learning and retraining opportunities.

The transition to a climate-neutral economy is also associated with adverse demographic and social developments. There is a high risk that EO will contribute to a more significant slowdown in demographic development through a greater decline in population than before as a result of a faster outflow of young people, labour migration, less frequent decisions by young people to start a family and thus an increase in the dynamics of population ageing. In order to counteract depopulation, it is necessary to halt the decline in the subregion's population, among other things on the basis of active measures to attract new investment and support for entrepreneurship (new jobs) and an effective pro-family policy. In the situation of an ageing population (including, taking into account the employment structure in the ZE PAK Group - 1/3 of the men and half of the women employed in the group are over 50 years of age), the development of the silver, as well as the white economy, whose development is also important due to increased morbidity as a result of poor environmental quality, becomes important. The closure of the mining sector and the reduction of employment in the energy sector and potential

reduction of employment in the value chain of these sectors, may also translate into an increase in poverty and social exclusion, which in the sub-region is - in comparison to other areas of the voivodeship - at a relatively high level. Reducing the risk of poverty and social exclusion will be crucial in this respect. In order to carry out ST, strong social capital is necessary as an important resource for creating a social "spirit" of transformation. In this respect, building social trust, solidarity, a cooperative and collaborative attitude is key. It is important to increase the level of participation of residents in local social relations, as well as the civic activity of residents, the development of the third sector and volunteering, strengthening civic identity and attitudes or enhancing the integrative role of culture and tourism.

Long-term industrial activity, including lignite mining, has resulted in WW having the largest area of degraded and devastated land in the country. Coal mining has caused significant changes to the environment, evident not only in the morphology of the terrain, but also in the alteration of water relations (also outside the WW area) thus exacerbating the droughts that occur. These are multi-spatial in nature and entail transformations in other components of the natural environment and agricultural land. Industry has also contributed to soil degradation and air pollution, which translates into health problems, among others. ST should therefore explicitly include the elimination of such impacts on the environment, its restoration, and the prevention of further pollution of its various components. The restoration of previous functions or properties and the development of new functions on brownfield sites, as well as the restoration of proper water relations are crucial. It is necessary to combat climate change and to adapt to its projected effects, to improve water quality and its sustainable use, to increase retention capacities, and to restore and protect biodiversity.

An important challenge for the subregion's transformation is to ensure an adequate transport system adapted to the needs of its new economic profile and the needs of its inhabitants, and to decarbonise it. The transformation of the sub-region will result in a change in the economic development pattern. It will contribute to changes in the direction of the flow of goods and people, resulting from the closure of mines and the creation of new jobs in the sub-region's economic development centres, as well as the development of new functions on post-mining sites, which should be characterised by good accessibility. This necessitates changes in terms of infrastructure development, in which the development of zero-emission public transport will be a priority, including in terms of reducing the traffic exclusion of residents, and improving road safety. It will also be important to improve the accessibility of business areas to the main transport routes in such a way that freight transport avoids residential areas where possible, and to ensure efficient connections to transport hubs. Due to the limited accessibility of the railway infrastructure, it is crucial to develop this mode of transport, including the construction of the Konin-Turek railway line and the purchase of rolling stock using clean energy sources and carriers. For further economic development that is conducive to the construction of supply chains based on environmentally friendly forms of transport, the development of rail freight and intermodal transport infrastructure is also important.

A challenge is to strengthen the potentials and to reduce the development barriers both of areas struggling with restructuring difficulties, marginalised areas and areas losing socio-economic functions, as well as the strongest WW centres. It is also important to counteract and reduce developmental disproportions in space related in particular to disparities in transport accessibility, uneven inflow of investments, imbalance in the labour market, which leads to intensification of migration processes and depopulation in various parts of the subregion.

2.2.	Development 2030 to	needs and to achieve climate neutrality ³	objectives for
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Mitigation of the social, economic and environmental impacts of the transition to a climate-neutral economy will be achieved through the implementation of a range of measures, concerning the economic, spatial and social spheres, which respond to the challenges faced by WW and which aim to create an innovative, zero-carbon and resource-efficient economy, to provide inhabitants with very good living conditions and decent and qualified jobs, to protect the natural environment, and to provide local governments with new sources of income. The comprehensive approach to WW transformation is part of the ST concept and implies equal access to environmental resources, the labour market, social and technical infrastructure or bridging development disparities to ensure a high quality of life and development opportunities in the long term. Workers and local communities affected by the transformation processes, in particular those in the mining and energy sectors, and the restoration of the natural environment, including the restoration of proper water relations and biodiversity, are central to this approach.

A key element in mitigating the effects of the transition to a **climate-neutral economy** is the **construction of a zero-carbon, dynamic, closed-circuit economy**, within which it is important to increase the innovation and competitiveness of the economy, develop entrepreneurship, activate people from groups that are inactive or at risk of professional deactivation, as well as maintain jobs and create new ones that provide employment for people negatively affected by the transition to climate neutrality, the unemployed or the smooth employment of young people entering the labour market. It is also important to develop and make effective use of human capital in the labour market, whereby the competences and skills of workers, particularly those in EO-affected sectors, and job seekers will be improved. The development of a diversified economy, as well as the growth of innovation, including digitisation, and entrepreneurship will counteract the economic downturn, which will consequently reduce the risk of marginalisation of the sub-region, and will also contribute to an increase in the income of local government units - in particular those that will feel the greatest negative financial effect of the end of the current activities of the ZE PAK Group. The activities undertaken will contribute to the development of a competitive industrial base and market services, providing new sources of GDP growth. They will also translate into an increase in the subregion's attractiveness, thanks to which the phenomenon of unemployment or depopulation will be reduced. Based on endogenous economic potential, it will be important to support measures that will bring the sub-region closer to achieving climate neutrality, in which the reduction of energy poverty among inhabitants will be an important element. Equally important is support for the development of GOZ, in which there is potential for the development of new economic activities in the subregion as well as the creation of new jobs.

The main driving force behind the sub-region's transformation should be **an active society**, which is why it is necessary to eliminate significant elements that reduce the potential for socio-economic development of the WW, which include the existing social disparities. Undertaken actions will contribute to the reduction of poverty and social exclusion of families and persons included in high social risk groups, who without support are not able to improve their life situation, and to the improvement of access to good quality, sustainable and affordable social services. The effect of support in this area will be the reduction of social inequalities and the scale of exclusion, to which professional activation and retraining of employees will also contribute .

Economic development and the improvement of the quality of life of the population, while respecting and protecting and restoring environmental resources, require **an integrated high-quality space** whose resources will also be used by future generations. One of the key

³ Text box [6 000].

areas aimed at improving the quality of space and its functionality, and thus increasing the quality of life of the inhabitants and the development of the economy, is the regeneration of areas transformed by industrial activity by restoring their previous functions or characteristics, or changing their management by giving them new functions. It is essential to restore proper water relations, as well as to restore biodiversity and restore degraded aquatic and water-dependent habitats, thus increasing the retention capacity and increasing the disposable water resources. WW transformation, including mine closures and the development of a diversified economy, will contribute to the diversion of goods as well as labour. In addition, the new specialisations of the economy will have different logistical and infrastructural requirements than the mining and energy sectors. Consequently, measures are needed to expand/modify the sub-region's transport system in order to adapt it to the needs of the new economic profile of the sub-region and the needs of the population, where the development of public transport will be a priority.

The sub-region's transformation will concern the entire WW area, but particular attention will be paid to areas where the scale of development problems is greatest, in particular the municipalities that will be most affected by the transformation towards climate neutrality. In addition, the possibility is envisaged of implementing integrated measures consisting in integrating various social, economic or spatial aspects within the projects as a source of synergy.

2.3. Coherence with other national, regional or territorial strategies and plans⁴

Reference: Article 7(2)(e)

The Plan will take actions contributing to the implementation of the NAPE, which presents an integrated approach to the implementation of the five dimensions of the energy union, i.e. decarbonisation, EE, energy security, internal energy market and research, innovation and competitiveness. The sub-region's transformation will serve to achieve the national targets set for 2030, as indicated in the aforementioned document, i.e.:

- share of RES in final energy consumption set at 23%;
- the share of RES in transport set at 14%;
- GHG emission reductions in non-ETS sectors set at -7% compared to 2005 levels;
- an improvement in EE set at 23% in relation to primary energy consumption according to the PRIMES 2007 forecast, corresponding to primary energy consumption of 91.3 Mtoe in 2030;
- reducing the share of coal in electricity generation to 56-60%.

The Plan will contribute to the implementation of the *Strategy for the Development of the Wielkopolskie Voivodeship until 2030*, in which WW was designated as an Area of Strategic Intervention. The Plan incorporates the findings of the Strategy in terms of transforming this part of the region not only in terms of climate neutrality, but also in terms of socio-economic transformation. According to its assumptions, the aim of the transformation is a safe and smooth transition from a coal-based economy to a modern economy based on energy from alternative sources, including RES, hydrogen, taking into account sustainable development and respecting the social side. The sub-region's transformation will make an important contribution to the implementation of the actions envisaged for the WW under all the strategic objectives of the Strategy, viz:

Objective 1. Economic growth of the Wielkopolska region based on the knowledge of its inhabitants

Objective 2: Social development of Greater Poland based on tangible and intangible resources

⁴ 6 000 characters.

region

Objective 3: Development of infrastructure with respect for the natural environment in Wielkopolska
Objective 4: Increasing the efficiency of Wielkopolska's institutions and management of the region

The second basic document setting out the directions of WW development is the *Spatial Development Plan of the Wielkopolskie Voivodeship. Wielkopolska 2020+ (PZPWW)*. It defines the spatial policy, the target functional and spatial structure of the region and measures to achieve supra-local public objectives. Eastern Wielkopolska, due to the occurrence of specific spatial management problems, was indicated in the Plan as one of the functional areas of regional importance: Eastern Functional Area. According to the PAP, the key objective of the spatial development of the WW is to create new foundations for sustaining the functioning of the existing energy industry and basing it on other energy carriers, both existing in the region and external. It is also important to shift the area's economy based on energy and mining to multifunctional business profiles, with a particular focus on enriching service functions. In order to achieve the key objective, the following spatial policy objectives have been defined:

Objective 1 Sustain and restructure the energy industry

Objective 2 Shaping new functions to underpin the development of the area

Objective 3 Shaping the natural environment

The plan is also consistent with the draft *Regional Innovation Strategy for Wielkopolska 2030* aiming to increase innovation and competitiveness of the region through IS development. Therefore, IS will occupy an important place in the process of diversification of the sub-regional economy, which should contribute to an increase in the level of competitiveness and innovation of WW. In this process, regional and sub-regional IS, such as Renewable Energy Sources and modern energy technologies, as well as Tourism, originating from the sub-region's traditions and internal potential, will be used.

In terms of environmental protection, the key document at the regional level is the *Environmental Protection Programme for the Wielkopolskie Voivodeship until 2030*, which defines the objectives and directions of intervention and activities aimed at improving the state of the environment, with which the activities undertaken as part of the subregion's transformation will be consistent. The plan is also consistent with the *Waste Management Plan for the Wielkopolskie Voivodeship for 2019-2025 with an investment plan*, as well as the *Air Protection Programme for the Wielkopolska zone* and the *Ozone Air Protection Programme for the Wielkopolska zone*. The main objective of the first document is to prepare the functioning of the municipal waste management system in the 2019-2025 perspective, taking into account the need to meet the requirements of the closed-loop economy package introduced by the European Commission in July 2018. Air protection programmes, on the other hand, are primarily aimed at protecting the health of residents through measures aimed at achieving the permissible levels and the exposure concentration ceiling or achieving the target levels of substances in the air.

2.4. Types of operations planned⁵

Mitigation of the effects of climate transformation should be seen in a diversified economic structure, growth of entrepreneurship and innovation, including in IS areas, which will counteract the economic slowdown and consequently reduce the risk of the subregion's marginalisation. Transforming the subregion's economy into an innovative and competitive one requires stimulating the R&D activities of SMEs and other entities. A key factor needed to diversify the economy and reduce the negative impact of the

⁵ 12 000 characters

climate transformation on employment is also to build an innovative and competitive SME sector, where it will be important to create new jobs (with a preference for hiring people who have lost their jobs as a result of EO), which should contribute to the professional activation of the population.

Types of operations planned:

- investments in R&D infrastructure of scientific entities and/or enterprises (including their consortia), as well as support for R&D projects and for commercialisation of R&D results;
- innovation vouchers, i.e. funding for the purchase by SMEs of advisory and research services from scientific entities and BEIs;
- start-up ecosystem-building projects, including the development of incubators or coworking spaces;
- comprehensive incubation support for start-ups;
- support for investment in SMEs to adapt to changing market and technological conditions.

In view of the economic transformation of the WW and the increasingly rapid technological changes, the development of the digital economy will be one of the important factors for social and economic change. It will contribute to increased productivity and labour productivity, the development of new forms of work or the rationalisation of expenditure. A modern economy based on digital solutions will stimulate innovation, thus transforming business models, production processes or products themselves. It will also promote more efficient use of resources or less material consumption. The widespread availability of public resources will allow, among other things, greater use by entrepreneurs, both in terms of using public information to a basic extent and building entrepreneurship based on public data.

Types of operations planned:

- support for the digitalisation of business operations;
- supporting the development of electronic public services and increasing access to them for businesses and residents;
- the creation and development of digital databases on brownfield sites together with the valorisation of these areas.

A large potential for the development of new economic activities in the subregion, as well as for the creation of new jobs, lies in the closed-loop economy, which is also associated with environmental protection and large savings.

Types of operations planned:

- projects to reduce the resource and material intensity of production processes in companies and to prevent waste;
- projects to develop infrastructure to support separate collection and recycling of waste and preparation for reuse;
- creation of repair and reuse points for products.

Building the subregion's new competitive advantages for the living conditions of future generations and reducing global warming and environmental pollution requires an EO that will bring the WW closer to achieving climate neutrality and providing an attractive place to live and work. The measures taken will be aimed in particular at the development of prosumec energy and the replacement of heat sources with eco-friendly and environmentally friendly ones. It is assumed that green investments will become a factor activating the local economy, increasing its competitiveness and providing new attractive jobs.

Types of operations planned:

- RES support for electricity and heat generation, including umbrella projects of TSUs for consumers in the area;
- improving the EE of public and residential buildings with the installation of RES equipment, including the replacement/modernisation of heat sources or connection to a district heating/cooling network;
- measures to reduce fuel poverty, including complementary social measures for people affected by fuel poverty.

Supporting the resilience of the labour market to the changes taking place will play a key role in the transformation of the subregion and in counteracting unemployment, which may increase as a result of EO. In this respect, it is important to activate human capital from inactive groups and those at risk of professional deactivation, in particular those linked to the fuel and energy sector, as well as to better adapt employees, enterprises and entrepreneurs to the changes taking place, including adaptation to the requirements of a zero-carbon or closed-loop economy and technological progress. In addition, increasingly rapid changes in the labour market will force entrepreneurs and employees to be more flexible. Work-life reconciliation measures that increase the employability of those with caring roles are also important.

Types of operations planned:

- support for people negatively affected by the transition to climate neutrality, i.e. people at risk of losing their jobs, scheduled for redundancy or made redundant for company-related reasons;
- professional activation of the unemployed, including the economically inactive;
- support for those planning to start a business;
- support for the development of the competences and skills of working people;
- development support for businesses to adapt to changes in the economy;
- the development of flexible and attractive forms of employment;
- Increasing access to childcare services for children up to the age of three and people with disabilities.

For the development of the WW, it is crucial to have access to an appropriately qualified workforce, which is necessary to build the "new" economy of the sub-region and necessary in view of the ongoing digital transformation or automation and robotisation. In this respect, it is crucial to raise the level of skills and qualifications of the population, inter alia by improving accessibility to various forms of lifelong learning and better matching education and training to the needs and challenges of the labour market.

Types of operations planned:

- projects in support of vocational training tailored to the needs and challenges of the labour market, including support for cooperation with employers;
- the development of educational and vocational guidance in schools and educational establishments;
- support for learning in non-school forms, such as vocational qualification courses, vocational skills courses;
- projects for the development of higher education tailored to the needs of the sub-region's specialisation.

The transformation effort should focus on eradicating poverty in all its manifestations, which is a necessary condition for sustainable development. Therefore, it is important to take action to address the problem of poverty and social exclusion of families and individuals classified as high social risk groups. Actions in the field of inclusion

of social protection should focus on workers (and their families) who have lost their jobs due to EO, as well as other vulnerable people in the labour market, including women or people with disabilities. In addition, in order to counteract inequalities and their exacerbation, it is necessary to increase access to good quality and sustainable services for people who are dependent, disabled, in receipt of social assistance due to disability and long-term or serious illness or at risk of social exclusion. An important role in the fight against social exclusion will be played by social economy entities (PES), which should also be used to support the transition towards climate neutrality.

Types of operations planned:

- projects aimed at the socio-professional activation of people at risk of poverty or social exclusion, in particular those affected by EO;
- projects to improve the quality and effectiveness of social services in the local environment (deinstitutionalisation);
- projects to support PES to engage in pro-climate activities.

The sub-region is characterised by a very large area of degraded and devastated land, which requires actions aimed at restoring its former functions or its rational development in a new way. It is also crucial to restore proper water relations in the subregion, e.g. by restoring natural retention and levelling mine drainage funnels, and preventing too rapid outflow of rainwater and snowmelt. The hydrological problem associated with mining drainage encroaches beyond the WW, so it should be possible to implement key measures also outside the subregion - in the areas of influence of the mines.

Types of operations planned:

- remediation, decontamination and remediation of brownfield sites;
- the development of brownfield sites to give them new functions, including for the development of RES installations, the creation of investment, tourist or leisure areas;
- development of micro and small-scale retention;
- Protection and restoration of natural habitats, including wetlands;
- restoration of the hydrographic network and renaturalization of transformed watercourses;
- investments in water facilities and hydraulic infrastructure to restore water relations and reduce the effects of drought;
- climate change adaptation measures, including the development of green and blue infrastructure, the removal of impervious surfaces, the development of rainwater management systems and stormwater drainage.

The transformation of the WW requires a well-functioning transport system. In this respect, it is important to improve transport accessibility to labour markets, public services, as well as to increase the mobility of inhabitants and to develop environmentally friendly public transport. The above becomes particularly important in the case of the transformation of mining regions, where a reorientation of economic specialisations is taking place, entailing a change in the direction of the flow of goods and people. It will also be important to connect post-industrial areas included in the socio-economic cycle, which will be restored or given new functions, and to improve accessibility, especially to areas with the lowest transport accessibility.

Types of planned operations:

- purchase of zero-emission bus fleets for urban and inter-municipal connections with the necessary infrastructure;

- investment in the development of public transport, including projects to integrate public transport and improve passenger flows, including the development of interchanges;
- development of infrastructure for non-motorised traffic, including the development of cycle routes or urban cycling systems.

The above-mentioned operations cover only part of the activities responding to the identified challenges necessary for comprehensive ST. It is crucial to undertake a variety of activities for the development of WW, complementary to those described in this section, using a variety of financial sources, including the programmes implementing the Partnership Agreement 2021-2027, the Modernisation Fund and the other pillars of the ST mechanism. The FST and other funding sources will form a coherent and complementary whole, and projects implemented under them should contribute to maximising synergies. Investments from Pillars 2 and 3 of the ST Mechanism should address the WW area and fit into the challenges outlined in Section 2.1 and meet the development needs arising therefrom and, in the case of economic development, also fit into the IS.

2.5. Output or result indicators specific to the programme

Tables to be completed at a later stage of the work - the key is to determine the field of intervention and the allocation to each type of action

Table 1 Product indicators

Specific objective	Identification number	Indicator [255]	Unit of measurement	Interim target (2024)	Final target (2029)
Enabling regions and people mitigation social, economic and environmental effects of the towards an economy climate-neutral	RCO01	Supported enterprises (including: micro, small, medium, large)			
	RCO 02	Subsidised enterprises			
	RCO 03	Companies covered by supported from financial instruments			
	RCO 04	Companies receiving non-financial support			
	RCO 05	Start-ups supported			
	RCO 10	Companies cooperating with the centres research			
	RCO 120	Enterprises supported to achieve reduction emissionsgases greenhouse			

Specific objective	Identification number	Indicator [255]	Unit of measurement	Interim target (2024)	Final target (2029)
		derived from the activities listed in Annex I to Directive 2003/87/EC			
	RCO 13	Digital services and products developed for businesses			
	RCO 15	Generated capacity incubation businesses			
	RCO 101	SMEs investing in skills development			
	RCO 22	Additional power generation capacity renewable energy (including: electricity, thermal energy)			
	RCO 34	Additional recycling capacity waste			
	RCO 38	Supported rehabilitated area land			
	RCO 39	Installed systems monitoring air pollutants			
	Concerning participants ^{6,7}				
	RCO 200	the unemployed, including the long-term unemployed;			
	RCO 201	the long-term unemployed;			
	RCO 202	economically inactive people;			

⁶ All output and result indicators on participants should be reported.

⁷ All personal data is to be broken down by gender (male/female - non-binary). When specific outcomes are not possible, there is no need to collect or report data relating to these outcome indicators. When collecting data from registers, Member States do not have to comply with commonly agreed definitions and may use national definitions.

Specific objective	Identification number	Indicator [255]	Unit of measurement	Interim target (2024)	Final target (2029)
	RCO 203	persons employed, including the self-employed;			
	RCO 204	persons under 30 years of age;			
	RCO 205	people over 54 years of age;			
	RCO 206	people with lower secondary education or less (ISCED 0-2);			
	RCO 207	people with upper secondary education (ISCED 3) or post-secondary education (ISCED 4);			
	RCO 208	people with tertiary education (ISCED 5 to 8);			
		RCO 209 - total number of participants ⁸			

Table 2: Result indicators

Specific objective	ID No.	Indicator [255]	Unit of measurement	Baseline or reference value	Reference year	Final target (2029)	Data source [200].	Notes [200].
Enabling regions and people to mitigate	RCR01	Jobs created in supported entities						
	RCR 02	Investments supplementary private support						

⁸ Calculated automatically on the basis of common output indicators relating to employment status.

Specific objective	ID No.	Indicator [255]	Unit of measurement	Baseline or reference value	Reference year	Final target (2029)	Data source [200].	Notes [200].
social, economic and environmental impacts of the transformation towards a climate-neutral economy for the climate		public (w including: grants, financial instruments)						
	RCR 03	SMEs introducing product or process innovations						
	RCR 04	SMEs introducing marketing or organisational innovations						
	RCR 05	SMEs innovating within the company						
	RCR 06	Patent applications filed with the European Patent Office						
	RCR 29	Estimated greenhouse gas emissions from activities listed in Annex I to Directive 2003/87/EC carried out in supported enterprises						
	RCR 11	Users of new public digital services and applications						
	RCR 12	Users of new digital products, services and applications developed by companies						
	RCR 17	Companies that have been on the market for 3 years						

Specific objective	ID No.	Indicator [255]	Unit of measurement	Baseline or reference value	Reference year	Final target (2029)	Data source [200].	Notes [200].
	RCR 18	SMEs using the services of a business incubator one year after its establishment						
	RCR 97	Participants in vocational preparation programmes supported in SMEs						
	RCR 98	SME employees completing continuing vocational education and training (by type of skills: technical, management, entrepreneurship, environmental, other)						
	RCR 31	Generated Total renewable energy (of which: electricity, heat)						
	RCR 32	Renewable energy: grid-connected generation capacity (operational)						
	RCR 46	Population served by waste recycling facilities and small waste management systems						
	RCR 47	Recycled waste						
	RCR 48	Recycled waste used as raw material						
RCR 49	Recovered waste							

Specific objective	ID No.	Indicator [255]	Unit of measurement	Baseline or reference value	Reference year	Final target (2029)	Data source [200].	Notes [200].
	RCR 50	Population benefiting from air quality measures						
	RCR 52	Areas Reclaimed land used as green space, for the construction of social housing or for economic or social activities						
concerning participants ⁹ :								
	RCR 200	participants seeking employment after completing participation in the programme;						
	RCR 201	participants in education or training after completing participation in the programme;						
	RCR 202	participants gaining qualifications after participation in the programme;						
	RCR 203	working participants, including the self-employed self-employed, after completing participation in the programme						

⁹ All personal data is to be broken down by gender. When specific results are not possible, there is no need to collect or report data for these outcome indicators. When collecting data from registers, Member States do not have to comply with commonly agreed definitions and may use national definitions.

3. Management mechanisms¹⁰

Reference: Article 7(2)(f)

3.1. Partnership

The success of the equitable transformation of WW relies on all parties involved in the process taking ownership of the process, and therefore a wide range of partners have already been involved at the Plan development stage, as stipulated by Article 7(3) of the FST Regulation. The inclusion of the partnership principle at the implementation stage of the Territorial Fair Transformation Plan for Eastern Greater Poland (TPSTWW) will ensure that the partnership is made a dynamic process and facilitates dialogue in decision-making.

TPSTW development stage

In April 2019, the regional authorities led to the conclusion of the 'Agreement for a fair energy transition in Eastern Wielkopolska'. Nearly 100 actors, representing the public sector, private sector and NGOs, became signatories of the agreement. The Covenant became the foundation for the establishment of working groups in the WW area in June 2020, in which nearly 200 people representing a variety of backgrounds volunteered to participate. The main objective of the groups' work was to define the key problems and resulting challenges for the subregion and to develop guidelines for the planned transformation process

WW. In addition to the aforementioned groups, various meetings were organised with interested stakeholders, including representatives of ZE PAK Group employees, young people, people interested in hydrological issues. A call for fiches of planned projects to be implemented after 2020 was carried out for the purpose of identifying expectations and needs occurring in WW and defining appropriate lines of intervention. A Concept for Equitable Transformation of Eastern Wielkopolska was developed, the assumptions of which were consulted with various stakeholders and which formed the starting point for the development of the TPSTWW.... project. (to be completed at a later stage of the work).

TPSTW implementation phase

The following forms of partnership are planned for the implementation of the Plan:

- the participation of representatives from the WW in the work of the Monitoring Committee of the European Funds for the Wielkopolska Region for 2021-2027, which will be the main implementer of the partnership principle at programme level, as a consultative and monitoring entity;
- setting up a working group on WW at the MC to develop common positions on the implementation and monitoring of the Plan;
- in the case of evaluation studies concerning the implementation of the Plan, representatives from the sub-region will be invited to the work of the evaluation steering group, operating within the structures of the Managing Authority, in particular to discuss the results of the studies conducted.

The Self-Government of the Wielkopolskie Voivodeship recognises the need to establish the Eastern Wielkopolska Sub-regional Forum, i.e. a body for stimulating strategic discussion on the objectives, directions and effects of the sub-region's transformation. The task of the Forum, the functioning of which will be supported by the technical assistance of the FST, will be, in particular, the exchange of knowledge, experience and information between various public and non-public entities involved in the activities for the transformation of the WW, the assessment of key processes and phenomena affecting the process of transformation of the subregion.

¹⁰ 5 000 characters.

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3.2. Monitoring and evaluation

The TPSTWW will be an element of the wider MIP 2021+ implementation system, within which an appropriate monitoring and evaluation system will be designed to monitor the achievement of the objectives defined in the Plan. The coordinator of the Plan's monitoring and evaluation system will be the Managing Authority of the WRPO 2021+. This system will draw on the previous experience of the implementation of operational programmes in the 2014-2020 perspective, including the developed mechanisms and tools for monitoring and assessing the achievement of indicators or conducting evaluation studies - aimed in this case at determining the usefulness and effectiveness of the Plan's implementation. For the needs of the Plan, the monitoring system of WROP 2021+ will include additional measures supporting effective planning, periodic evaluation or adaptation of undertaken measures to changing socio-economic conditions, including, among others, organisation of an annual MC meeting to review the Plan's implementation, which will provide an opportunity for a possible adjustment of its implementation or discussion of identified new challenges, or creation of a working group of the MC on WW.

To be completed/modified at subsequent stages of work

3.3. Coordinating and monitoring entity(ies)

WRPO 2021+ Managing Authority: The Board of the Wielkopolskie Voivodeship, performing its tasks with the involvement of the relevant departments of the Marshal's Office of the Wielkopolskie Voivodeship in Poznań, viz: Department of Regional Policy, Department of Regional Programme Implementation and Department of European Social Fund Implementation.

Intermediate Body (for TPSTWW): Regional Development Agency in Konin.