

2021 TJTP Territorial Just Transition Plan

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Table of contents

Territorial just transition plan - TJTP_MEG.TJTP Megalopolis (2.0)	3
1. Outline of the transition process and the identification of most negatively affected territories within the Member State	3
2. Assessment of transition challenges, for each of the identified territories	8
Territory: Μεγαλόπολη	8
2.1. Assessment of the economic, social and territorial impact of the transition to a climate-neutral economy of the Union by 2050.....	8
2.2. Development needs and objectives by 2030 in view of reaching a climate-neutral economy of the Union by 2050.....	11
2.3. Consistency with other relevant national, regional or territorial strategies and plans	13
2.4. Types of operations engaged	15
3. Governance mechanisms	21
4. Programme-specific output or result indicators	24
Justification for the necessity of programme-specific output or result indicators based on the types of operations envisaged	24

Territorial just transition plan - TJTP_MEG.TJTP Megalopolis (2.0)

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

Reference: point (a)(b) of Article 11(2), Article 6

1.1. Transition process and timetable

Commitments in force

Greece ratified the Kyoto Protocol in 2002 & the Paris Agreement in 2016. The NECP, the main tool for national policy-making over the next 10 years, was ratified in 12nd/2019 by decision of Government Council [(Government Gazette, Series II, No 4893)] & reflects the increased climate ambition & the national target set at the UN Climate Conference of 9th/2019: complete de-lignitisation of Greece by 2028 with a drastic reduction and complete removal of lignite from the electricity mix, on the basis of an organised plan for the withdrawal of lignite-fired power plants, decarbonising the islands by 2029. This objective was identified as “good practice” in the EU Staff Working Document on “Assessment of Greece’s final national energy & climate plan[1]”.

In parallel, Greece has developed the 2050 long-term strategy[2], with decarbonisation scenarios. In the 2 scenarios compatible with keeping global temperature increase below 1.5 °C, the country achieves a 95 % reduction in its net emissions compared to 1990.

New developments

Since the ratification of the NECP, energy & climate change developments have been rapid, with the following main developments: a) the “Fit for 55” package introducing a more ambitious climate target than the 40 % target in force when the NECP was drafted & b) the REPowerEU Joint European Action.

Greece remains committed to its commitments & is consistently implementing a targeted network of relevant actions: penetration of RES, licensing/regulatory framework for energy storage & H2, energy upgrading, incentives for electrification, district heating, the installation of HPS, etc. The TJTPs are aligned with this grid as they provide for interventions promoting zero pollutant emissions from energy production and assist the other areas of interest of the NECP.

Greece monitors current developments in the energy sector & will make appropriate adjustments to its national planning if necessary.

Withdrawal of lignite plants/lignite mines

Many lignite-fired plants have already been withdrawn. In 2011, the production of PPC’s plants was 27.4 TWh & in 2019 10.417 TWh, reduced by 62 %. In 2020, lignite-fired energy production was 5.7 TWh compared to 8.1 TWh foreseen in the NECP for the same year, reduced by 30 %.

The transition process towards the EU’s 2030 targets in TJTP of WM & Megalopolis follows the following timetable for the cessation of lignite mining & electricity generation: all lignite plants will be withdrawn by 2023, with the exception of one (Ptolemaida V) which will be withdrawn by 2028 (Annex-tab.1.1).

Transition to islands

In the North Aegean, South Aegean and Crete, the transition by 2029, based on national policy, is implemented twice: (a) gradually increasing the penetration of RES into consumption, based on the approved plan of interconnections with the mainland electrical system and/or with the installation of HPS, and (b) phasing out the 32 autonomous thermal electrical systems, each supplying one or more non-interconnected islands (NII). The ultimate objective is to cover the islands' energy needs from clean energy and the 'export' of excess clean energy to the mainland (Annex, Unit 1.2/Table 1.4).

Starting in 2020, the existing **installed capacity (RES)** per cluster of islands is:

- 296 MW — Crete,
- 54 MW — Cyclades,
- 105 MW — Dodecanese,
- 64 MW — North Aegean,

while the total share of RES in consumption is 24 %, 30 %, 16 % & 18 %.

At the end of the PDB 2021-2027, **additional capacity (EEI) is planned to be installed:**

- 398 MW — Crete,
- 66 MW — Cyclades,
- 163 MW — Dodecanese,
- 118 MW — North Aegean,

which, on the basis of data from the NECP and assumptions under the TJTP, can lead to an overall share of RES in consumption of 76 %, taking into account the mix of interconnections, of 72 %, 71 % and 75 %, respectively (Annex of Islands, Unit 1.2/Methodology).

In the interim (2025-2026) the objective is to **install additional capacity:** 155-182 MW in Crete, 50-65 MW in Dodecanese, 42-50 MW in the Northern Aegean Sea, 14 MW in Cyclades.

The area available per cluster of islands for the development of the above RES capacity will be determined upon approval of the special RES spatial planning framework under preparation.

The installation of RES power in the island area depends on the available margins (electrical space) of the network. The electrical interconnections of the NIIs increase the 'electrical space' & the energy produced

by thermal plants is replaced by clean forms. At the end of the interconnections, some thermal plants will be placed in cold reserve to ensure security of supply.

The uptake of new technological solutions & business models can remove the “electrical space” barrier regardless of interconnections. The plan for the installation of HPS[3] on the islands without a clear interconnection plan can lead to more than 50 % penetration of RES in consumption, depending on the local conditions per island. If necessary, a specific study will be carried out to determine the appropriate % of RES penetration per category of islands.

On the **basis of the interconnection** plan, three NII networks have already been connected to the mainland network[4] and the timetable for completion of the remaining interconnections, based on the recent TYDP of HEDNO (2023-2032) and NDP OF HEDNO (2021-2025), is as follows:

- 2023: Crete (2nd phase — ongoing)
- 2024: Cyclades (phase 4 — ongoing)
- 2028: Dodecanese
- 2028: B. Aegean Sea

All the reference islands of the TJTP (individually or as part of an autonomous NDP) will be interconnected with the continental system by 2028, except for 8 NIIs covering 9 islands (Gavods/Crete, Agios Efstratios/V. Aegean Sea, Symi, Patmos, Memaxis, Astypalaia, Arkis, Marathi, Agathonisi/N. Aegean Sea)[5].

For these — and those which have an interconnection forecast after 2025 — the transition starts as a matter of priority with the development of EPG HPS of electricity combined with wind-solar energy with storage systems. The RAE (Regularity Authority for Energy) estimates that the 50-60 % RES penetration target is achievable on all islands where HPS will be installed. In particular in Agios Efstratios & Astypalaia, a pilot penetration of 80-90 % will be implemented to explore the feasibility of similar projects and on other islands at a later stage.

Transition steps & actions

Greece follows the individual steps/pillars & supporting actions proposed in the World Bank roadmap for the WM[6], for the entire JDT process adapted to the specificities & other regions. 2 steps (design/implementation) are recognised & 3 pillars for JDT:

1. Rehabilitation & re-use of degraded areas/facilities
2. Social Cohesion & Economic Transformation (Transition to the New Product Model)
3. Governance

Pillar 1: The planning started with Law 4759/20 on the JDT Plan, including the approval of two programme contracts (paragraphs 2 and 3 of Article 155) for the spatial planning (SUP) and the transfer of the land from PPC to the State, respectively, and will be completed with the approval of the new land uses in 2023. Implementation starts with the restoration of lignite-fired land and finishes with the first organised receptors in 2025.

Pillar 2: The planning started in 2020 with the preparation of the JDT Plan [7] & will be completed with the approval of the TJTPs & the JDT Programme in 2022. Implementation will start with the activation of the actions of JDT Programme (2022) and will be completed at the end of the PP. It also includes the activation of the actions of the 2nd and 3rd Pillars of JTM.

Pillar 3: The planning started with the establishment of a Governmental & Coordination Committee of JDT Plan as in force[8], the establishment of a Technical Secretariat of the Steering Committee (Law 4685/20) and ends with the establishment/establishment/operation (a) of the Special Authority of JDT under Law 4872/21 & (b) of the ‘Metavasi S.A.’, a SPV (special purpose vehicle) to support beneficiaries and investment projects.

Table 1.2 of the Annex shows the timing of the most important actions per stage & pillar.

Milestones of the migration process:

- 07.2020: Open call[9] for non-binding investment proposals and development projects by entities outside the public sector, in cooperation with Enterprise Greece.
- 2020-2021: Launching actions to pilot holistic interventions in Agios Efstratios & Astypalaia, with a focus on clean energy, saving & electro-mobility.
- 04.2021: Adoption by the EU of revised regional aid guidelines[10].
- 06.2021: Open call[11] to public bodies for interventions to strengthen social cohesion, reorient employment, diversify the local economy, attract direct investment & prepare for hosting new activities & larger scale investments in the Regional Units of Kozani, Florina & Municipality of Megalopolis.
- 09.2021: MEO design and launch of employment support programmes.

1.2 Identification of affected soils

The region of Megalopoli has 13 % of the country’s installed electricity capacity. All units in the area will be withdrawn by 2023. The process of de-lignification shall be in line with the EU & national target for the transition to a climate-neutral economy. This transition entails the cessation and/or limitation of activities & related industries, while the importance of extraction & generation of energy from lignite combustion results in significant adverse socio-economic impacts.

- It is estimated that de-lignitisation will affect directly, indirectly and primarily the Municipality of Megalopolis (population 9.5 thousand persons), where the core of lignite activity is located. In the second instance, it is estimated that the neighbouring municipalities of Gortynia (population of 8.99 thousand persons), Tripoli (population of 42.01 thousand persons) and Oihalia (population of

10.47 thousand persons) will be directly, indirectly and indirectly affected. All municipalities are located in the Regional Unit of Arcadia, with the exception of the latter, in the Regional Unit of Messinia.

- The main characteristic of the affected areas will remain the non-renewal of the population and its subsequent ageing, depriving the area of the human capital necessary for its development (Annex, Table 1.3). The trend of depopulation over time in the wider region of Megalopoli is expected to continue.
- In the Peloponnese, the Location Quotient index (LQ), which calculates production specialisation, has a price for extraction & energy production of 1.12, according to an OECD study[12], which is estimated at the level of the affected region as quite high & shows the significant dependence of economic activity on lignite production. The impact of de-lignitisation on the economy of the affected region, above all Megalopoli, will be particularly significant (coordinated. RM Committee — Link-fired Areas SAPs, 2020).
- In the Regional Unit of Arcadia, employment & gross value added in the lignite sector is particularly significant (~50 % of employment & 64 % of the industry's GVA in the region as a whole).
- In the Regional Unit of Arcadia (base year 2019), the mining, energy & water sector directly creates over 1.6 thousand jobs. The lignite value chain (direct, indirect & induced effects) contributes to the employment of around 3 100 people.
- The mining, energy and water supply sector has a significant proportion of direct employees in the Regional Unit of Messinia, 21 %, indicating the interaction with lignite activity in Megalopoli.
- In addition to the Regional Unit of Arcadia, there is a contribution of the energy & mining activities in the Regional Unit of Messinia, in particular to Municipality of Oihalia, which is linked to the interaction at economic, business and business level and at the employment level.
- De-lignitisation started several years ago (2014), without significant measures being taken. In the Regional Unit of Arcadia there is a low GDP compared to other parts of the country, a decline in population and high unemployment. Part of Megalopoli is heated by a district heating network, which exploits the excess heat of lignite plants and will be affected by the de-lignification.
- The contribution of lignite activity to the economy of the Arcadia Regional Unit is confirmed by the amount of investments made by PPC. In 2014–18 PPC is estimated to have made investments in local contractors worth ~ EUR 119 million. In view of the indirect & induced effects of lignite activity, these investments create multiplier effects by further strengthening the local economy. In particular, the cost of PPC's contract staff for 2019 is estimated at EUR 22 million. The important contribution of the energy, mining and water supply sector to the Regional Unit of Arcadia & consequently the expected influence of de-lignitisation on the economy and business activity in the Municipality of Megalopolis and in the wider region is understood.
- The broader territorial approach, which includes the municipalities of Megalopoli, Gorunia, Tripoli & Oihalia, effectively leads to a stronger economic & labour impact, as it will offer a large number of employment opportunities from geographically limited funding. While recognising that Municipality of Megalopolis should gain a dynamic change of identity through the relevant investments, investors will be interested in & consider the wider region as a whole, which will create significant opportunities for territorial development not only for the region of Megalopoli but also for the wider region.

To sum up, the process of de-lignitisation will **primarily affect the D. Megalopolis & secondarily the neighbouring municipalities of Tripoli and Gortynia by the Regional Unit of Arcadia, as well as the neighbouring Municipality of Oihalia from the Regional Unit of Messinia.**

In terms of implementation of the JDT Programme, the concepts of 'primarily' and 'secondarily' relate to land adjustment measures and integrated actions under proposal 5, which relate exclusively to the

‘primary’ areas affected.

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

Reference: point (c) of Article 11(2)

Territory: Μεγαλόπολη

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

Reference: point (c) of Article 11(2)

The transition process has started in the wider area of Megalopoli since 2014, when the units Megalopoli 1 and Megalopoli 2 were closed. The recession that hit the whole of Greece over the past decade has made the situation more difficult.

Accelerating the transition process means that the **economic, social and territorial impacts** observed in the previous period will intensify. In particular:

- The region of Megalopoli has (strong) specialisation in the extraction and production of energy from the combustion of lignite. Lignite activity has not generated significant industrial spillovers over the years, capable of further enhancing industrial development. There is a small industrial activity in the region of Tripoli, unrelated to the lignite value chain. In addition, industrial development has been constrained by the saturation of the industrial area there. Therefore, there are no alternatives to which lignite workers and young jobseekers can switch.

In this context, declining and transforming activities can be categorised as follows:

- **Category I — declining activities:** The affected economic activities in Megalopoli and neighbouring fossil fuel-based municipalities where cessation or significant reduction of activities due to the transition towards climate neutrality are expected directly include the lignite mining and lignite-fired power generation sectors[1] and indirectly the extractive waste and remediation sectors.
- **Category II — transforming activities:** This category includes activities included in the value chain of lignite mining and conventional electricity generation, such as wholesale and retail trade in raw materials and spare parts related to lignite activity and electricity generation in lignite plants, specialised construction work, manufacturing and marketing of metal products, machinery and equipment, transport services, repair services of machinery and heavy trucks and the provision of professional, scientific and consultancy services

In addition, reference should be made to the activity of operators with a particular role in the region, or a link to lignite/mining/lignite activity, which will be affected by the de-lignitisation and will have to redefine their role and services. In addition to local government, such bodies are (by way of example) the

- **IOBE estimates the overall impact on jobs from the de-lignitisation of 3 100 to 2029.** The direct impact of de-lignitisation in the region will be 1 263 jobs. Estimates are made in relation to 2019. In particular, the direct impact of de-lignitisation on employment in the electricity sector in Megalopoli is estimated at 481 jobs by 2029 (compared to 2019) and losses in the lignite mining sector at 782 jobs (in full-time equivalent terms). More than half of the jobs lost are in activities related to the lignite sector indirectly and induced. The indirect and induced impact of de-lignitisation amounts to 1,837 jobs. This is because lignite activity is monoculture, with very good wages, and therefore supports consumption and jobs throughout the local economy. In the absence of another strong sector, de-lignitisation will have very adverse effects on the employment as a whole and on the incomes of local residents. **Taking into account that de-lignitisation has started much earlier, the overall impact is greater.**
- **In relation to professional profiles,** in recent years PPC has replaced its permanent workers with workers with temporary contracts and, most importantly, by subcontractors. These are mainly younger people and their jobs will be completely precarious in relation to permanent jobs in PPC when the lignite mines and lignite plants are closed. The regular staff of PPC (737 employees) have an average age of 50 years. It consists mainly (around 80 %) of technicians (technicians, drivers, drivers and operators) and has completed secondary or compulsory education (87.5 %). About 9 % of regular staff are employed by engineers and other workers with technological or university education, while the remaining 11 % are administrative and support staff. The use of temporary staff of PPC is limited (12 employees aged 27 to 57) and concerns exclusively technicians (technicians, drivers, train drivers and operators) who have completed secondary or compulsory education. The majority of the employees of PPC contractors are technicians (84 %) and have completed secondary or compulsory education (96 %).
- **The majority of the workforce in Arcadia** is low-skilled (77 % do not have tertiary education), but with a prospect of retraining, with 1/3 of the workforce aged between 15 and 44. In conclusion, in transition regions, job losses will be caused in lignite-linked activities, but at the same time needs will be created for the retraining and skills development of human resources to be used in the new activities that need to be developed. According to the Master Plan, the immediate needs for skills improvement and reskilling primarily concern the temporary staff of PPC (~200 persons), the employees of PPC contractors (~300 persons), other workers in sectors related to lignite activity, but also some of the unemployed in Municipality of Megalopoli and the affected neighbouring municipalities.
- **In relation to the impact on the economy,** the IOBE estimates the total loss of gross value added (GVA) at country level from the changeover to EUR 1580 million by 2029. In the Peloponnese, the loss of GVA is estimated at around EUR 313 million. (or ~22 % of the estimated GDP of Arcadia in 2019), of which the direct loss is EUR 217 million and the indirect and induced EUR 96 million. These figures are relative to 2019.
- **Finally, the impact of the de-lignitisation on the environment and health** concerns the Megalopoli region, where the mines and lignite plants are located. De-lignitisation is expected to have a positive impact on the environment, mainly due to the reduction of air pollution caused by the operation of power plants, but also the extraction and transfer of lignite from the mines to the plants. However, in order to have long-lasting positive impacts on the ecosystems of affected areas, air and water, where the groundwater has been humiliated, as well as protecting soils from erosion and landslides, the necessary restoration works should be carried out. These projects will also contribute to the attractiveness of the area as a place of residence and work.
- Accordingly, there will be positive impacts directly on the health and safety of workers and citizens. Working conditions in lignite mines are difficult and unhealthy. Also, diseases related to air pollution are expected to decrease.

Some partial qualitative and quantitative assessments are also important in relation to the expected impacts mentioned above:

- In the absence of appropriate measures, **the trend of depopulation over time** in the wider Megalopoli region is expected to continue, as already mentioned in Chapter 1.2. The main characteristic of the affected areas will remain the non-renewal of the population and its subsequent ageing, depriving the area of the human capital necessary for its development. These trends will be reinforced, following the acceleration of the process of de-lignification and rising unemployment, affecting even areas with comparatively better demographic indicators, such as the city of Megalopoli.
- **In terms of research, technological development and innovation**, the region's performance is low (12nd out of 13 regions of the country, in terms of R&D spending, 11st in terms of number of people with tertiary education). The activities located in the region are mainly labour-intensive. Depopulation combined with limited technological innovation capacities creates an unfavourable environment for the competitiveness of existing enterprises and attracting new activities.
- A major problem for local residents **is the issue of district heating** and the fact that with the closure of lignite plants around 30 % of Megalopoli, i.e. 516 buildings, will be left without heating and hot water. It should also be borne in mind that the support for private electricity consumers and the systems in these areas have led to a reduced interest in energy efficiency actions in buildings. **The JTF should therefore fill a significant gap in the saving, self-generation and energy upgrading of buildings in order to address the problem of energy poverty.**

In conclusion, and bearing in mind that in the wider area of Megalopoli the role of alternative production activities remains limited and spatially focused as lignite activity has not caused significant industrial spillovers and the neighbouring Municipality Tripoli industrial area has been saturated, **it is imperative to strengthen and diversify the local production system** by exploiting the intrinsic assets of the wider region and to design business/industrial and freight development zones, turning it into a business development pole.

Strengthening research, technological development and innovation will help the **green and digital transformation, modernisation and diversification of the local economy**, which together with human capital support will lead to tackling **unemployment and containment of the population in affected areas**. The Bioeconomy Hub 360o in the wider area of Megalopoli (Municipalities of Megalopoli, Gortynia, Oihalia and Tripoli) with the University of Peloponnese and the cooperation of chambers will contribute to the economic and productive transformation of business activity in the full range of the bioeconomy value chain (agriculture, circular and digital economy), making use of research results. Finally, land restoration and repurposing will lead to (i) **new land uses**, which will help diversify the economic-development model, (ii) **improve the quality of life** and (iii) **improve and protect the environment**.

Not: Tables 2.1 and 2.2 of the Annex respectively give figures for gross value added by industry (in % of total gross value added by regional unit, base year: 2019) employment structure data by industry (thousand, base year: 2019).

Restructuring of the region's production system

The local production system needs to be strengthened and diversified by exploiting the intrinsic assets of the wider region. The area is located centrally in the Peloponnese region, has good connectivity with road networks (the area passes through the Korinthos-Tripoli-Kalamata motorway and the Lefktro-Sparta sector) and is adjacent to important ports and urban centres, such as Athens, Piraeus and Patras. The region will benefit from the forthcoming incentive scheme as a result of the EU's regional aid decision[1] and has a recognisable "brand name" that can accompany its products. In this context, preference is given to the development of a business/industrial & commercial park in the region of Municipality of Megalopolis.

There is an increased business interest in setting up businesses in the area, where some of them will choose to establish themselves, even before the completion of the business park. Some of the labour force affected by the de-lignification will be employed in these companies. Until the entry into operation of the business park, part of the workforce will be employed in the restoration of the land transferred by PPC and in actions: (I) energy efficiency, self-generation, (ii) district heating and (iii) green transformation of businesses & large productive concentrations (such as existing industrial areas). In any case, especially for energy investments, the EU's final "REPowerEU" plan for affordable, secure and sustainable energy will be followed.

The challenge for the affected area is to radically upgrade local R&D capacities by promoting appropriate actions & the simultaneous introduction of know-how (e.g. development of joint actions of research institutions, exchanges, linking research to production) in **dynamic sectors**. These are activities in the areas of national importance, the new National RIS3, which are also targeted by the Regional RIS under preparation. In particular, the focus will be on the areas of: agri-food, energy, information and communication technologies, health, tourism and culture, materials & machinery, environment & circular economy, transport-supply chain, as well as in areas of the new National RIS3 that create interfaces with the above (e.g. pharmaceuticals, creative industry). Cultural projects are considered to be of the utmost importance, as they contribute inter alia to attracting domestic & incoming tourism, thus connecting to a wide range of economic activities for the production of goods & services consumed by visitors to a region.

The guidelines of the JDT Digital Transformation Strategy are being implemented, focusing on developing solutions to improve the attractiveness of cities, quality living, working, entrepreneurship, attracting investment & highly skilled workers (smart communities).

Support for human resources and communities affected by de-lignification

Upgrading human capital skills, strengthening social infrastructure and developing & implementing

training/retraining programmes in new activities to reduce the carbon footprint of productive investments and industries is a prerequisite for boosting employment in the post-lignite era and protecting existing jobs.

Because the energy sector is favoured in the case of Municipality of Megalopoli as important for the modernisation of the production system and there will be extensive restoration of land, it facilitates the retraining of workers in the affected and transformed businesses, as there is a correlation between their skills and those that will be needed. It is easier for these workers to retrain and promote them in industrial specialisations in the industries to be established in the area.

There is a need to upgrade the services of the relevant educational bodies with a view to training the current and future workforce, connecting with businesses and extending their research work to new clean energy, agri-food and/or other economic activities that may develop in the region.

It is crucial to upgrade employment services, which can lead to a reduction in the time you remain unemployed. Improving these services can have positive benefits in increasing mobility between sectors and facilitating the diversification of the local economy. Finally, social infrastructure will be supported for the purposes of childcare and care for the elderly.

The region faces the dual problem of socio-economic and environmental degradation. The JTF aims to improve its attractiveness as a place of work and residence. In agglomerations closest to lignite mines and power plants (core of the de-lignitisation zone, Law 4759/20 (Government Gazette, Series I, No 245), in addition to environmental rehabilitation projects, modern solutions for heating, sustainable mobility and energy efficiency will be promoted in order to ensure a particularly satisfactory quality of life.

Mitigating the negative environmental, health and safety impacts of lignite mining and energy generation and preventing the creation of new pollution factors

The withdrawal of lignite-fired power stations creates the need for land restoration and land-use repurposing within the lignite field. In the context of the land repurposing and re-use, it also seeks to promote the area's diverse natural environment, through the development of e.g. green spaces, lakes, forests. The restoration and repurposing of soils is also intended to create the appropriate infrastructure for attracting and developing new economic activities.

Water management investments shall only be eligible for JTF support where they are linked to land repurposing.

There is an urgent need to move towards a new production model that does not create new problems for the environment, which promotes integrated waste management of production activities (recycling PV modules and electric batteries (batteries)).

In conclusion, Table 2.3 shows the intervention logic developed above and the link to the priorities of Chapter 2.4.

Based on the initial estimates of the IOBE, the JTF will have created and supported directly, indirectly & induced ~**3.250** jobs, one year after the completion of the PP (2030).

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

Reference: point (e) of Article 11(2)

The development needs, economic and business prospects — potential and expected targets set for the affected regions are aligned with the following established national and regional strategies and plans:

National Research and Innovation Strategy for Smart Specialisation 2014-2020: The strengthening of the contribution of RES to the energy mix and the development and upgrading of energy and transport infrastructure are reflected in the national objectives set out in the strategy as well as in the objectives of the just transition of the Municipality of Megalopolis and the affected neighbouring municipalities. The common objectives are to strengthen the agri-food sector, research, innovation, the transfer of advanced technologies and the development of cultural & tourism products. It should be noted that account is taken of the conclusions **and proposals of the National Research and Innovation Strategy 21-27 and the Smart Specialisation Strategy 21-27**, both as regards the areas of specialisation and the proposed actions. Please note that, in cooperation with the Secretariat-General for Research and Innovation, a programme of actions has been drawn up and included in the TJTP and the JDT Programme.

Smart Specialisation of Research, Technology and Innovation in Business & Rural Sector of the Peloponnese Region for the period 14-20: This strategy is in line with the priorities developed in the context of the just development transition of the affected areas, to upgrade the primary sector with a focus on strengthening local products & outward-looking local production, finding new technological means & methods of environmental protection and further education & upskilling of the local workforce. Please note that the conclusions and proposals of the **Region's Smart Specialisation Strategy 21-27** will be taken into account, following its approval/finalisation.

National Circular Economy Strategy: The development of the circular economy and the promotion and transfer of new knowledge and innovative methods and technologies, particularly in the energy sector, are key points of convergence of this national strategy with the strategy & development objectives of the transition.

National Energy and Climate Plan (NECP) 2030: The focus on the clean energy sector and the transformation of the energy mix is reflected in both the NECP and the development needs for the just transition of affected regions. A key point of convergence is to ensure the development of research and innovation in the energy sector.

Long-term strategy for 2050: The common objectives of the strategic and just development transition of the Municipality of Megalopolis & affected neighbouring municipalities are to reduce pollutant emissions, enhance the contribution of RES to the energy mix and the circular economy, stimulate entrepreneurship, industrial production & business competitiveness.

National Air Pollution Control Programme 2020-2029: Policies and measures are key development priorities of the just transition of the Municipality Megalopolis & affected neighbouring municipalities and aim mainly at the transition to an era of clean energy, less pollutant emissions and increasing the contribution of RES to the energy mix.

National Development Programme 2021-2025: The policies set are in line with the needs and objectives of the just transition of Municipality of Megalopolis & affected neighbouring municipalities in, inter alia, green growth, employment & quality training of human capital, the development of entrepreneurship & innovation as well as the integration of new knowledge & digital transformation.

National Biodiversity Strategy 2014-2029: It aims to ensure the protection of ecosystems and natural wealth and a more efficient use of resources, as well as the development of sectors such as agriculture, livestock and tourism, key development priorities and the transition in the region concerned.

Development plan for the Greek economy: A key objective for the Greek economy is to systematically increase incomes by implementing economic policy actions to enhance productivity, labour and investment (Development Plan for the Greek Economy, 2020). These objectives are also reflected in the ICM of the greater area of Megalopoli.

National Recovery and Resilience Plan: The priority axes included in the National Recovery and Resilience Plan relating to green growth, digital & economic transformation and boosting employment are in line with the objectives set in the context of the just transition of the Municipality of Megalopolis & affected neighbouring municipalities.

National Waste Management Plan (ESDA): The ECHR sets out the management perspectives until 2020 in accordance with the EU strategy reflected in the Europe 2020 Strategy (Greek Republic — National Waste Management Plan, 2020). The decontamination of the land currently located by lignite-fired plants in Megalopoli region is a key objective for the protection of the environment and natural wealth.

Regional Social Integration Strategy (PEESKE) of Peloponnese 2014-2020: The needs arising from the transition to an era of clean economy, increased employability and social and labour integration, both of the affected human resources and of vulnerable groups, are in line with the objectives of this strategy. Common development objectives include improving education & social services — infrastructure, while

strengthening the social economy and businesses in the affected regions.

Digital Transformation Paper 20-25: The Digital Transformation Paper 20-25 (Greek Republic — Digital Transformation Paper 2020-2025, 2020) deals with a handbook outlining the country's strategy for the transition to Digital Greece. The Municipality of Megalopolis & the area of affected neighbouring municipalities require a digital transformation in all sectors of the economy, administration and education and social services, which are directly linked to the policies set out in the Digital Transformation Paper.

National Action Plan on the Rights of Persons with Disabilities (which was the responsibility of the Minister of State). Individual targeted actions, actions & interventions will be carried out, in line with its content, while the Management Authority of JTD Programme, will participate in the Thematic Network on Disability Issues which is planned to operate during FP 21-27.

2.4. Types of operations engaged

Reference: point (g-k) of Article 11(2) and Article 11(5)

2.4.1 Categories of indicative operations

The most important interventions in the following 5 priorities:

1. Strengthening and promoting entrepreneurship

Research — innovation — advanced technologies

Development of innovation, openness, competitiveness of enterprises & their interconnection with the RTDI ecosystem. Focus on National RIS3 priority areas (e.g. energy, agri-food, information & communication technologies, environment & circular economy, health). Support for start-ups/existing innovative businesses, creation of incubators/business accelerators, measures to address the lack of highly qualified managers in local businesses & retaining/attracting scientists to enhance local competitiveness & economy.

Flagship project on productive transformation & the region's shift to research & innovation: the Bioeconomy Hub, focused on the full range of the bioeconomy value chain (agri-food, circular & digital economy) with scientific supervision & participation of the University of Peloponnese.

Competitiveness of SMEs and vSMEs — Digital transformation of businesses

Setting up & supporting the competitiveness of SSEs & SMEs in all sectors (Chapter 2.1, 2.2), including the green & digital transformation of businesses.

Entrepreneurship infrastructure and mechanisms

Upgrading existing & supporting the creation of new organised spatial receptors for productive activities. Supporting the creation and financing of the Megalopoli Business Park, **as a flagship project**, which will be planned immediately. Support mechanisms for entrepreneurship & entrepreneurial activity.

Significant scale investments

Implementation of substantial scale productive investments, leading to an increase in job creation after de-lignitisation.

2. Energy transition — climate neutrality

Energy efficiency

Support to households, public/municipal buildings & infrastructure, office & production units to reduce energy costs.

Clean & Smart Energy

Increasing self-generation from RES (Green Cities) — Smart Energy Network (SEN) — Energy Communities. Installation of heat pumps for heating/cooling and/or RES electricity generation systems that will be used for heating/cooling with heat pumps either individually or for district heating, in accordance with the “REPowerEU” standards, provided that there is no overlap between the actions.

Long-term (in particular) clean energy storage infrastructure.

Support for upgrading electricity grids to increase installed RES capacity.

Actions to create charging/refuelling points for electro-mobility/clean fuel mobility.

Support for construction: a) small biogas plants using livestock, poultry and agricultural residues; (bi) biomass plants for energy & district heating & bii) biomass management centres, in full compliance with RED II, the ‘cascading principle’ in its revision proposal, the LULUCF Regulation, the NECP, the Circular Economy Strategy, the 2050 climate neutrality objectives. Biomass is residual from forests or agricultural residues. The dispersal of biomass management centres achieves the decarbonisation of imported biomass, increases its economic viability, reduces distances from the collection sites and reduces the energy & carbon footprint. Creating new jobs as the sector is labour intensive.

3. Land use repurposing — circular economy

Adaptation of soils and installations in lignite fields

Support for actions for the repurposing and re-use of degraded land and installations in the lignite field of the D. Megalopolis. The actions relate to the development of the rehabilitated land, which is the property

of the State & on which the rehabilitation works have been carried out by the Recovery Fund. They mainly concern (a) green infrastructure, such as flood defences, terraces for cultivation, biodiversity restoration, management and monitoring actions (other than PAF), natural resource efficiency infrastructure, in particular water, and (b) technical repurposing works, such as infrastructure to facilitate access, networks and infrastructure of a public nature that will be necessary for the proper functioning of business parks and other investments & activities within the perimeter of the former lignite mines, and so on.

Circular economy and rational use of natural resources

Support investments in the reuse, repair and recycling of waste, related to emerging value chains & new productive investments.

4. Just labour transition & empowering human capital

Immediate response to the effects of de-lignitisation on the labour market/promotion & strengthening of employment

Support & promote employment for people affected by de-lignitisation, at the risk of losing jobs or in unemployment.

Targeted actions for the unemployed. Subsidising jobs to promote women's participation in the labour market.

Skilling & re skilling of human resources/adaptation of workers & enterprises

Cultivating new & upgrading existing skills of human resources in areas such as: RES, environmental restoration, waste management & industrial specialisations depending on new investments. Human resources development advisory programmes, in-company training & support for the modernisation of human resources management and development systems — emphasis on cultivating & enhancing digital skills & applications in cutting-edge technologies.

Socio-economic inclusion/Social care and welfare infrastructures

For vulnerable population groups: implement specialised counselling and empowerment programmes at local level, strengthen the relevant infrastructures for their socio-economic integration — focus on children and the elderly.

Infrastructure for vocational education and training

Upgrading & modernisation of infrastructure for vocational education and training. **Flagship project:** 'Green School' of the OAED.

Lifelong learning programmes for environment, green economy, digital skills & entrepreneurship

5. Small-scale integrated interventions

Quality of life and integrated development interventions in urban and rural areas

Financing of interventions in Megalopolis, identified through integrated territorial strategies. The focus is on regions within a lignite field or closest to lignite mines and power plants. Focusing on measures promoting two-pack tourism-culture as an alternative driver for the development of the affected areas & helping to improve the quality of life of residents (restoration of archaeological or cultural sites within lignite mines to develop alternative economic activities, digital applications, promotion of sustainable mobility through soft traffic zones and roads, cycle paths, etc.).

Area of implementation of the priorities: Total municipalities, with the exception of priorities 3 and 5, which concern the Municipality of Megalopolis.

2.4.2 Productive investments in enterprises other than SMEs

These investments are essential for the implementation of the Territorial Plan, as they contribute to the productive diversification of the region, which has so far been based on lignite.

In the affected areas, it is estimated that **3 100 jobs** will be lost by 2029 (directly, indirectly and induced). Initial estimates suggest that the JTF resources directed towards operations to support entrepreneurship and productive investment will be created and supported in the region around **2 750 jobs** as long as productive investments by large enterprises are not supported. Large productive investments by large enterprises, in which the aid intensity due to higher capital expenditure will be considerably lower (~40 % compared to 60-65 % in SMEs), will lead to a higher leverage of private capital and are expected to be generated and supported in Megalopoli around **3 250 jobs**.

Both in the open invitation of the JDT Technical Committee to individuals and in the context of the JDT Plan, a sufficiently mature proposal was made in the pharmaceutical sector.

These are:

Enterprise producing raw materials for injectable medicines and finished pharmaceuticals for injection, with CAPEX EUR 130M, creating 300 jobs in operation & 350 jobs in manufacturing. This does not include indirect & induced jobs the operation of the investment. Expected benefits: strengthening the industrial profile of the region, making it possible to cooperate with the University of Peloponnese in developing research programmes, attracting new scientific potential, compensating for job losses in the affected area, and retaining the population.

According to a study by IOBE on the country's sectoral GDP multipliers, the GDP growth multiplier from the pharmaceutical sector is very high, since it is considered to be a strategic sector for the country & pharmaceutical activity mainly creates highly skilled and high-value jobs. The sector is supported by existing and new Smart Specialisation and RTDI strategies.

The proximity of the new company to the existing complex will help to train workers and scientific staff in the existing facilities.

This company in the pharmaceutical sector (Annex. Chapter.2.4), has been demonstrated in the area of productive innovation and will operate in a way that will contribute to the transition to a climate-neutral economy by 2050 and the related environmental objectives.

The investment does not concern relocation.

2.4.3 Investments in undertakings to achieve the reduction of greenhouse gas emissions from the activities listed in Annex I to Directive 2003/87/EC;

No relevant investments in this category of enterprises have been recorded so far.

2.4.4 Synergies and complementarities with NTM pillars

Pillar 2 will be used in all forms of credit enhancement for (i) microfinance of MIFs & (ii) enhancing investments in key areas to achieve the objectives of the transition.

Pillar 3 will be used for public investments that do not generate a sufficient revenue stream (e.g. energy and transport infrastructure, networks, green mobility, energy efficiency, RES investments, etc.) & in projects enhancing the economic diversification of territories affected by the transition & are complementary to the JTF (e.g. new road and rail projects or/and reconstruction & improvements of existing ones, water supply infrastructure/networks, irrigation etc.). A Memorandum of Cooperation has been signed between the Greek State and the EIB for support through a loan facility by the EIB & EU grant (representing 25 % of the loan). 2025 is the deadline for the submission of a proposal for the national share reserved for Greece.

Finally, technical assistance & advisory services provided by the JTM will be used, primarily through JASPERS/JTF assignments, for projects: (a) Pillar 1 (b) in JDT territories supported by other programmes/financial instruments other than JTF, ESIF and supporting the achievement of the JTF objectives.

2.4.5 Synergies and complementarities with other programmes

Synergy and complementarity with the Regional Operational Programme of the Peloponnese and the related sectoral programmes has been thoroughly discussed with the relevant managing authorities and is reflected in the JDT Programme by priority and for specific actions.

Synergies with the Recovery Fund (RF)

Ensure the existence of synergies and complementarities of the JTF with the RF, on the restoration & readjustment of land transferred from PPC & define separation rules/criteria to avoid overlaps as follows:

(a) The CF finances only “land restoration”/“land restoration” works (i.e. the proper preparation of soils as a basis for receiving new land uses & the resulting economic activities). The most important general categories of works/remediation works are: soil stabilisation and formation work, development of new (artificial) lakes, geotechnical & hydraulic work, mapping, inspections, maintenance, decontamination/decontamination of soil, management of waste related to lignite mining, demolition of existing infrastructure, specialised dismantling/demolition of equipment, costs related to the management of the restoration works/works.

The final National RF Plan describes the categories of rehabilitation works/projects that will be carried out.

(b) The JTF typically finances projects necessary for the “repurposing” of these territories as receptors of new economic activities. For this category of projects, see section 2.4.1, pt. 3.

Land Transfer & Principle “Polluter Pays”

The procedure for the transfer of lignite-fired land from PPC to the Greek State is the subject of the project. Contract, Article 155/(3) of Law 4759/20.

One of the key parameters in this process is compliance with the polluter pays principle by ensuring that the value of the land to be transferred — carried out by an independent valuator — is at least equal to the cost of the required restoration works. (Annex Chapter.2.4).

3. Governance mechanisms

Reference: point (f) of Article 11(2)

3.1 Partnership

The JDT Plan Steering Committee, in cooperation with the regional authorities, organised a partnership within the framework of Article 8 of the CPR in order to set up an appropriate format involving local authorities, economic and social actors, representatives of scientific and academic bodies, research centres, chambers, labour centres/associations of workers, etc.

Two consultation rounds were carried out for the preliminary draft of the Megalopolis TJTP, with a specific structured questionnaire to facilitate the stakeholders: from 08/02/2021 to 19/03/2021 and from 08/06/2021 to 25/06/2021.

There was a large response from the stakeholders, both by replying to questionnaires and by providing input through documents and letters setting out their proposals.

The main changes made to the Territorial Plan concern the enrichment of data on the basis of the studies carried out, the mapping of the timetable for transition, the strengthening of statistical processing and the methodology for identifying the affected soils, clarifications on new land uses and land restoration, the strengthening of the intervention logic by highlighting the strategic options for mitigating the impact of the transition, a better reflection of the indicative interventions, the introduction of flagship projects and the involvement of large enterprises, and the reform of governance to reflect the involvement of local actors in the preparation and implementation of the TJTP.

The involvement of the local actors of the partnership in the **implementation of the JDT shall** be ensured as follows:

Establishment of a branch/office of Metavasi SA in the Megalopoli region to provide technical support to local beneficiaries during the maturity of their projects and the organised reception, information and support of investors in the JDT areas.

Establishment of JDT Evaluation Committees, in application of the provisions of the Law Law 4872/2021, Article 14, with responsibility for evaluating projects, investments and development projects of interest to the public purse and in which one representative from each affected region must participate.

For the Megalopoli TJTP, a **Regional/Territorial Committee** shall be set up, in accordance with the models laid down in Article 64 of Law 4914/2022, headed by the local authorities, **with an advisory role** for the JDT governance structures the Monitoring Committee of the JDT Programme.

The Regional/Territorial Committee will also promote **dialogue and exchange of views** between

stakeholders at local level.

An authorised officer for Just Transition will be designated **in the** MA of the Peloponnese.

Establishment of an office to the JDT Observatory in the Peloponnese Region.

3.2 Monitoring and evaluation

The control of the transition procedure is carried out by the Special Department of the Directorate for Public Revenue under Law 4872/2021 under the Ministry of the Environment, Energy and Industry and is common to all affected areas. The NCA will carry out the systematic monitoring of the objectives set and provide valid information, assessment and analysis on the type and extent of socio-economic changes in the affected areas, with a view to taking corrective measures and/or adjusting policies.

3.3 Coordination and monitoring body/bodies

The organisational structure of the domestic transition process shall include:

Government Committee JDT Plan: GC is the supreme political body of the National JDT Plan whose main purpose is the approval and monitoring of the JDT.

Coordinating Committee: CC supports GC in the specification of the national JDT policy for the preparation and implementation of the national JDT Plan.

Special Authority for JDT: Its main responsibility is the central planning and programming of ICM policies, the monitoring and evaluation of the procedures for the implementation of projects, investments and development plans, and the management and coordination of the use of all available national or European sources of funding. The Special Authority comprises 4 distinct structures: the Managing Authority for the JDT Programme - ESPA, the Directorate for Strategic Planning and Coordination of Financing, the Directorate for Administrative Support and the Legal Support Department.

JDT Observatory: A stand-alone section of the JDT under the commander to monitor the achievement of the objectives and the timetable for the implementation of the forecasts of the JDT plan. The Observatory mainly collects and processes quantitative and qualitative data on local/regional actions in transition areas;

Metavasi SA. A legal entity established by Law 4872/2021 is owned by the broader public sector and will own the land that PPC will transfer to the Greek State. Metavasi SA will take over all the processes for the implementation of investment projects/projects within Delignification Zone and the role of the beneficiary of the JDT Programme with regard to the repurposing and re-use of the land allocated.

Monitoring Committee JDT Programme: The leading body for the involvement of partners in the implementation, monitoring and evaluation of the JDT Programme is the Monitoring Committee to be set up in accordance with the requirements of the CPR and Law 4914/2022.

4. Programme-specific output or result indicators

Reference: Article 12(1) JTF Regulation

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

Based on the mix of indicative actions/operations per priority, as reflected in Chapter 2.4 of the Territorial Just Development Transition Plans, there is a need to create a small number of specific output and result indicators in addition to the common indicators of Regulation 1056/2021.

In detail, the justification for the specific indicators shown in Section 4 of the Territorial Just Development Transition Plans is reflected in the Methodological Document of the Performance Framework for the JDT Programme by indicator.

Reference: point (g-k) of Article 11(2) and Article 11(5)