

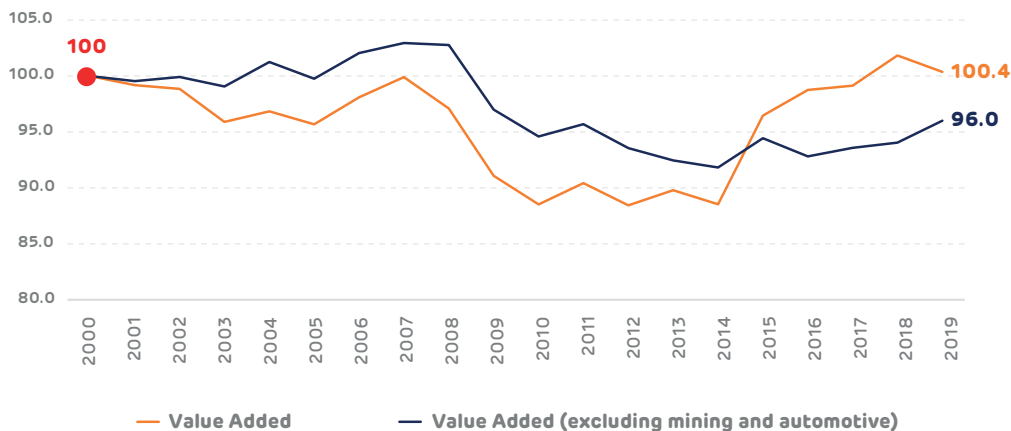
Executive summary

1. Foreword: Basilicata's starting point in the new recovery framework

The 2021-2022 Report of the Think Tank Basilicata comes at a **time of great discontinuity** for the Region and the entire country. The 2020 edition, held in the midst of the COVID-19 pandemic, had set itself the main objectives of understanding the socio-economic effects of the crisis, identifying the tools for tackling it and outlining the trajectories for recovery. The current edition comes at the end of a year in which Italy's GDP grew by +6.3%, with a growth estimate for 2022 of +4.6%, capable of leading to a recovery of 2019 GDP levels.

If, on the one hand, macroeconomic indicators confirm an important rebound in the economy, on the other, the **medium-to-long term prospects** are much more uncertain. They will depend, in fact, on Italy's ability to resolve its structural criticalities, including first and foremost the **territorial growth gaps**, by exploiting the resources of European and national planning and those of the National Recovery and Resilience Plan (NRRP).

These considerations are also valid for **Basilicata**, which in the last twenty years has achieved lower economic growth than the rest of the country: if the GDP value in 2000 is 100, in 2019 Italy's GDP was 104.1, while Basilicata's was 99.2. Following an in-depth analysis, it emerges that behind this figure there are various indicators of the Region's structural socio-economic backwardness. For example, looking at the trend of value added, most of the growth recorded between 2014 and 2019 is **attributable exclusively to two sectors**, mining and automotive; subtracting this component, value added remains below pre-crisis levels throughout the 2009-2019 decade.

**Figura 1**

Value added in Basilicata by branch of activity (index year 2000=100, constant prices), 2000-2019. Source: ThinkTank Basilicata elaboration on Istat data, 2022.

In other words, in the period considered, the sectors driven by the large multinational companies (Fiat-FCA, Eni, etc.) have compensated for the **progressive downsizing of the endogenous productive component**, connected to the activities traditionally located in Basilicata. In line with the Regional Strategic Plan, the Think Tank Basilicata also believes that, to enable a sustainable development of the territory, it is essential to strengthen the factors of endogenous competitiveness, placing them at the center of a regional strategy that goes in this direction.

Economic growth is closely linked to that of **human and social capital**. From this point of view, Basilicata is called upon to tackle an urgent demographic issue, connected not only to ageing, but also to a **negative migratory balance** (i.e. the difference between those added to and those removed from the population register, due to transfers from or to other regions and countries): in absolute terms, between 2002 and 2020 Basilicata saw **more than 20 thousand people** emigrate from its territory, an average of more than 1,000 every year.

The economic and social criticalities outlined above take on greater importance in view of the **characteristics of the Lucanian territory** and the relative weight of the **inland areas**. These are fragile territories, distant from the main centers of supply of essential services and from decision-making processes - which in Basilicata account for a total of **96.2%** of the municipalities, **74.7%** of the regional population and **92.3%** of the total surface area (compared to a national average of 52.6%, 22.8% and 61.0% respectively) - now at the center of an important national policy of development and territorial cohesion, namely the **National Strategy for Inland Areas**.

The fragility of the territory is also exacerbated by **infrastructure gaps** (in transport, digital connectivity, physical and social services, etc.), as measured, for example, by the Infrastructure Endowment Index drawn up by the Istituto Guglielmo Tagliacarne (in which Basilicata ranks last in terms of endowment and accessibility), or by the most recent studies of the Bank of Italy¹. The importance of an overall adjustment of infrastructures (at 360 degrees) is linked to the need to “satisfy the needs of the regional territory, but also, and above all, to readjust the infrastructure networks to the processes underway to integrate the Tyrrhenian-Adriatic relations, within which Basilicata is the **'Connecting Region'**².

Besides infrastructures, territorial assets also include **environmental and natural heritage**. On the one hand, the environmental and natural heritage is a distinctive asset of Basilicata (the fifth Region in Italy in terms of protected areas over the total surface area of the Region), as well as an identity component of the Lucanian community. On the other, the analysis of the indicators shows that there is room for improvement in the protection of this heritage (for example, Basilicata is fourth in Italy for areas exposed to the risk of desertification).

In Basilicata, however, there are not only structural criticalities, of which a sample overview has been presented. On the contrary, the Region can also count on important **strategic competences**, i.e., the specific skills of the territory in activities such as industry, services, education, and research. In particular, the analysis of the Think Tank Basilicata highlighted the presence of at least three distinctive competences of the territory³: **agrifood, enterprise and capital-intensive supply chains, and tourism, culture and creative industries**.

Even before the COVID-19 crisis, therefore, it was clear that Basilicata needed to identify and pursue new growth trajectories, overcoming the territory's structural criticalities and leveraging its distinctive competencies and a growing drive towards sustainability. The COVID-19 pandemic is accelerating this path and is making the realization of the **development vision 'Basilicata: energies for a sustainable future'** even more urgent, centered on the concepts of sustainability, inclusiveness, and innovation, and based on the territory's strategic competences:

1 Bucci M., Gennari E., Ivaldi G., Messina G. and Moller L., “I divari infrastrutturali in Italia: una misurazione caso per caso”, 2021.

2 Source: Basilicata Regional Strategic Plan, 2022.

3 For an in-depth analysis of Basilicata's strategic competences, please refer to the 2019 Report of the Think Tank Basilicata.

"To become one of the most **sustainable** regions in Italy and Europe, constantly committed to building an **inclusive society**, protecting the **environment** and enhancing the **agricultural and food supply chain** and **tourism**, leveraging natural and cultural assets and the contribution of **young people** and **industry** to attractiveness, innovation and growth".

The proposed vision intends to enhance Basilicata as a place of **opportunity** but also of **experimentation** of good practices in environmental protection, attraction of highly qualified young people, construction of an innovative, inclusive, and growth-oriented business and living environment. In particular, it focuses on the theme of **all-round territorial sustainability**, understood as a balance between different and competing needs, i.e., between the drive for technological and economic progress, on the one hand, and the need to enhance and preserve people and the territory, on the other.

Moreover, the proposed vision focuses heavily on the definition of a **strategy for the transition** from oil to non-oil which - however - requires the definition of a few well-defined industrial blueprints, capable of determining a truly competitive demand for skills (and consequent labor supply). As already stressed, the NRRP offers an initial framework of methods and resources to guide this transition but, if Basilicata wants to be a protagonist in this new phase, it will have to collaborate with economic operators, universities, and other territorial players to design the 'flagship projects' on which to focus.

2. The renewed framework of national and European resources and regional programming instruments

In the aftermath of the COVID-19 crisis, numerous containment measures have been put in place to promote economic recovery at European level. The European Union has earmarked **€1,074 billion** from the long-term budget for the 2021-2027 period and over **€800 billion** through the Next Generation EU Plan to promote actions to support long-term development towards a more modern and sustainable Europe. The new programming outlines 5 objectives with a high focus on sustainability, connectivity, and social inclusion.

European resources can be classified into **directly managed funds**, paid directly by the Commission to the final beneficiaries, and indirectly managed funds, managed by the European Commission in cooperation with national and regional administrations of the Member States. The former address specific issues of interest to the Union such as education, culture, research, digitization, health, infrastructure, and ecological transition. These include Erasmus+, Digital Europe, Horizon Europe, InvestEU, EU4Health, Life, CEF - Connecting Europe Facility, RescEU, Just Transition Fund and Creative Europe.

Indirectly managed funds include structural investment funds and are used to implement cohesion policies at EU level. In Italy they are implemented through National Operational Programmes (NOPs) and Regional Operational Programmes (ROPs). These funds include the Regional Development Fund (ERDF), the European Social Fund Plus (ESF+), the Cohesion Fund (CF), the Agricultural Fund for Rural Development (EAFRD), the Maritime and Fisheries Fund (EMFF), the Asylum and Migration Fund and European Territorial Cooperation. The latter, which is implemented through Interreg programs, has already been applied in Basilicata, through the participation of Sviluppo Basilicata in the Labelscape project.

In conjunction with these programs, the European Union has also set up special pandemic programs, which form the framework of the **Next Generation EU**. The ReactEU aims to finance health care, support employment and businesses with a total budget of €50.6 billion. The Recovery Fund provides €723.8 billion in loans and grants to Member States, subject to approval of their National Recovery and Resilience Plans (NRRPs).

The Italian **NRRP** plan provides for a budget of **€235 billion** and is divided into six missions: green revolution, digitalization, education and research, infrastructure, inclusion and cohesion, and health. One of the aims of the Plan is to **close the territorial gaps**;

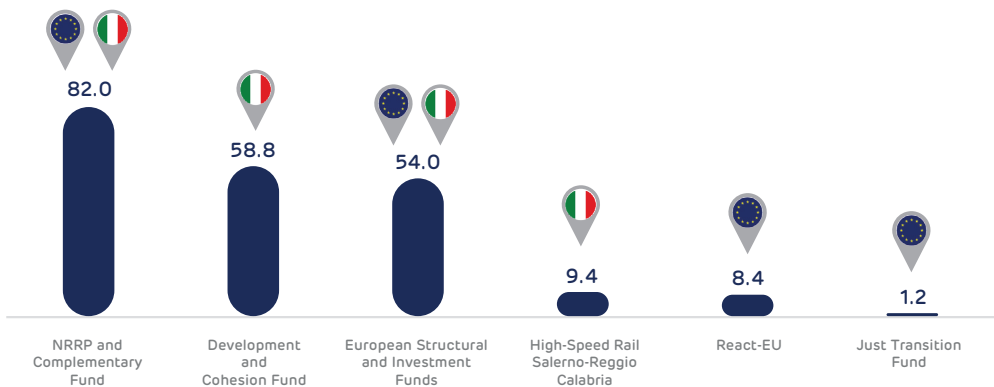
to do this, it has envisaged that about 40% of the funding will be allocated to the South, reaching a total of €82 billion. These resources are intended to create:

- a more **connected and connected** South (High-speed train and port system; Digitalization; Roads in inland Italy);
- a South that **attracts investment** (Free Economic Zones reform; innovation ecosystems; Mediterranean energy hub);
- a South that guarantees **social services** (nursery school and full-time childcare plan; increase in social infrastructure; employment policies);
- a more **sustainable** South (Circular Economy; Land and water protection; Energy transition and sustainable mobility).

Within the national framework, the PNRR is flanked by the **Development and Cohesion Fund**, which finances projects aimed at ensuring the economic, social, and territorial cohesion of the country and the removal of internal economic and social imbalances (the South is the legal recipient of 80% of the Fund, for a total of €58.8 billion). At the same time, resources have been allocated to finance the **NOPs** and the **ROPs**, which will allocate up to €54 billion to the South over the 2021-2027 European programming period. In particular, the ROP allocates €1.2 billion to Basilicata.

Figura II

Resources available to Southern Italy for the 2021-2030 period (€ billion). Source: Think Tank Basilicata elaboration on NRRP data, Ministry for the South and Territorial Cohesion, Budget Law 2022, Open Cohesion and Draft Partnership Agreement 2021-2027, 2022.



In addition to the resources provided by the new program, Basilicata will be able to benefit from **royalties** on oil extraction, since it is home to Europe's largest onshore oil field, formed by two plants: Val d'Agri (awarded in 2001), owned by ENI and Shell Italia E&P and Gorgoglione (awarded in 1999), owned by TotalEnergies, Mitsui E&P Italia B and Shell Italia E&P. Overall, **over the last 10 years** Basilicata has benefited from **more than €1.1 billion**

in royalty payments. Once again, this year the Think Tank Basilicata has estimated the amount of resources generated by the activity of the oil extraction from which the Region will benefit in the coming years. The results show a better future scenario than the current one due to the restart of the oil market, which has been experiencing a sharp rise in prices since 2021, and the end of maintenance work at the Val d'Agri plant. In total, it is estimated that **about €2 billion** in resources will be available to Basilicata **over the next 10 years**. These resources are a great opportunity for the Region, as they allow it to integrate additional funds to promote investments in synergy with national planning, concerning the creation of enterprises and the development of employment in industries related to the paradigms of Circular Economy and bioeconomy.

To provide an unambiguous direction to the regional strategy, which has to manage considerable resources, Basilicata has adopted the **Regional Strategic Plan 2021-2030**, which outlines a medium-long term vision for the development of the Region. In particular, the Plan is aimed at outlining solutions to emerge from the state of crisis and the risks of decline that afflict the regional economy and society, and at identifying the means and resources available to implement these solutions.

The vision adopted by the Regional Council aims at recovering Basilicata's geo-economic and relational centrality in the Southern area, enhancing the territory's cultural and natural resources, also by pivoting on the Matera 2019 event, harmonizing the territory's interests with regard to oil extraction, increasing the efficiency of public administration services and engaging the various territorial stakeholders in the definition of future projects.

In all, 32 actions/interventions have been identified in the Strategic Plan, reclassified in **7 distinct strategic areas** on which it has been chosen to intervene, which are: (i) demographic resilience, (ii) territorial and institutional cohesion, (iii) endogenous resources, (iv) public assets, (v) cross-cutting actions, (vi) public administration, and (vii) governance.

The areas of intervention appear to be heterogeneous and touch on all the nerve centers of the Lucanian economy. In this regard, the inclusion and support of municipal bodies by the Region is essential to implement the various interventions effectively and in harmony with the different local realities. **Collaboration between municipalities, the Region and large companies** will help the former in the implementation of complex sustainable transition projects and maintain a common line of action throughout the territory.

3. The Regional Competitive Positioning Observatory in the direction of the vision “Basilicata: energies for a sustainable future”.

The vision “Basilicata: energies for a sustainable future” was elaborated with the aim of responding to **11 strategic needs of Basilicata**, identified in Phase 2 of the Think Tank Basilicata. In this edition, therefore, the permanent monitoring Dashboard (or Tableau de Bord) of the “8 thematic areas + 3 horizontal factors” has been updated. It represents a **strategic support tool** available to institutions and decision-makers to measure progress, verify the effectiveness and efficiency of the actions adopted and introduce corrections in the areas identified as essential for the development of the territory around its strategic competencies (high-tech manufacturing, agrifood, culture and tourism). The Tableau de Bord consists of 8 thematic areas, i.e., the strategic sectoral needs of the territory, and 3 horizontal factors, i.e., the enabling and transversal factors with respect to the thematic areas. The Tableau de Bord was developed taking into account the Roadmap for Sustainability indicated by the United Nations and the National Strategy for Sustainable Development of Italy.

Figura III

The “8 thematic areas + 3 horizontal factors” of Basilicata. Source: Think Tank Basilicata, 2020.



To gain a deeper understanding of the **determinants** of Basilicata’s positioning with respect to the “8 thematic areas + 3 horizontal factors” (and to make the strategic choices for the territory accordingly), it is essential to analyze the individual synthetic indicators and the relative underlying KPIs. The dashboard is made up of **63 Key Performance Indicators** (KPIs) updated annually, over a 5-year period, for a total of more than 12,600 data recorded

in the Think Tank Basilicata database. The single indicators, after being normalized, constitute the basis for the elaboration of the various synthetic indices relating to each thematic area and horizontal factor.

Overall, the analysis of the "8 thematic areas + 3 horizontal factors" shows that Basilicata has significant shortcomings and gaps compared to the rest of the Italian Regions. In 40 KPIs out of 63 (**63.5%** of the indicators) the Region reports values that are worse than the Italian average, with better values in comparison with the latter only in 23 KPIs (**36.5%** of the indicators).

Looking in detail at the "8 thematic areas + 3 horizontal factors", Basilicata ranks among the top 5 Italian Regions only with reference to the thematic area "*Enhancement of the **agri-food and tourism supply chains** as local, national and international 'attractors'*" and to the horizontal factor "*Implementation of projects to counter the **decline in passion and optimism***", ranking in both cases in **4th** place.

In particular, with reference to the KPIs of the area related to the enhancement of the agri-food and tourism supply chains, Basilicata ranks **2nd** for the share of **value added of the agri-food sector** in the total economy, with a value of 7.5%, almost double the Italian average (4.0%). The Region also ranks **1st** for the amount of fertilizer distributed in agriculture (since the latter is a reverse indicator, a lower value corresponds to a higher ranking), **6th** for the amount of agricultural land used for organic crops and **4th** for the growth rate of foreign tourist arrivals over the last decade. On the other hand, Basilicata's position is negative if we look at the share of **value added of tourism** in the total economy (**17th** place), with a value of 3.5%, lower than both the Italian average (4.0%) and that of Southern Italy (4.4%).

With reference to the implementation of projects to counter the decay of the passion for optimism, the Region records a particularly negative performance only in one KPI - however very relevant - that is the **percentage of the population at risk of poverty**, in which Basilicata is in 16th place with a value of 27.1%, 7 percentage points higher than the Italian value but progressively decreasing (-3.0 percentage points in the last year). On the other hand, with reference to the other KPIs, Basilicata is **5th** in Italy for the number of burglaries in homes and its **citizens feel safe** (2nd place for the perception of safety when walking alone when it is dark) and increasingly **satisfied with their lives**: the current position sees Basilicata in 11th place in Italy, with a value of 45.6% (higher than the national value of 44.3%), an increase of 11.1 percentage points in the last 5 years, the largest increase among all the Italian Regions.

At the same time, Basilicata occupies the **last 5 positions** in 5 of the 11 strategic needs, i.e., healthcare, innovation and technology, contrasting youth migration flows, the infrastructure system and governance processes. With reference to the thematic area concerning the reorganization of **public health** in the direction of a **territorial and decentralized model**, the Region ranks **17th**, placing 18th in the KPIs "Healthy life expectancy at birth", "Over-65 influenza vaccination coverage" and "Number of physicians per 100,000 inhabitants".

Even less positive and not very encouraging results are achieved in the thematic area "*Need for "hybridization" of traditional sectors and of the **Public Administration** through innovation and technology*", in which Basilicata ranks **20th** at the national level, i.e., the absolute worst ranking of the Region in the 11 strategic needs. In general, considering each KPI of this strategic need, Basilicata does not manage to position itself in the first half of the ranking in any of them. As also reported in the 2020 Report, **innovation and technology** are two of the main directions in which a territory should invest to guarantee a future of **growth and sustainable development**. If the COVID-s19 crisis highlighted the key role played by technology and innovation in resisting and reacting, in the post-COVID-19 future they will be even more crucial to restarting and being competitive. The injection of technological innovation in traditional sectors and in public administration must therefore be an immediate and strategic priority for Basilicata, so that it can become a highly **competitive and attractive** territory.

Also with reference to the thematic area related to the contrast of **migration flows of younger people**, Basilicata has a critical position, ranking **16th**. However, a premise must be made: youth emigration cannot be considered a negative phenomenon in absolute terms, since travelling since a young age, experiencing new cultures and studying abroad are positive aspects to be encouraged. The real problem arises, however, when young people are not given the opportunity to choose whether to return to their home countries or when a country fails to attract new residents to compensate for the emigration of its residents. This dynamic translates into an enormous **social and economic loss** for the territory. In Basilicata, the combination of a low birth rate (expressed as the average number of children per woman) and emigration has resulted in the loss of **38,000 young people** (aged between 18 and 30) over the last 20 years, amounting to **6.9% of the population**.

In the thematic area "*Strengthening of the **infrastructural system** (360°)*", Basilicata ranks **16th**: this area looks at the overall endowment of infrastructures, both physical and digital, therefore the KPIs touch on different areas. Basilicata's positioning remains **worrying** across the board, not exceeding 13th place in any of the KPIs despite improvements in each of them over the past year. The **infrastructure system is deficient**, as shown by the data on local ser-

vices (**18th** place in Italy for the number of seat-km offered by local public transport). This less-than-virtuous position is also linked to that of families with difficulties in accessing public transport (**13th** place). Basilicata's **13th place** for irregularities in water distribution and **18th** place for households with broadband connections also deserve special attention: by 2020, less than 7 out of 10 households had a connection (9.8 percentage points less than the Italian average). This gap with the rest of the country needs to be filled as soon as possible, to make the Region not only more "connected" in the mere meaning of the word, but also more resilient to future challenges and exogenous shocks such as the COVID-19 pandemic.

Finally, the last strategic requirement in which the Region ranks among the last 5 is that of "*Improvement of **governance** processes and **more 'teamwork'** also with neighboring Regions*". This position is particularly critical for the Region, since excellent governance processes - both internal and in collaboration with the other Regions - are an essential prerequisite for solving the criticalities highlighted so far. In particular, the Region presents a **light and shade picture**. The 'shadows' are represented by the **20th** place for the duration of civil proceedings (811 days, twice as long as the Italian average of 419) and the **17th** place for electoral participation. Basilicata also ranks poorly in terms of female **political representation** (14th place). On the other hand, the "lights" are represented by the **5th** place for the percentage of young municipal administrators (under 40 years of age) and the **6th** place for the percentage of municipalities with fully interactive services (51.1%, a little more than 1 in 2), which has increased by **22.9 percentage points in the last 5 years**, the second highest increase among Italian Regions after that of Puglia (+28.7 percentage points).

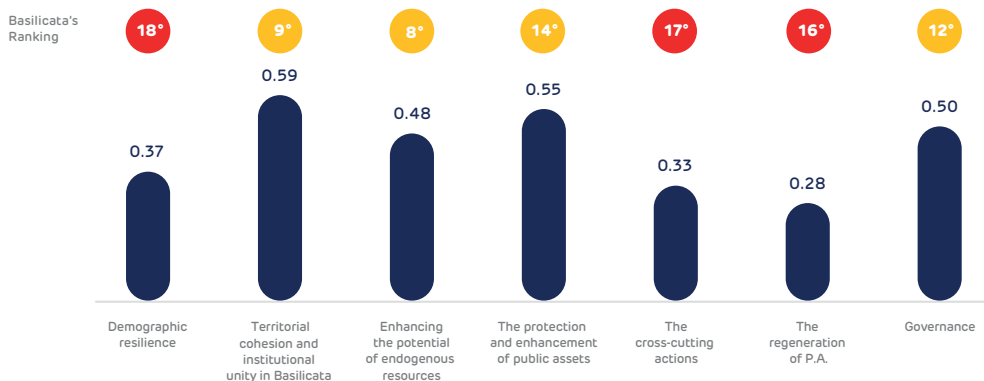
With reference to the 4 remaining strategic needs, Basilicata is ranked in the low or middle rankings: **14th** for "*enhancing the competitiveness of industry in strategic sectors for the territory*" and for "*regenerating the urban fabric and the natural and environmental heritage as tools to support the territory's tourist vocation*", and **11th** for "*creating training hubs and/or centers of excellence for Innovation & Research*" and "*optimizing the allocation and management of public funds for development*". In each of these strategic needs, Basilicata shows particularly positive and negative performances in some of the KPIs. The positive performances concern KPIs such as the Value Added of MHT (Medium-High Technology) enterprises compared to manufacturing Value Added (**1st** place), the share of industrial Value Added in the total economy (**4th** place) and the percentage of energy produced from renewable sources (**3rd** place). On the other hand, the negative performances concern the percentage change in the annual growth rate of real GDP per person employed (**20th** place), unauthorized buildings (**19th** place), separate collection of urban waste (**18th** place), the digital skills of the population (**17th** place) and the percentage of the population exposed to the risk of landslides (**16th** place).

Finally, from the present edition, the Think Tank Basilicata decided to start **monitoring the Regional Strategic Plan**, carried out through a "reorganization" of the KPIs used for the realization of the Tableau de Bord. The final objective of the Think Tank Basilicata through this activity is to provide the Region with a tool - in addition to the already consolidated Tableau de Bord - to address future policies. The Regional Strategic Plan was approved in January 2022 (after a first version - i.e., a "draft for discussion" - had been released in November 2021) and has a medium-long term horizon (to 2030). Within the Plan, **7 macro-areas of intervention** were identified, which represented the "hat" under which the 63 KPIs constituting the Tableau de Bord were reclassified.

Figura IV

Value of the synthetic indices and ranking of Basilicata in the 7 macro-areas of intervention of the 2021-2030 Regional Strategic Plan. Source: Think Tank Basilicata elaboration on various sources, 2022. Key: green = 1st-7th position; yellow = 8th-14th position; red = 15th-20th position.

The results of the analysis show significant gaps in Basilicata, which the Strategic Plan aims to fill in the next decade. The Region is in the top-10 only in the areas of territorial cohesion and institutional unity and of the valorization of the potential of endogenous resources, while it is in the last 5 positions with reference to demographic stability, transversal actions (digitalization, education and training, research for enterprises, social inclusion and equity) and the regeneration of the PA.



In this sense, the Think Tank Basilicata believes that the Region, to be considered to have achieved the objectives of the Strategic Plan, should aim to be at least in the **top-5** in each of the 7 areas identified by 2030. If, in some of them, this seems to be within reach, in other cases (such as the regeneration of the P.A. and the demographic resilience), more important and systemic actions are needed to lay the foundations for the relaunch of the Region not only in the short-term but also in the medium and especially in the long-term.

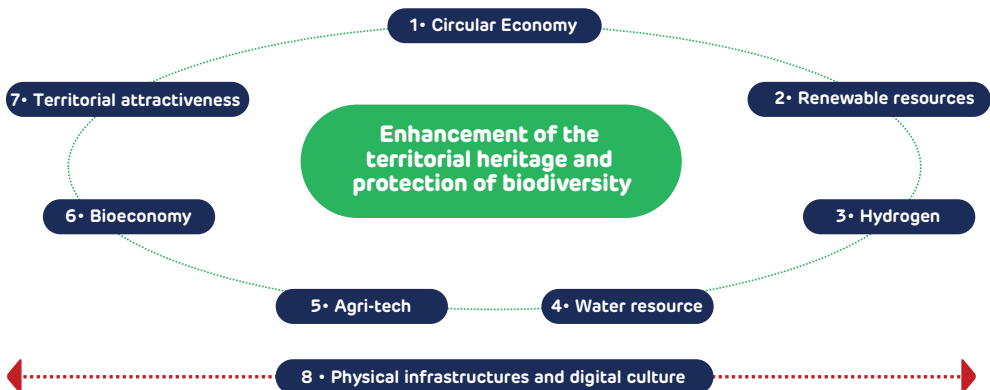
3. The guidelines and proposals for action of the Think Tank Basilicata

The challenge of the NRRP calls for concrete responses and actions, involving the **strengthening of the innovation ecosystem** in support of businesses and society in general, and the streamlining of the **Public Administration** to tackle the complex nature of bureaucracy and staff shortages. Generally speaking, it is necessary to foster close cooperation both between entities in Basilicata and between institutions that are located in different Regions but often have common goals (e.g., universities and research centers in neighboring Regions).

In this context, a priority is represented by the **active involvement of local administrations** and municipalities in the discussion and planning processes on the key issues affecting the territory. In addition, the community, which is increasingly attentive to environmental issues, can contribute, through participatory processes enabled by new technologies, to the formation of shared strategies for the environmental sustainability of the Region. Moreover, in the definition of territorial development projects, it will be necessary to ensure adequate inclusion of **young people and women**, through measures to strengthen qualified human capital and encourage the creation of female entrepreneurship.

In light of Basilicata's vision of development and the reference scenario, which places the paradigm of sustainability at the center, during the 2021-2022 edition the Think Tank Basilicata identified **seven priority areas** on which the territory and local institutions must intervene, namely: Circular Economy, Renewable Resources, Hydrogen, Water Resource, Agri-tech, Bioeconomy and Territorial Attractiveness. In addition to these, cross-sectoral investment in physical and digital infrastructures can be considered an essential precondition for ensuring the territory's competitiveness.

Figura V
The proposal structure of the Think Tank Basilicata. Source: Think Tank Basilicata, 2022.



Thanks to their sustainable footprint, the seven areas of intervention fall within the framework of the **Green Economy**, which is defined as a “theoretical model of economic development that takes into account productive activity, by assessing both the benefits derived from its growth and the environmental impact caused by the processing of raw materials”⁴.

Circular economy

In the light of the central role played by the Circular Economy and, specifically, by waste management within the Green Economy, the proposals developed by the Think Tank Basilicata on this issue have a direct impact on all three strategic competencies of the Region.

An action plan for the Circular Economy in Basilicata is based on increasingly **sustainable waste management** and proposes that the Region should:

- apply for NRRP ‘flagship projects’ with specific recycling targets to strengthen the network of separate collection and treatment/recycling plants, also taking advantage of the new memorandum of understanding between the Basilicata Region and the National Packaging Consortium (Conai);
- assisting public and private local authorities in participating in the Horizon Europe 2021-2027 calls for proposals in line with the objectives of regional planning by setting up a special desk;
- launch a regional program of waste-free municipalities and define Minimum Environmental Criteria standards in waste management tenders;
- create a Circular Economy Academy, as proposed in Phase 2 of the Think Tank Basilicata;
- include the topic of the Circular Economy in both curricular and extracurricular school curricula.

Renewable resources

Thanks to its leadership in energy from renewable sources, Basilicata can become a leader in sustainable energy projects based on **sharing paradigms**, primarily those related to energy commu-

nities and self-consumption organizations.

Relying on its own competences, Basilicata must encourage the **spread of sustainable energy communities**, through actions aimed at

- complete the realization of the Tito Energy Community - announced in 2021 and currently in the phase of collecting expressions of interest - and involve the Lucanian population in its implementation process and in sharing the results achieved;
- promote the paradigm of energy self-consumption in the other areas of the Region, both in the form of groups of self-consumers and in the form of energy communities, also by exploiting the NRRP calls specifically intended for municipalities with fewer than 5,000 inhabitants.

Hydrogen

Basilicata, by virtue of the **importance of the industrial sector** on the one hand, and the peculiarities of the **railway network** (with reduced electrification) on the other, is an area where hydrogen can deploy much of its decarbonization potential.

To exploit this resource properly, a **territorial strategy** is needed to enhance it in its various fields of application. To this end, Basilicata can:

- identify, among the industrial sectors on which hydrogen has the greatest impact and in line with the Region's strategic competences, an area of focus, on which to set up an Experimentation Centre of excellence at national level;
- follow up on Basilicata's candidacy to host one of the Hydrogen Valleys for the industrial sector envisaged by the NRRP, by presenting a credible blueprint project in the industrial areas identified, shared by the local stakeholders;
- decarbonizing the railway system through hydrogen trains on the currently non-electrified part of the network.

Water resource

The revision of **governance** in the management of the service and greater **coordination between local authorities** are undoubt-

edly two crucial elements in helping to overcome the water service divide, a problem that afflicts many Italian territories.

To manage water resources adequately, Basilicata has to favor the adoption of a **mix of technologies and systems** to enable water efficiency through actions aimed at:

- reduce water use through green roofs or rainwater harvesting systems for domestic use and rainwater harvesting systems for industrial and agricultural use;
- increase water recycling/reuse using dual supply networks and sewage sludge recovery solutions;
- reduce the production of wastewater by means of separation systems between black and white/grey wastewater and sewage sludge treatment plants;
- make water consumption monitoring systems more efficient by using software to monitor and control the efficiency, safety and durability of water and sewerage networks.

Agri-tech

The agri-tech sector is the one that best represents the **need for hybridization of traditional sectors** through innovation and technology.

Following the example of other countries and territories, to relaunch agri-tech and seize the opportunities dedicated to the sector, it is necessary to start a process of technological upgrading, sustainable transition, and internationalization. In detail, it is advisable to:

- focus on precision agriculture, also making use of the expertise of the Stigliano Centre of Excellence for Drones, to manage irrigation and fertilizers, monitor crops, etc.;
- increase supply chain productivity and product quality through Internet of Things and data analytics to control key process parameters;
- enable better product traceability and improve energy efficiency throughout the supply chain;
- provide coaching and consultancy services for the growth of exporting SMEs and participate in international trade fairs to present local products.

Bioeconomy

Due to its **systemic nature**, the bioeconomy embraces all three of Basilicata's strategic competences. The agri-tech sector is the most representative one and its transformation into a sustainable one would allow the Region to increase its competitive advantage; the industrial and capital-intensive sector would benefit from this transition thanks to the reduction of the environmental impact and the improvement of its reputation in the area; finally, the culture and creative industry could take this opportunity to reinvent itself, as already happened in some cases, by rediscovering new entertainment tools and products that do not harm the environment.

Basilicata can create a **regional Bioeconomy Strategy** in synergy with Campania and Calabria, focusing on territorial competences and in particular:

- give the Lucanian Bioeconomy Cluster a role in coordinating research and launching partnerships (acting as a link between businesses and the administration, and also with neighboring Regions) at regional level;
- launch a training course at the level of a Technical High School focused on the Bioeconomy, within the ITS for Energy Efficiency Foundation;
- reconvertng cereal crops in the Val d'Agri area into hemp crops (inspired by the project promoted by the Corleto Perticara municipal administration), promoting the creation of an integrated supply chain in the area.

Territorial attractiveness

In the new definition of **sustainable tourism**, there is also a concrete connection with sectors other than hospitality. For example, sustainability requirements are not only applied to the territory, but also to the products that tourists decide to consume, translating into an impact for the whole agri-tech sector.

To support the territorial attractiveness of Basilicata it is necessary to link tourism to the concept of sustainability, through actions in line with the proposals listed below:

- launch a Regional Plan for the Certification of Territorial Tourist Sustainability, which also deals with the updating of skills, by creating an ad hoc database and setting up a Destination Office within the APT or a Regional Department;

- create public-private partnerships to foster dialogue between municipalities and businesses in the area in the field of tourism, as well as between municipalities;
- support private facilities through tax breaks for those who convert their hotels into eco-friendly facilities;
- promote active citizenship initiatives and educational tourism through projects that support tourists and citizens in rediscovering the territory (from a natural, cultural, and historical point of view).

Physical infrastructure and digital culture

In the light of the current critical situation in terms of infrastructure in Basilicata, **Lucanian infrastructure development** - physical and digital - needs to set and pursue **short and medium-long term** priorities:

- making road infrastructures safe and deploying the public transport network to better connect the most marginalized areas, as defined in the Regional Strategic Plan (e.g., Ferrandina-Matera line, Taranto-Battipaglia railway line, SS 106 Ionica, Salerno-Bari corridor, etc.);
- to further extend telemedicine and teleconsultation services and to promote territorial assistance, ensuring a widespread connection to all the Region's municipalities (even the most inland ones);
- stimulate the population's access to Ultra Broadband and foster the development of the digital skills of citizens and Public Administration in the short term;
- digitizing all public services, ensuring the interoperability of databases, and having the ambition to create a single digital access point in the medium to long term.



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