

GREENSMES

“Enhancing SMEs’ modernization and green innovation and transition towards successful sustainability by transnational collaborative practices and tools”



Priority 1

Supporting a smarter Adriatic-Ionian region

Specific objective 1.1: Strengthening innovation capacities in the Adriatic-Ionian region

IPA-ADRION00142

WP 1 - Increasing transnational knowledge and awareness**Activity 1.1 Exploring green economy and business innovation in the transnational area****D.1.1_Report on the state of play of green economy and innovation at partner territory level**

LP – TECNOPOLIS Science and Technology Park

This project is co-funded by the European Union through the Interreg IPA ADRION programme.

GREENSMES

Content

1. Introduction.....	3
1.1. Scope & geographical area.....	3
1.2. Methodology followed.....	4
2. Setting the green landscape.....	5
2.1. Stakeholder mapping.....	5
2.2. Policy framework.....	8
2.3. Facts and Data.....	11
3. Success factors.....	16
3.1. Good practices.....	16
3.2. Contribution to GREENSMES project.....	23
4. Conclusions.....	24
4.1. Summary & key takeaways	24
4.2. Reference to any trends & forecasts	25
Appendix.....	26
List of sources.....	26

This project is co-funded by the European Union through the Interreg IPA ADRION programme.

GREENSMES

1. Introduction

1.1. Scope & geographical area

The notion of a green economy does not have a universally accepted definition, yet there are widely shared elements across various interpretations provided by institutions and researchers.

A key reference document for the discussions was the 2011 United Nations Environment Programme Green Economy Report, which describes the green economy as an economic system that enhances human well-being and social equity while significantly minimizing environmental risks and resource depletion.

At its core, the green economy is characterized by low carbon emissions, efficient resource management, and social inclusivity. Economic progress and job creation within this model are driven by investments—both public and private—that contribute to reducing pollution, optimizing energy and material efficiency, and preserving biodiversity and ecosystem services. Such investments require policy support, regulatory frameworks, and targeted financial strategies to maximize their impact.

The green economy can be segmented into four key sectors: renewable energy, green construction and energy-efficient technologies, sustainable infrastructure and transportation, and circular economy initiatives such as recycling and waste-to-energy processes. Beyond clean energy production, the green economy also encompasses innovations that enable cleaner industrial processes and the rising demand for low-impact products.

Agriculture plays a vital role in this transition, particularly in regions with a strong farming tradition, where sustainable agricultural practices can contribute to both environmental protection and economic growth. Another critical challenge for policymakers is developing regulatory frameworks, incentives, and support mechanisms that can stimulate the green economy. Without such measures, local economic development may struggle to keep pace with sustainability objectives.

As with any economic transformation, the success of green economic policies depends on leveraging existing regional strengths. Engaging key stakeholders—including government

This project is co-funded by the European Union through the Interreg IPA ADRION programme.

GREENSMES

agencies, academic institutions, non-profits, industry associations, and labor unions—will be essential. Programs should capitalize on existing assets such as job training initiatives, business incubators, and support centers for small enterprises.

For Puglia, the opportunities presented by the green economy are deeply tied to its geographic location, cultural heritage, and socio-economic structure. The region's positioning at the heart of the Mediterranean makes it an ideal location for harnessing solar energy on a large scale. Additionally, its long-standing agricultural and food production sectors offer significant potential for expanding organic farming and sustainable agribusiness. Lastly, the rich archaeological and cultural heritage of the region creates promising opportunities for sustainable tourism development.

1.2. Methodology followed

The research for this analysis was conducted using a combination of primary and secondary sources. Key insights were derived from recent reports, official regional documents, and data from organizations actively involved in the green economy in Puglia Region (see Appendix).

One of the most important source is a survey conducted in 2024 by Symbola, the Guglielmo Tagliacarne Chambers of Commerce Study Center and Unioncamere, which involved 2,000 Italian manufacturing companies. The survey has compared the performance of companies that have invested in green with those of companies that have not done so, with a regional and provincial focus.

Insights were gathered from companies actively engaged in sustainable business practices, such as Apulia Kundi, EggPlant, Made in Carcere, and VaZapp'.

Additionally, references were made to PP previous project experiences, such as the Green Business Innovation Project, funded under the Interreg Greece-Italy program.

By integrating these diverse sources, the research ensures a comprehensive and up-to-date perspective on Puglia's green transition.

The study adopts a broad definition of green enterprises, considering both companies that develop green products and services and those integrating sustainable solutions into

This project is co-funded by the European Union through the Interreg IPA ADRION programme.

GREENSMES

their production processes. The focus of the analysis is to identify key players driving the regional transition towards energy and ecological sustainability.

2. Setting the green landscape

2.1. Stakeholder mapping

The green economy and innovation landscape in Puglia involve a diverse network of stakeholders, ranging from public institutions to private enterprises, research centers, and civil society organizations.

Public Sector & Institutions: The Puglia Region government plays a central role in defining and implementing green policies, supported by agencies such as ARTI (Agenzia Regionale per la Tecnologia, il Trasferimento Tecnologico e l'Innovazione) and ASSET (Agenzia Strategica per lo Sviluppo Ecosostenibile del Territorio) or ARPA Puglia (Agenzia regionale per la protezione dell'ambiente). Municipalities and National Ministries have also an important role. These entities drive research, innovation, and policy development in line with national and EU sustainability goals.

Puglia Sviluppo is the financial company of the Puglia Region. In carrying out the institutional task of contributing to the implementation of regional economic development programmes, it operates as an intermediate body for the management of aid for investment and innovation for companies and, as manager of financial instruments, to facilitate access to credit and innovative finance. It promotes some measures that finance green investment, specifically in the field of energy efficiency, for local SMEs.

Academic and Research Institutions: the University of Bari, Polytechnic of Bari, the University of Salento, the University of Foggia and the LUM University contribute significantly to green innovation by conducting research on renewable energy, sustainable agriculture, circular economy, smart grids, hydrogen, and environmental conservation. In Puglia important branch of local and international organization dealing with green solutions are also really active.

Private Sector: Companies specializing in renewable energy, circular economy, and green technology are key drivers of sustainable development. Notable players include major

This project is co-funded by the European Union through the Interreg IPA ADRION programme.

GREENSMES

energy producers and startups focusing on sustainable solutions, and consultancy company (including ESCOs).

Civil Society & NGOs: Environmental organizations such as the local branch of WWF, Legambiente and LIPU and community-led initiatives promote awareness and active participation in the green transition, advocating for policies that prioritize sustainability and social equity. In Puglia green related Clusters are also active, as well as Business associations dealing with green thematic issues (circular economy, green investments, etc.). In particular, the cluster DIPAR promotes, supports and encourages regional development initiatives and programmes aimed at strengthening competitiveness, innovation, internationalisation, the creation of new and better employment and the growth of companies that are part of the environmental and reuse production district.

In the table are summarized a non-exhaustive list of some of the Apulian main representatives for each of the mentioned categories.

Government • Puglia Region • Regional Agencies (ARPA, ARTI, ASSET) • Municipalities • National Government (MISE, MITE, MIC..) • PugliaSviluppo	Academia • Universities (University of Bari, Polytechnic of Bari, University of Salento, LUM University, University of Foggia) • Research centers with local branches (CNR, CETMA, ENEA) • International organization with a local branch (CIHEAM, CMCC) • - Incubators and innovative stakeholders (Tecnopolis, Balab, etc.)
Industry • Traditional industry operators • Consulting firms • Innovative start-ups and spin-offs • Energy companies	Civil society • Environmental Organizations (Legambiente Puglia, LIPU, WWF, etc.) • Sectorial organizations/clusters (DITNE, la Nuova Energia, DIPAR ..) • Business associations (Chambers of Commerce, Unioncamere, Confindustria, Coldiretti..)

This project is co-funded by the European Union through the Interreg IPA ADRION programme.

GREENSMES

Business Support Organisations

- Name and contact details: PugliaSviluppo <https://pugliasviluppo.eu/it/>
- Geographical range: Regional
- Type of organisation: Public in-house company
- Sectoral focus: Financing innovations and energy efficiency
- Main services provided: loans, financing, internationalization
- Thematic focus: S3 sectors

- Name and contact details: Unioncamere Puglia <https://www.unioncamerepuglia.it/>
- Geographical range: Region Level
- Type of organisation: Professional Chamber
- Sectoral focus: No
- Main services provided: Consultancy, education, valorisation local practices, internationalization
- Thematic focus: No

- Name and contact details: DITNE <https://www.ditne.it/>
- Geographical range: Country Level
- Type of organisation: Technological Cluster
- Sectoral focus: Renewable Energy Production, Energy efficiency
- Main services provided: Consultancy, education, valorisation local practices
- Thematic focus: Energy

- Name and contact details: La Nuova Energia <https://lanuovaenergia.it/>
- Geographical range: Region Level
- Type of organisation (e.g. Innovation and technology transfer centre; Development Agency; Professional Chamber or Association; Digital innovation hub; etc.):
- Sectoral focus: Renewable Energy Production
- Main services provided: Consultancy, education, valorisation local practices
- Thematic focus: Energy

This project is co-funded by the European Union through the Interreg IPA ADRION programme.

GREENSMES

- Name and contact details: DIPAR <https://www.dipar.info/>
- Geographical range: Region Level
- Type of organisation: Cluster
- Sectoral focus: Reuse, waste
- Main services provided: Internationalization, consultancy, education, valorisation local practices
- Thematic focus: Wastes

2.2. Policy framework

The policy framework supporting the green economy and innovation in Puglia is shaped by European, national, and regional directives. The EU's Green Deal and the Next Generation EU recovery plan provide significant funding for sustainable development projects.

The European Union has established a comprehensive regulatory framework to promote the transition towards a circular economy and the adoption of Life Cycle Assessment (LCA) methodologies. These policies are designed to minimize environmental impact, encourage resource efficiency, and ensure that products are designed, produced, and disposed of in a sustainable manner.

One of the key legislative pillars of the circular economy is the Waste Framework Directive (Directive 2008/98/EC), which sets out the fundamental principles for waste management in the EU. It introduces the waste hierarchy, prioritizing prevention, reuse, recycling, energy recovery, and, as a last resort, disposal. This directive was later updated in 2018 (Directive 2018/851/EU), setting more ambitious recycling targets, including the requirement for EU member states to recycle at least 65% of municipal waste by 2035.

In recent years, the EU has intensified efforts to tackle plastic pollution through measures such as the Single-Use Plastics Directive (Directive 2019/904/EU), which bans certain disposable plastic products and strengthens producer responsibility. In parallel, the EU Taxonomy Regulation (Regulation 2020/852) has been introduced to define the criteria that determine whether an economic activity is environmentally sustainable, incorporating circular economy principles into investment decision-making.

This project is co-funded by the European Union through the Interreg IPA ADRION programme.

GREENSMES

A significant milestone in this transition is the European Strategy for Sustainable Products (2022), which aims to extend product lifespan and improve their recyclability. One of its most innovative aspects is the introduction of the Digital Product Passport, which provides detailed sustainability information on products throughout their life cycle, enhancing transparency and facilitating circularity.

Alongside these circular economy policies, the EU has also reinforced the importance of Life Cycle Assessment (LCA) as a tool for evaluating the environmental footprint of products and processes. The ISO 14040 and ISO 14044 standards establish the methodological framework for conducting an LCA, outlining the key steps of data collection, impact assessment, and result interpretation. The EU Taxonomy Regulation further encourages companies to incorporate LCA-based metrics to demonstrate the sustainability of their operations.

To harmonize environmental impact assessments across industries, the European Commission has developed the Product Environmental Footprint (PEF) and Organisation Environmental Footprint (OEF) methodologies. These standardized approaches help businesses and policymakers make informed decisions about sustainability by measuring environmental performance across the entire product life cycle.

Furthermore, the Ecodesign Directive (2009/125/EC) plays a crucial role in ensuring that products sold in the EU are designed to reduce their environmental footprint. This directive is currently being revised to introduce more stringent sustainability requirements, reinforcing the EU's commitment to embedding circular economy principles into product design.

Looking ahead, the EU is working on additional regulations, such as the Ecodesign for Sustainable Products Regulation (ESPR), which will further enhance sustainability criteria for products placed on the market. There are also ongoing discussions on strengthening Extended Producer Responsibility (EPR) schemes, ensuring that manufacturers take greater responsibility for the entire lifecycle of their products, from production to disposal.

Through this extensive regulatory framework, the EU is paving the way for a greener, more sustainable economic model. By integrating circular economy principles and Life Cycle Assessment methodologies into legislation, the EU aims to drive innovation, reduce

This project is co-funded by the European Union through the Interreg IPA ADRION programme.

GREENSMES

waste, and ensure that environmental considerations are at the core of economic activities.

At the national level, Italy's National Recovery and Resilience Plan (PNRR) allocates resources to green innovation, renewable energy, and digital transformation. In particular, "Mission 2: Green Revolution and Ecological Transition" aims to achieve the green and ecological transition of society and the economy to make the system sustainable and ensure its competitiveness.

The PNIEC (Piano Nazionale Integrato per l'Energia e il Clima), updated in 2024, is Italy's National Integrated Energy and Climate Plan, a strategic document that outlines the country's energy transition and climate policies in line with European Union targets. It is a fundamental tool for guiding Italy towards decarbonization, energy efficiency, and the development of renewable energy sources, supporting the broader objectives of the European Green Deal and the Fit for 55 package.

In Italy, the process of assigning legislative and regulatory functions in the energy sector to the Regions began with Law No. 10/91, which assigned them the task of preparing Regional Energy Plans, aimed at managing the incentive system under their jurisdiction towards initiatives to reduce energy consumption and support renewable sources. The reform of Title V of the Constitution, implemented with Law No. 3/2001, placed energy among the matters with concurrent legislative power between the State and the Regions.

Puglia has implemented specific regional policies to enhance its sustainability agenda. The Regional Environmental Energy Plan (PEAR), adopted in 2024, promotes energy efficiency, decarbonization, and the expansion of renewable energy sources such as wind and solar power.

Another important regional achievement is the Regional Strategy for Sustainable Development (SRSvS). In line with the United Nations Agenda 2030 and the National Strategy for Sustainable Development, the Puglia Region started developing its own regional strategy in 2019. This document guides regional policies towards a development that integrates environmental, economic and social aspects, promoting an integrated governance approach.

This project is co-funded by the European Union through the Interreg IPA ADRION programme.

GREENSMES

The Smart Specialization Strategy (S3) plays a pivotal role in fostering green innovation by supporting research and development in sustainable technologies, including circular economy solutions, bio-based industries, and advanced materials.

In the new Smart Specialization Strategy (S3) 2030, approved in 2022, the circular economy has instead taken on a central role as one of the main drivers of change in the regional system, together with information technologies, life and health sciences, and blue growth.

Moreover, Puglia has introduced policies to support sustainable mobility, including investments in electric public transport, bike-sharing programs, and pedestrian-friendly urban planning. Efforts are also being made to improve waste management and water conservation, with regulations encouraging recycling, circular economy initiatives, and the reduction of industrial emissions.

An important role in financing energy efficiency and self-consumption interventions for SMEs is played by PugliaSviluppo, the financial institution of the Puglia region, using structural funds.

2.3. Facts and Data

Puglia stands out in Italy's green economy landscape due to its significant contributions to renewable energy and sustainable practices. The region is among the leaders in solar and wind energy production, with over 3.1 GW of installed wind capacity and 3.3 GW of solar energy as of 2023 (PEAR, 2024). This represents a steady increase in capacity and a commitment to transitioning towards a more sustainable energy mix.

In the agricultural sector, Puglia has made strides in sustainable farming practices, including organic agriculture and water-efficient irrigation systems. The region is one of Italy's top producers of organic food, with over 20% of its agricultural land dedicated to organic farming (Green Italy Report, 2024). Investments in precision agriculture and sustainable land management have further improved efficiency, reducing environmental impact while maintaining high productivity.

The circular economy is also gaining momentum, with increasing investments in waste recycling and sustainable manufacturing processes. Puglia has established multiple

This project is co-funded by the European Union through the Interreg IPA ADRION programme.

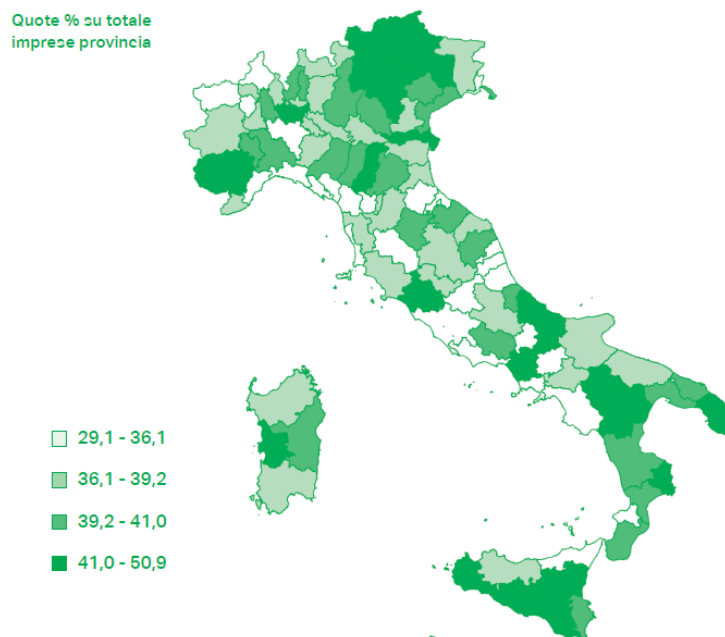
GREENSMES

waste-to-energy plants and recycling centers, promoting the recovery of materials and reducing landfill use. Efforts are underway to improve the management of plastic waste and introduce more stringent regulations on industrial emissions.

Employment in the green sector has also been growing steadily. According to recent data, with 36,910 companies that have made eco-investments in the period 2019-2023 in green products and technologies, Puglia ranks ninth in Italy, after the large northern regions, Campania and Sicily.

As shown in the following figure, in terms of incidence on the total number of regional companies, Puglia is confirmed as an intermediate level region in Italy, with a greater vocation for "green" companies in the southern part of the region.

Figure: Companies that have made eco-investments in the period 2019-2022 and/or will invest in 2023 in green products and technologies - Years 2019-2023, percentage incidence classes of companies that invest in green on the total number of provincial companies. Source: Unioncamere

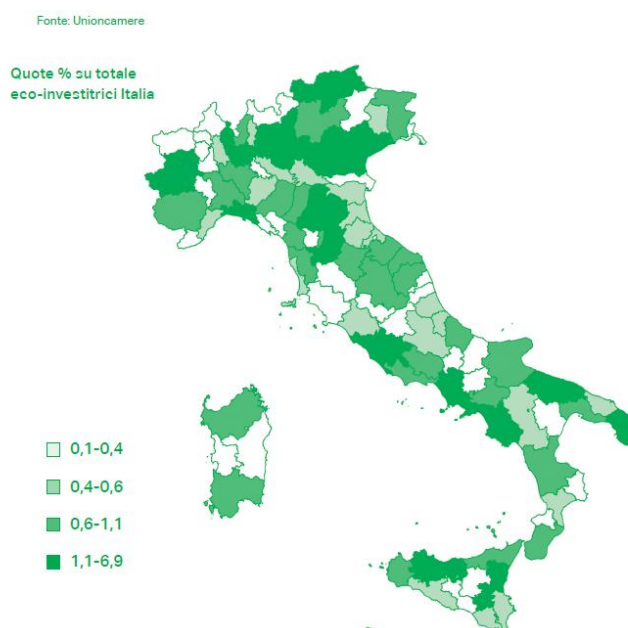


This project is co-funded by the European Union through the Interreg IPA ADRION programme.

GREENSMES

As shown in the following figure, however, in absolute terms it is the province of Bari, with over 15,800 companies that have invested in green products or services, that is the most relevant at the regional level.

Figure: Distribution according to the absolute number of companies that have made eco-investments in the period 2019-2022 and/or will invest in 2023 in green products and technologies on the national territory, classes of percentage shares of companies that invest in green on the national total of eco-investing companies



With 15,820 companies, 38% of companies, the Province of Bari ranks fifth among the Italian provinces that have invested the most in green solutions.

This project is co-funded by the European Union through the Interreg IPA ADRION programme.

GREENSMES

Table: Top ten Italian provinces by absolute value of companies that have made eco-investments in the period 2019-2022 and/or will invest in green products and technologies in 2023 - Years 2019-2023, absolute values and percentage incidence of green companies on the total number of companies in the province Source: Unioncamere 2024

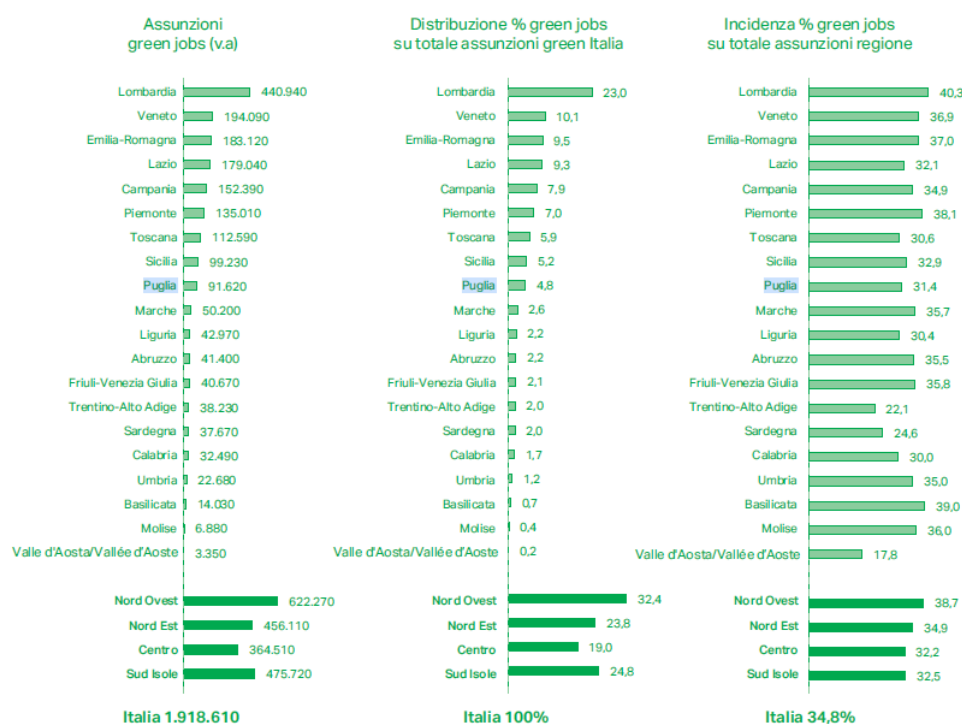
	Provincia	Imprese che investono nel green (v.a.)	Incidenza % green su totale imprese della provincia
1	Milano	39.540	41,7
2	Roma	36.290	35,2
3	Napoli	21.280	32,2
4	Torino	19.820	39,2
5	Bari	15.820	38,1
6	Brescia	13.990	39,5
7	Bologna	10.870	41,0
8	Firenze	10.820	36,8
9	Bergamo	10.720	38,3
10	Verona	10.430	40,8

In 2023, there were 91,620 hires related to green jobs in Puglia, equal to 4.6% of all Italian green hires and 21% of the hires made during the year. This highlights that green innovation represents one of the main regional but also Italian employment drivers.

This project is co-funded by the European Union through the Interreg IPA ADRION programme.

GREENSMES

Figure: Regional rankings according to the absolute number of contracts relating to green jobs whose activation is expected by companies in 2023 and their distribution on the total number of green jobs hires in Italy and incidence on the total hires of the region Year 2023, absolute values and percentages Source: Unioncamere 2024



Despite these positive trends, challenges remain. Puglia must continue to address issues related to energy storage, grid modernization, and adaptation to climate change. The region's renewable energy capacity requires improved infrastructure to optimize distribution and storage solutions, ensuring a stable and efficient energy supply. Additionally, the effects of climate change, such as increased droughts and extreme weather events, necessitate further investment in resilience strategies and adaptation measures.

Strengthening public-private partnerships and increasing investments in green research and innovation will be key to sustaining progress in the green economy. By leveraging its

This project is co-funded by the European Union through the Interreg IPA ADRION programme.

GREENSMES

strengths and addressing challenges, Puglia can serve as a model for green innovation and economic transformation in southern Italy and beyond.

3. Success factors

3.1. Good practices

Bigood - Sustainable Catering Solutions

Short summary: Bigood is an innovative catering company in Puglia, specializing in sustainable food production and zero-waste meal services. It promotes organic ingredients, minimal packaging, and energy-efficient cooking methods.

Tags: Sustainable catering, zero waste, organic food

Analytical description: Bigood tackles food waste and high environmental impact in the catering industry. By sourcing organic and locally-produced ingredients, the company reduces carbon emissions associated with food transportation. Its meal preparation techniques focus on energy efficiency, and it employs biodegradable packaging solutions to eliminate plastic waste. Collaborating with local farmers and sustainability advocates, Bigood creates menus that are both nutritious and environmentally friendly. It also implements food recovery programs to distribute surplus meals to communities in need.

Evidence of success: Bigood has reduced food waste by 40%, decreased plastic usage by 80%, and collaborated with over 50 local suppliers to ensure a sustainable supply chain.

Potential for learning or transfer: This model is adaptable for catering services looking to integrate sustainable food practices.

Further information:

- **Implementation level:** Regional – Puglia
- **Partnership:** Local organic farms, sustainability organizations
- **Timescale:** Ongoing
- **Related website:** <https://www.bigood.it/>

This project is co-funded by the European Union through the Interreg IPA ADRION programme.

GREENSMES

- **Contact information:** info@bigood.it

Figure: Bigood (source: company website)



Made in Carcere – Circular Economy for Social Impact

Short summary: Made in Carcere is a social enterprise based in Puglia that promotes circular economy principles by producing upcycled fashion accessories while offering employment opportunities to incarcerated women. **Tags:** Circular economy, social enterprise, textile recycling

Key details: Analytical description : Made in Carcere addresses two key challenges: textile waste and social reintegration. The initiative repurposes discarded fabrics from textile companies into high-quality accessories such as bags and clothing, reducing landfill waste. At the same time, it provides vocational training and employment to women in prisons, equipping them with skills for social and economic reintegration. Stakeholders include local prisons, fashion companies donating excess materials, and NGOs supporting social entrepreneurship. **Evidence of success :** The enterprise has upcycled over 100 tons of textile waste, trained 200 incarcerated women, and expanded its product sales internationally. **Potential for learning or transfer :** The model can be replicated in other regions aiming to combine sustainability with social impact.

Further information:

- **Implementation level:** Regional – Puglia

This project is co-funded by the European Union through the Interreg IPA ADRION programme.

GREENSMES

- **Partnership:** Local prisons, textile companies, NGOs
- **Timescale:** Ongoing
- **Budget:**
- **Related website:** www.madeincarcere.it
- **Contact information:** <https://www.madeincarcere.it/il-team/>

Figure: Made in Carcere (source: company website)



EggPlant – Sustainable Biotechnology for Agriculture

Short summary : EggPlant is an innovative biotechnology company in Puglia that specializes in transforming agricultural waste into high-value bio-based products, such as fertilizers and bioplastics. **Tags:** Biotechnology, circular economy, sustainable agriculture

Key details: Analytical description: EggPlant tackles the challenge of agricultural waste management by developing advanced biotechnological processes to convert organic waste into bio-based products. By leveraging fermentation and microbial engineering, the company produces biofertilizers, biodegradable packaging, and alternative proteins. The company collaborates with universities and agricultural consortia to scale up its innovations. Stakeholders include local farmers, agri-food industries, and researchers in green biotechnology.

This project is co-funded by the European Union through the Interreg IPA ADRION programme.

GREENSMES

Evidence of success : EggPlant has reduced agricultural waste disposal by 60%, developed biodegradable materials used in packaging, and increased the adoption of organic fertilizers in local farms.

Potential for learning or transfer : The model offers scalable solutions for sustainable waste management in agriculture.

Further information:

- **Implementation level:** Regional – Puglia
- **Partnership:** Agricultural consortia, biotech research centers
- **Timescale:** Ongoing
- **Related website:** <http://www.eggplant.it/>
- **Contact information:** <http://www.eggplant.it/contacts>

Figure: EggPlant (source: company website)



Made in Terra – Sustainable Bioarchitecture and Natural Insulation

Short summary: Made in Terra is a Puglia-based company specializing in bioarchitecture and sustainable building solutions. It focuses on the production of natural, high-performance thermal and acoustic insulation materials derived from local and renewable resources.

Tags: Bioarchitecture, sustainable construction, natural insulation

This project is co-funded by the European Union through the Interreg IPA ADRION programme.

GREENSMES

Key details: Lecostruzioni is box kit produced by Made in Terra consisting of a set with wood elements and simple instructions allowing the child to build a real apparatus to make the bricks for its own constructions. The product aims to increase the sense of respect for the environment through the game: playing with clay and straw to handle a healthier and more sustainable material. It was presented in the Interreg Greece-Italy Green Business Innovation Project.

Analytical description: The construction sector is responsible for a significant portion of global carbon emissions, largely due to energy-intensive materials and poor insulation efficiency. Made in Terra addresses this challenge by developing a range of eco-friendly, natural insulation products, including lime-hemp composites and other bio-based materials. These solutions offer excellent thermal and acoustic insulation while significantly reducing the environmental impact of buildings. The company collaborates with architects, construction firms, and research centers to promote the adoption of sustainable building practices. By prioritizing the use of locally sourced raw materials, Made in Terra supports the regional economy and minimizes transportation-related emissions.

Evidence of success: The adoption of Made in Terra's insulation materials has led to a 50% improvement in energy efficiency in renovated buildings, a 70% reduction in construction waste, and a growing demand for bio-based solutions in the regional construction market.

Potential for learning or transfer: Replicable in regions promoting sustainable construction and bioarchitecture.

Further information:

- **Implementation level:** Regional – Puglia
- **Partnership:** Architects, construction firms, research institutions
- **Related website:** www.madeinterra.it
- **Contact information:** madeinterrasrl@pec.it

Figure: Lecostruzioni box kit by Made in Terra (source: GBI Project)

This project is co-funded by the European Union through the Interreg IPA ADRION programme.

GREENSMES



VaZapp' – Agricultural Innovation Hub

Short summary : VaZapp' is a community-driven agricultural innovation hub in Puglia that connects young farmers, researchers, and policymakers to develop sustainable and innovative farming practices. **Tags:** Agricultural innovation, sustainability, community farming

Key details: Analytical description: VaZapp' addresses the generational gap in agriculture by providing a platform where young farmers can share knowledge, access research, and co-develop new farming techniques. It focuses on sustainable agricultural practices, such as precision farming and regenerative agriculture. The initiative organizes workshops, networking events, and collaborative projects with universities and local authorities. Key stakeholders include agricultural cooperatives, policymakers, and environmental organizations.

Evidence of success : VaZapp' has engaged over 1,000 young farmers, facilitated 50 research-based agricultural projects, and contributed to improving farm sustainability across the region.

Potential for learning or transfer : The model strengthens community-based innovation in agriculture and can be adapted in other regions.

Further information:

- **Implementation level:** Regional – Puglia
- **Partnership:** Universities, agricultural cooperatives, local governments

This project is co-funded by the European Union through the Interreg IPA ADRION programme.

GREENSMES

- **Timescale:** Ongoing
- **Related website:** www.vazapp.it
- **Contact information:** info@vazapp.it

Figure: VaZapp' (source: company website)



Vetri d'Arte – Sustainable Artistic Glasswork

Short summary: Vetri d'Arte, founded by Maria Concetta Malorzo, is an artisanal glassmaking company in Puglia that combines traditional craftsmanship with innovative sustainable practices. The company focuses on the reuse of glass waste to create unique artistic and architectural pieces.

Tags: Artistic glassmaking, circular economy, sustainable design

Key details: Home accessories and lighting system realized from recycled molten glass wine bottles. No chemical pre-treatments and post-treatments are performed. The collection is called “Arretu”, a Salentino dialect word that means “again”, that identifies the peculiarity of the product that is a disposed object returns to new life becoming an object of design.

Analytical description: Vetri d'Arte integrates sustainability into its artistic glass production by repurposing waste glass and adopting low-energy processing techniques. The company produces handcrafted stained glass windows, mosaics, and decorative panels using traditional methods while minimizing material waste. Through partnerships with architects and interior designers, Vetri d'Arte promotes the use of recycled glass in

This project is co-funded by the European Union through the Interreg IPA ADRION programme.

GREENSMES

modern and historical restoration projects. The company also conducts workshops to raise awareness of sustainable artistic practices among young artists and the local community.

Evidence of success: Vetri d'Arte has reduced glass waste by 60% in its production process, expanded its market to include sustainable architecture projects, and trained over 100 artisans in eco-friendly glassmaking techniques.

Potential for learning or transfer: The integration of circular economy principles in artisanal craftsmanship can be replicated in other artistic sectors seeking sustainable innovation.

Further information:

- **Implementation level:** Regional – Puglia
- **Partnership:** Architects, restoration experts, art institutions
- **Related website:** www.artistadelvetro.com
- **Contact information:** info@artistadelvetro.com

Figure: Vetri D'arte (source: GBI Project)



3.2. Contribution to GREENSMES project

The findings of this analysis will serve as a foundational knowledge base for the GREENSMES project, supporting its objectives in multiple ways. The study provides a valuable resource for networking, fostering connections among stakeholders in the green economy sector. Additionally, it serves as a key tool for refining consultancy activities and planning targeted events, ensuring that project initiatives align with

This project is co-funded by the European Union through the Interreg IPA ADRION programme.

GREENSMES

regional needs and industry trends. The analysis will also contribute to dissemination and information-sharing efforts, raising awareness of sustainability best practices and facilitating knowledge exchange among businesses, policymakers, and researchers. By leveraging these insights, the GREENSMES project can enhance its impact, driving forward the transition to a more sustainable and resilient economic model in Puglia and in the Adriatic Area.

4. Conclusions

4.1. Summary & key takeaways

Puglia is a leading region in Italy's green transition, leveraging its strategic geographical position, abundant renewable energy resources, and strong policy framework to foster sustainable development. The region's commitment to green innovation is evident through its investments in wind and solar energy, sustainable agriculture, and circular economy initiatives. Public institutions, research centers, and private enterprises form a robust ecosystem that drives the green economy forward, supported by policies aligned with the EU's Green Deal and Italy's national sustainability strategies. The adoption of the Regional Environmental Energy Plan (PEAR) and the Regional Strategy for Sustainable Development (SRSvS) highlights Puglia's proactive approach in reducing carbon emissions, enhancing energy efficiency, and promoting sustainable mobility. Moreover, the significant number of companies investing in green solutions and the increasing employment opportunities in the sector underscore the economic potential of sustainability-driven initiatives.

In the period 2019-2023, 36,910 Apulian companies made eco-investments in green products and technologies, and only in 2023 91.000 new green jobs have been created.

It is also important to underline that, according to the report Green Italy 2024, companies that have invested in green show greater dynamism than those that have not made this type of investment, with superior performance in all the areas analyzed.

This project is co-funded by the European Union through the Interreg IPA ADRION programme.

GREENSMES

Green investments have guaranteed companies greater possibilities to increase production, turnover, employment and exports. In fact, 29% of companies that have invested in green solutions in Italy have seen their production grow, compared to 22% of companies that have not made this type of investment. Similarly, turnover, employment and exports grew respectively in 32%, 23% and 24% of companies with green investments, against 25%, 15% and 20% of companies that did not invest in green. Therefore, investing in green activities increases by 6-7 percentage points the possibility of companies to achieve better business performance.

However, challenges such as grid modernization, energy storage, and climate adaptation remain, requiring continued investment, innovation, and strategic collaboration between public and private stakeholders to ensure long-term sustainability and resilience.

4.2. Reference to any trends & forecasts

Looking ahead, Puglia is well-positioned to capitalize on emerging trends in green technology and sustainability. The region is expected to see further expansion in renewable energy production, with advancements in offshore wind projects and smart grid solutions enhancing energy distribution efficiency. The increasing adoption of hydrogen and bio-based industries, driven by European and national funding, will likely play a pivotal role in the region's energy transition. In the agricultural sector, precision farming and regenerative practices will gain traction, optimizing resource use while maintaining high productivity. Additionally, circular economy initiatives will continue to expand, with innovations in waste management, sustainable manufacturing, and eco-friendly materials reshaping industrial practices. The growing demand for green jobs in Puglia indicates a broader shift towards sustainability-focused employment, reinforcing the need for targeted education and workforce development programs. While the region faces challenges such as climate change impacts and infrastructure modernization, its strategic policies, innovation-driven ecosystem, and commitment to sustainability position Puglia as a benchmark for green growth in Italy and the Mediterranean area.

This project is co-funded by the European Union through the Interreg IPA ADRION programme.

GREENSMES

Appendix

List of sources

Bibliography

- Apulia Kundi, www.apuliakundi.it
- Bigood, <https://www.bigood.it>
- Bollettino Ufficiale della Regione Puglia, burp.regione.puglia.it
- EggPlant, www.eggplant.it
- Green Business Innovation in the cross border area, 2014
- Green Entrepreneurship Excellence Award, 2025
- GreenItaly Report, 2024, "State of Green Economy in Italy", www.greenitalyreport.it
- Legambiente, 2018, "La Puglia dei Green Jobs"
- Made in Carcere, www.madeincarcere.it
- Regione Puglia, 2024, "Piano Energetico Ambientale Regionale (PEAR) - Aggiornamento 2024", www.regione.puglia.it
- VaZapp', www.vazapp.it

DISCLAIMER. This document has been produced with the financial assistance of the European Union. The content of the document is the sole responsibility of LP – TECNOPOLIS Science and Technology Park and can under no circumstances be regarded as reflecting the position of the European Union and/or IPA ADRION programme

This project is co-funded by the European Union through the Interreg IPA ADRION programme.