

RESOURCE

Regional project development assistance
for the uptake of an Aragonese circular economy

The Government of Aragon's support to companies for the development of the circular economy

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1. Introduction

The circular economy requires a change in cultural, productive, and consumption models. Therefore, achieving this objective is only possible through the collaboration, participation, involvement, and commitment of all Aragonese society: public administrations, companies, social agents, consumers, and the public.

The Government of Aragón is committed to the circular economy and bioeconomy deployment and has been working in recent years on various sectoral plans and strategies that inherently contributes to promote and narrow the path towards it.

In the first decades of the 21st century, Aragon began to integrate the bioeconomy as part of its regional development strategies. Universities, such as the University of Zaragoza, and research centres such as CITA (Centro de Investigación y Tecnología Agroalimentaria), played a key role in promoting studies and projects on the use of biomass, biotechnology and management of biological resources.

The influence of the European Bioeconomy Strategy (2012) marked a turning point in Aragon, which adopted policies aligned with EU sustainability objectives. At regional level, programmes were implemented to promote the circular economy and the use of agro-industrial and forestry waste. The bioeconomy was consolidated especially in sectors such as agri-food and forest resource management, taking advantage of Aragon's agricultural and forestry potential.

In recent years (from 2020), Aragon has promoted projects in key areas such as the production of bioplastics, biofertilisers and biofuels, promoting collaboration between companies, researchers and administrations.

2. The Aragon Circular Strategy

In January 2020, the Government of Aragón, through the Departments of Economy and Agriculture, Livestock, and Environment, launched the Aragon Circular Strategy as an initiative aimed at promoting the transition towards a circular economy in the region. This strategy aligns with the sustainable development goals of the 2030 Agenda and European policies on circular economy, positioning Aragon as a region committed to sustainability and economic innovation.

It seeks to replace the traditional linear economic model with a circular one, based on the principles of reducing, reusing, and recycling, thereby minimizing environmental impact and fostering sustainable development. The goal is to ensure that, through commitment and shared responsibility, the key economic and social agents in Aragón and the government itself drive the transition to this new model.

The Government of Aragon, the companies, and the other entities that sign the document commit to:

- Contribute to the achievement of the objectives set in the Circular Economy Action Plan for Europe, aligned with the European Growth Strategy 2020 and the Roadmap towards a Resource-Efficient Europe.
- Work individually and collectively to promote the socio-economic development of Aragón that is eco-efficient in the use of material and energy resources, reducing the use of non-

renewables, contributing to closing the loop of material flows, and reducing emissions while ensuring the health of Aragonese citizens and protecting the environment.

- Inform and raise awareness about the transition from a linear to a circular model in their business, labour, educational, or personal spheres.
- Promote innovation in eco-design.
- Identify and strengthen new economic niches derived from the circular economy by boosting R&D&I.
- Contribute to combating depopulation and promoting sustainable development by fostering the implementation of innovative productive initiatives that locally close the loop of material, energy, and service flows in existing or new industrial initiatives.
- Encourage business activities that promote preventive maintenance, repair, and the second-hand market, including social economy activities, and promote their use.
- Reduce impacts resulting from resource use, respecting and prioritizing the European hierarchy: prevention of generation, reuse, recycling, and valorization of waste as new material and energy resources.
- Contribute to recycling and valorizing waste by segregating waste in domestic, business, and institutional spheres, increasing the number of waste fractions and managing them through containers, recycling points, and specific waste managers.
- Promote and adopt a responsible consumption model.
- Design innovative training projects to increase the availability of new professionals specialized in this new economic model.
- Contribute to the mitigation of emissions.
- Include circular economy educational content at various levels of schooling.
- Define and agree on common, transparent, and accessible indicators that allow the monitoring of the degree of circular economy implementation in different areas of action, as well as the social impact and territorial effect.

3. Aragon government policies

The strategic objectives below reflect strategy, challenges, and guiding principles that Aragon's government has for its vision to be a benchmark in innovation and adaptation of transitioning to a more circular economy by 2030. These objectives consider the idea of co-responsibility within the society to cope with the significant economic and social challenges that lie ahead in the upcoming years.

Numerous policies and initiatives have been implemented during its development, although we will now focus on those aimed at supporting the Aragonese business fabric for the implementation of circular economy projects.

3.1. R&D and investment support

The Government of Aragon has been promoting R&D activities in circular economy in the Aragon business network. Following the expression of interest published in 2020, in which the interest in investing in the implementation of this new economic paradigm was made clear, four calls for grants have been launched:

- In 2021, grants amounting to €4 million were called for R&D projects in circular economy to be developed in the period 2021-2023. A total of 36 projects were submitted with the participation of 68 companies and research centers, of which 13 were finally selected until

the available credit was exhausted. The call has generated more than 30 million euros of investment over the period and the creation of 25 skilled jobs.

- In November 2022, the second call for applications for public aid was been definitively decided, again with 4 million euros for the period 2022-2024, obtaining the following results: a total of 16 projects involving 27 companies and research centers were selected, until the entire credit was used up again, which have promoted investments of over 26 million euros for the period indicated and have led to the creation of 49 qualified jobs.
- In April 2023, In April 2023, the third call was included in the Operational Programme ERDF Aragon 2021-2027 and involves the approval of a financial path that will allow the launch of aid for a minimum amount of 24 million euros (financed by the ERDF at 40%) until 2029. The main novelties in this new call are that they are individual projects, of annual development (without prejudice to the possibility of financing multiannual projects in independent phases) and that it includes, together with the R&D line, the subsidy of investment projects in fixed assets aimed at the circular economy. The amount of the call was, once again, 4 million euros. The number of beneficiaries in the R&D line amounted to 14 projects and in the fixed asset investment line to 22 companies. In total, 29 high-quality permanent jobs were created.
- In 2024, within the Aragon ERDF Operational Programme 2021-27, a fourth call for 4,285,000 euros was resolved, under the same conditions as in the previous case, in which 18 companies were beneficiaries in the R&D line and 24 in the investment in fixed assets line. In this case, the creation of quality employment amounted to 23 jobs.

| Year | Aids from GoA | | | New employment |
|-------------------|----------------------|----------------------|------------|----------------|
| | Granted | Paid | % | |
| 2021 | 4.000.000,00 | 3.289.439,78 | 82% | 37 |
| 2022 | 4.000.000,00 | 3.467.568,61 | 87% | 46 |
| 2023 | 4.000.000,00 | 1.584.199,23 | 40% | 29 |
| 2024 | 4.285.714,00 | 2.911.638,39 | 68% | 23 |
| TOTALS | 16.285.714,00 | 11.252.890,23 | 69% | 135 |
| NEXT YEARS | | | | |
| 2025 FEDER-STEP | 3.600.000 | | | |
| 2026 FEDER-STEP | 5.000.000 | | | |
| 2027 FEDER-STEP | 5.000.000 | | | |
| 2028-2029 | ¿? | | | |
| TOTAL | 13.600.000 | | | |

As can be seen in the table above, the overall execution rate of the four calls, which is identified with the amount paid, amounts to 69% of the total amount called; the difference between the rates of the first two years and the last two, especially 2023, is due to the fact that in the line of investments in fixed assets there are renunciations because the aid obtained is incompatible with other aid that is more advantageous to the beneficiary, because of problems in the supply of fixed assets (they do not arrive on time) or because the limit of “*de minimis*” aid is exceeded.

As regards job creation, the reduction in the creation of new jobs in the 2023 and 2024 calls is due to the line of investment in fixed assets is not linked to the creation of new jobs but only to the maintenance of existing employment.

For this and the coming years, the circular economy aid line of the Aragon ERDF operational programme 2021-27 has been included in the ERDF STEP initiative, for the promotion of strategic technologies, with 100% financing from ERDF funds. The rest of the call conditions will remain similar to the previous ones and the financial path for the next 3 years amounts to a total of 13.6 million euros, and can be extended for the years 2028 and 2029. The new regulatory bases and the new call for proposals will be published in the coming weeks.

It seems appropriate at this point to digress a little on the influence that the grants awarded by the Government of Aragon have had on the pilot projects that have participated in the RESOURCE project, which can be seen in the following table.

| Company | Grants from GoA | | | | New employment |
|--------------------------|-------------------|-------------------|-------------------|-------------------|----------------|
| | 2021 | 2022 | 2023 | 2024 | |
| BUGCLE (*) | 0 | 0 | 0 | 0 | 0 |
| EWM ECOHELP | 0 | 171.065,07 | 0 | 0 | 3 |
| RECICLA Y SUMA | 0 | 0 | 0 | 0 | 0 |
| CERFO | 241.791,94 | 0 | 0 | 101.585,44 | 4 |
| FELTWOOD ECOMATERIALES | 152.677,17 | 0 | 0 | 93.410,01 | 4 |
| SMARTMOSS (*) | 0 | 0 | 0 | 0 | 0 |
| CADIUCO | 0 | 0 | 0 | 0 | 0 |
| GREEN FOUNDRY (*) | 0 | 0 | 0 | 0 | 0 |
| THERMOWASTE | 0 | 0 | 180.128,04 | 0 | 0 |
| BIOGAS DT (BIOGROUP) (*) | 0 | 0 | 0 | 0 | 0 |
| TOTAL | 394.469,11 | 171.065,07 | 180.128,04 | 194.995,45 | 11 |

The percentage of grants accessed by the pilot projects represents only 5% of the total grants paid out in the four calls for proposals and 8% of the total employment created by the pilot projects (a total of 11 jobs).

In order to understand this figure, it must be taken into account that the calls for proposals are competitive and RESOURCE pilot projects have competed with other projects on equal terms and have not always been successful. In addition, four of these ten companies have never participated in a call, either because the size of the project did not reach the minimum required (€650,000) or because they were unaware of the call. And finally, it should be added that in the years 2023 and 2024 some companies have renounced the aid granted (near €400.000) for similar reasons to those mentioned above.

Continuing with the discussion about the RESOURCE pilot projects, these have not only received the aforementioned public aid but have also accessed other public aid programs launched by both the Government of Aragon (for investment in fixed assets in general) and the Government of Spain. Below is a table showing the total amount of public aid awarded by these ten pilot projects, according to information obtained from the Spanish National Subsidy Database.

| Company | Grants awarded | | | | TOTAL |
|---------------------------------|---------------------|-------------------|-------------------|---------------------|---------------------|
| | 2021 | 2022 | 2023 | 2024 | |
| BUGCLE (*) | 6.000,00 | 71.717,68 | 5.471,08 | 0 | 93.188,76 |
| EWM ECOHELP | 0 | 424.866,00 | 42.518,03 | 0 | 467.384,03 |
| RECICLA Y SUMA | 0 | 0 | 0 | 0 | 0 |
| CERFO | 255.675,51 | 9.360,00 | 0 | 403.597,20 | 668.632,71 |
| FELTWOOD ECOMATERIALES | 394.885,45 | 4.500,00 | 7.983,50 | 118.971,68 | 526.340,63 |
| SMARTMOSS (*) | 0 | 43.206,00 | 58.058,25 | 30.978,46 | 132.242,71 |
| CADIUCO | 0 | 0 | 0 | 0 | 0 |
| GREEN FOUNDRY (*) | 0 | 0 | 0 | 0 | 0 |
| THERMOWASTE | 700.000,00 | 142.410,00 | 180.128,04 | 0 | 1.022.538,04 |
| BIOGAS DT (BIOGROUP) (*) | 36.070,00 | 51.451,00 | 5.000,00 | 0 | 92.521,00 |
| TOTAL | 1.392.630,96 | 747.510,68 | 299.158,90 | 2.977.487,80 | 3.125.090,59 |

In total, all pilot projects under the RESOURCE umbrella received public aid totaling more than €3,125,000 during the aforementioned period.

The above table excludes a grant obtained by CERFO, awarded by the Ministry for the Ecological Transition, amounting to €2,322,000, as it was forced to renounce the grant due to the impossibility of obtaining the land in time to implement the investment.

It should also be noted that the amounts indicated reflect amounts granted, but not necessarily paid, as they are subject to possible waivers or partial non-compliance with the project.

Having concluded our discussion of the RESOURCE pilot projects, it is important to mention a second line of funding that none of them have accessed. The Government of Aragon created in 2021 the Support Fund for Companies in the Circular Economy Sector of Aragon, managed by SODIAR (which is a public company dependent on the Government of Aragon) with 900,000 euros for loans under advantageous market conditions for SMEs that present viable circular economy projects. The amount of the loans reaches a maximum of 150,000 euros.

3.2. Recognition and positioning of companies

The first and simplest measure for the identification and positioning of Aragon companies in the framework of the circular economy is the adhesion to the Institutional Declaration of Aragon Circular, made up of 16 principles aligned with the European Union's Circular Economy Action Plan. It is a very agile procedure that is solved by e-mail in a single day and that allows companies, in addition to obtaining publicity of their commitment to sustainability, to access information on lines of aid (regional, national, or European), training activities or any support measures for the development of circularity projects. Up to the date of presentation of this document, a total of 202 Aragon companies and institutions have signed up. This instrument allows a direct and immediate contact with the companies involved in transitioning towards a circular economy and is essential to carry out activities to capture new needs such as the workshop that took place in Zaragoza on 23 November 2022, and which is described in detail in D1.2 of this project.

The second and most relevant aspect of recognition is the awarding of the "Aragon Circular Seal", which constitutes a distinctive recognition and public positioning of companies, local administrations, and entities in general, for their commitment to the circular economy model. This award is structured in two categories: companies and public administrations. To achieve this, applicants must fulfill a set of requirements specified in fourteen assessment criteria. These criteria encompass various aspects such as eco-design, enhancing circularity throughout the value chain, promoting circularity initiatives, engagement in research, development, and innovation projects, implementing water and energy efficiency measures, obtaining accreditations related to the circular economy and sustainability, providing staff training on this new economic model, and more. This recognition has a biennial duration and can be renewed every two years by providing evidence that the requirements are still being fulfilled.

In addition to the visibility and publicity it offers to companies (including a ceremony to present the diploma and corresponding award, as well as the ability to use it in documents, web pages, reports, social networks, etc.), the purpose of this recognition is to provide companies with the opportunity to earn additional points in government funding calls related to the circular economy, and it is also considered as a criterion for awarding public contracts tendered by the administration. Moreover, it allows a positive positioning of companies in relation to other that demand sustainability criteria from their suppliers; and finally, it also positions them positively when it comes to accessing financing through loans granted by certain financial institutions that take sustainability criteria into account.

Today, more than 200 entities representing 21 economic sectors in the region have participated, resulting in 140 entities obtaining recognition.

3.3. Training and dissemination activities

A third line of action is lead to the creation and conservation of talent in the Aragon business fabric. To this end, and since 2021, an "Expert Course in Circular Economy" has been held, which presents a theoretical-practical training curriculum that incorporates the latest trends in Circular Economy, from eco-design to business innovation, the promotion of new technologies such as big data or blockchain and, in the third edition, Artificial Intelligence in the field of Circular Economy. It is a tailor-made training activity designed with the aim of offering a set of notions, experiences, and learning, as well as tutoring in the development of projects, which improve the knowledge and competence of the participating professionals and companies. The duration of the course is 156 hours, and it is 80% subsidized by the Government of Aragon, so that the registration fee to be paid by interested students is less than 500 euros.

Courses related to different facets of the circular economy are also organized for unemployed people. This activity is carried out through the Aragon Employment Institute, with the aim of training unemployed people in an emerging sector in the region's economy. From 2021 to 2024, more than 80 training activities of this type have been developed with a very high attendance.

In addition, in the interests of greater and better dissemination, in collaboration with the Directorate General for Consumer Protection, regular training activities are organized for consumers and explanatory workshops are held in educational centers at all levels. The development of these dissemination activities is in line with one of the objectives set by the

European Commission, which is the empowerment of consumers in the field of the circular economy.

4. Conclusion

The RESOURCE Project has reinforced a line of action in which the Government of Aragon, as the primary authority on this issue in the region of Aragon, has long been involved with sectoral measures, largely consolidated in the "Aragón Circular Strategy."

The reinforcement referred, consists of appreciating the need to include among the groups involved those from certain disadvantaged sectors. Initially, the action has focused on the discrimination that women unfortunately suffer, especially in rural areas; but it will obviously be necessary to extend this to other disadvantaged sectors operating in the bioeconomy sector (for example, migrant workers in charge of the seasonal harvesting of certain crops).

Simultaneously with the development of the "Aragón Circular Strategy," actions have been taken in a series of areas not initially contemplated. These include the following:

- Adapt aid and legislation with Small and Medium-sized Enterprises in mind.
- Quantify waste generated by products / services, blockchain applied to process to certify traceability.
- Set up a "Committee of Experts" through Aragon Circular.
- Propose the establishment of a unified regulation that introduces the Aragon Circular Seal, ensuring compliance with all the specified requirements for products originating from non-EU countries.
- Enhance environmental licensing processes through improvements and adaptations to existing legislation.
- Elaboration and publication of a Circular Economy Indicators Report.

On the other hand, other departments of the Aragon government are preparing new projects related to the circular economy and the circular economy, such as the aforementioned "Aragon Energy Plan 2024-2030" or the "Aragon Integrated Waste Management, Prevention, and Circular Economy Plan 2024-2030" (GIRAPEC). This does not include specific measures related to food waste, packaging, etc.

All of this necessitates an update of the "Aragon Circular Strategy," which will be addressed starting in the second half of 2025. This will reflect and explore in-depth the measures to be adopted in relation to this new cross-cutting economic paradigm.

In conclusion, the Government of Aragon intention is not only to maintain the described activities in the future but also to expand its scope, including as a novelty disadvantaged sectors that may find opportunities for development and integration in the aragonesa society thanks to circular economy.