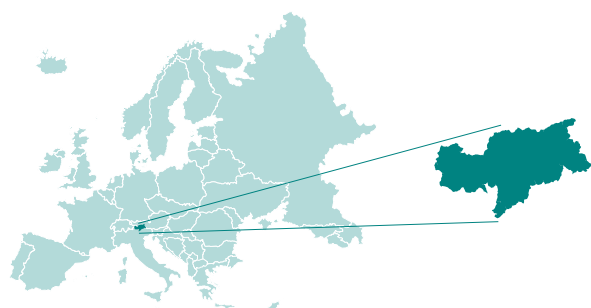


# Autonomous Province of Bolzano, Italy

*Developing a regional strategy for Circular Economy*



## Autonomous Province of Bolzano, Italy



531.000 inhabitants



7.400 km<sup>2</sup> area



71,8 per km<sup>2</sup> population density

## Characteristics of the region

- Mountainous region in South Tyrol
- Mostly covered by forests and woodlands
- Home to a diverse population, with a mix of Italian, German, and Ladin-speaking communities, leading to a rich cultural heritage
- Main sectors: agriculture (especially viticulture and dairy farming), manufacturing (wood processing, furniture manufacturing, metal working), energy sector (hydropower, solar energy, biomass), tourism

## Baseline situation and objectives

The project Strategy for Circular Economy in the Autonomous Province of Bolzano (SEC) aims to establish a platform for advancing the Circular Economy in the Autonomous Province of Bolzano. Its objectives include conducting an analysis of the current state of Circular Economy adoption in the Province of Bolzano, issuing guidelines to assist both public policies and private businesses in embracing Circular Economy practices, engaging local stakeholders through consultations and workshops, and developing an online portal for resource trading. The project places particular emphasis on the construction sector and the bioeconomy.

In the region of Bolzano, sustainability and Circular Economy have been embraced by several initiatives across different sectors, including tourism and agriculture. One notable example is the “Sustainapple” project, which focuses on promoting sustainable practices in apple cultivation. Moreover, Bolzano has been actively involved in research projects focused on decision support, sustainability, and Circular Economy. One such project is ARTEMIS, which explores innovative approaches for sustainable development in various sectors.

## Focus of the project

The focus of the project is to develop a Circular Economy strategy specifically for the Province of Bolzano. It recognizes the importance of considering the regional and local context when designing and implementing circular models, taking into account the availability of resources, socio-economic factors, and environmental aspects. The project primarily concentrates on the construction sector as well as the bioeconomy and explores synergies between the two.

In the bioeconomy sector, which includes forestry and agriculture, the project aims to utilize biological resource and waste materials as inputs for industry and energy production. Implementing Circular Economy practices in the bioeconomy sector

can lead to more efficient resource utilization, reduced dependence on non-renewable resources, and the mitigation of climate change and other environmental impacts. In South Tyrol, the construction sector, including buildings and infrastructure, generates a substantial amount of construction and demolition waste. Therefore, potential synergies between the bioeconomy and construction sectors are explored to identify opportunities for collaboration and improve resource circularity. Specifically, the project investigates the potential for utilizing by-products and waste materials from the local bioeconomy as inputs for building materials and components, thereby reducing the need for non-renewable imported construction materials.



Agriculture in the Autonomous Region of Bolzano © Van Hong Phuc Bui / Pixabay, 2023

## Stakeholders involved

- EURAC, a private research institute from Bolzano, is a central stakeholder actively engaged in multiple research projects and other activities.
- Relevant actors interested in sharing knowledge and experiences and participating in strategic discussions related to Circular Economy in the Province of Bolzano.
- Eight stakeholders, representing both private and public organizations.

## Financing

The SEC project was funded by the Italian Ministry for Ecological Transition within the framework 'Research projects in support of elaboration and implementation processes of regional and provincial strategies for sustainable development'. In addition, research findings from the ARTEMIS project, funded by the EU H2020 research and innovation programme, were incorporated.



House under construction © paulbr75, pixabay, 2016

## Outlook

Innovative companies and research institutions will continue to implement projects and contribute to regional Circular Economy.

Beyond that, it is important to continue to explore the potential synergies within the bioeconomy and the construction sector in the Province of Bolzano. To achieve this, there is a need for more analyses that are comprehensive, the implementation of indicators for monitoring progress, and the improvement of data collection methods.

Additionally, it is important to initiate and facilitate discussions among key stakeholders to delve into specific areas of interest. These hot-spots include examining the technical qualities

## ★ Spotlight: Flexible Circular Index

The Flexible Circular Index (FCI) was established to assess the Circular Economy at the territorial level. The index is based on data from a survey on the status of the Circular Economy in a total of 28 Italian municipalities. Among others, values are available for the South Tyrolean cities of Bolzano and Bressanone. The FCI consists of four sub-indices: the material flow index, the circularity index, the competitiveness index and the exchange index. The governance model elaborated in this context aims to support regions in transitioning towards a more Circular Economy and serves as a practical guide for decision-makers. In this way, a sustainable impact can be achieved within the three areas of environment, economy and social affairs. The index was presented as part of the "Sustainability Days - Platform for the Regions of the Future" on 7 September 2022.

and features of local wood, addressing the impact of financial investments that may impede the utilization of biomass in other sectors (such as incentivizing its use as fuel in the energy sector instead of in construction), and defining clearer sustainable development strategies that consider the trade-offs and counterintuitive implications across key economic sectors. One such example is land use conflict between forestry and tourism.

## Key learnings and replicability

- Coordinated initiatives should be supported by continuous feedback and monitoring activities.
- Feedback and monitoring are crucial for firms and organizations to establish patterns of industrial symbiosis and overcome different perceptions of roles along the supply chains.
- Lessons learned include expanding dissemination activities and working closely with regional, national, and international partners to harmonize legislation, upscale practices, and transfer knowledge.
- It is important for the public administration to avoid imposing a “top-down” approach and instead focus on facilitating cooperative and knowledge-sharing processes.
- Market-based aspects can be considered by promoting the Circular Economy as a source of competitive advantages and innovation along the supply chains.
- Circularity should be seen as complementary to economic development and competitiveness, rather than in opposition.
- Tailor-made approaches may be required to address local-specific limiting and enabling factors related to the Circular Economy.
- Efforts should go beyond supply chain improvements and also address the consumption side of the economic system, promoting material reuse and extending product life cycles.

### Contact of the initiative

Provincial Agency for Environment and Climate Protection  
E-mail: [umweltagentur@provinz.bz.it](mailto:umweltagentur@provinz.bz.it)

## Challenges and barriers

There are many innovative project ideas in Bolzano, but many are still in the product creation or start-up phase. To succeed, these products need to be competitive. The strategy development has shown that some approaches may not be applicable at a regional level due to limited resources. In such cases, collaboration with neighboring provinces becomes essential. Limited inter-sectoral collaboration can be addressed by establishing robust patterns of material flows exchange in the short term.

Furthermore, it is important to formulate well-rounded strategies that consider the unique characteristics of South Tyrol and leverage the insights gained from qualitative analysis. Determining ownership of the strategy is crucial. It is crucial to identify who is responsible for implementing the strategy and ensuring accountability if progress is not made.

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