



# Just Transition Platform

## Case study:

### Green Tech Valley

#### Key information

**Member State:**

Austria

**Region:**

Styria (& partly Carinthia)

**Sector:**

Green technologies (e.g. biomass, solar power, hydropower, recycling)

**Duration:**

2005 – (ongoing as of 2023)

**Main activities:**

Supporting companies and research and development (R&D) organisations in the field of green technologies, through various means.

*This case study was prepared by conducting stakeholder interviews and desk research.*

#### Background

The Styria region is the second largest federal state in Austria and lies at the border with Slovenia. The region has 1.26 million inhabitants (2022) and an employment rate of 74.4 %. The unemployment rate stands at 3.7 %. The gross regional product was EUR 51 596 million (real change compared to the previous year: 4.6 %).<sup>1</sup> Styria is a region with an **above-average industrial share of the workforce** and is home to numerous manufacturing companies. Besides the industrial focus, the region has an **active start-up ecosystem** supported by various clusters and networks. In addition, the **research and innovation landscape** is well developed with many universities, research institutions and competence centres.

The region was strongly industrialised and relied heavily on raw materials. In the **Austrian Territorial Just Transition Plan (TJTP)** parts of the region are therefore identified as Just Transition Fund (JTF)-regions along with sub-regions of Lower Austria, Carinthia and Upper Austria. The Austrian JTF region encompasses 29 % of all greenhouse gas (GHG) emissions from economic activities, 32 % of all employees

in GHG-intensive sectors and 18.6 % of Austria's population. It should be noted that the most important sectors that are being phased out (coal and lignite mining, peat extraction and oil shale production) are no longer significant for the Austrian economy. The plan therefore focuses on breaking up technological and economic path dependencies in GHG-intensive industries and reorganising processes and products. The TJTP foresees two main intervention categories: transformation and diversification & employment. Furthermore, the plan is aligned with national strategies and goals and, more importantly to mention here, also with regional strategies. For Styria those strategies are the **Styrian Economic and Tourism Strategy 2025**, the **Research Strategy of the Province of Styria**, and the **Climate and Energy Strategy 2030**.

The region is actively promoting its location as a **leading innovation centre in Austria**. The R&D rate in Styria is 5.17 %, which is one of the highest rates in Austria.<sup>2</sup> This is also enshrined in the Economic Strategy Styria 2030, in which the promotion of innovation and R&D is one of the five main pillars. Here, the focus especially lies on further building

<sup>1</sup> Data retrieved from: <https://www.statistik.at/statistiken>

<sup>2</sup> See: <https://www.wissenschaft.steiermark.at/>

upon the European Regional Development Fund (ERDF) and JTF funding, channelling it more strongly towards small and medium-sized enterprises (SMEs) in supporting their digital and green transition. The other strategic pillars are location development and location management, entrepreneurship & growth of young companies, qualification & human potential, and internationalisation of companies and location.<sup>3</sup>

The strategy further shows the three guiding markets for Styria: **mobility, green tech and health tech**. For green tech, it is illustrated that its importance is constantly growing due to the need for innovative and green technologies for the transformation of the industry. The

## Description of the Green Tech Valley

The Green Tech Valley is a cluster for green innovations for climate protection and circular economy. Established in 2005, to establish a location for innovative green tech businesses that can be globally competitive, the Green Tech Valley grew significantly since then. Now, it hosts around 300 companies (20 of those are global technology leaders) and research organisations in the fields of biomass, solar power, hydropower and recycling and is seen as a **top technology hotspot**, also illustrated by various awards and top spots in international rankings. For instance, the valley was awarded the REGIOSTARS Awards twice – once in 2012 (Smart Growth) and again as a nominee in the 15th-anniversary edition in 2022. The Green Tech Valley was able to create jobs for the region and contributed to the regional economic growth. The companies located in the valley show rapid growth, compared to the global average in these sectors. In total, 600 green tech solutions are located in the valley and around 2 300 researchers work there.

The Green Tech Valley Cluster organisation extends assistance to resident companies through activities such as facilitating partnerships (with both other businesses and R&D organisations/institutes), initiating collaborative industrial innovation projects, and endorsing the resulting innovations through diverse channels. The cluster organisation is following the **Vision 100: 1 World. 0 Carbon. 0 Waste**. In that sense, the cluster organisation has operated in a climate-neutral manner since its inception, and the valley aspires to achieve a 75 % reduction in CO<sub>2</sub> emissions compared to the levels recorded in 2013.<sup>4</sup>

The Green Tech Valley hosts around 300 companies and research organisations that develop green technologies. The valley is managed by the **Green Tech Valley Cluster**, which is a public-private partnership between regional business development agencies, the county and companies. The owners of the cluster are as follows:

- Steirische Wirtschaftsförderungsgesellschaft mbH (SFG);
- the State of Styria, Department 14 – Department of Waste Management and Sustainability;

competitiveness of Styria in this regard is already high and there is a medium- to long-term growth perspective.

The Green Tech Valley is embedded in this framework and contributes to the development of the region in this regard. The valley was founded in 2005 and received funding from 2007 to 2012 under the Austrian Operational Programme “Regional Competitiveness Styria 2007-2013”, which aimed at increasing the region’s competitiveness and innovation capacity, keeping Styria’s overall attractiveness in mind. Quality of life, income and employment should be guaranteed with this approach.

- the City of Graz, Department for Economic and Tourism Development;
- the Carinthian Economic Development Fund;
- ANDRITZ AG;
- Binder+Co AG;
- e<sup>2</sup> engineering GmbH;
- KWB Kraft und Wärme aus Biomasse GmbH.<sup>5</sup>

### Type of activities

The activities pursued by the Green Tech Valley are diverse and tailored to the target groups. The maintenance and further expansion of the network of global leading technology firms, young innovative companies and research organisations is fuelled by: the initiation of R&D projects between different types of actors; the attraction of national competence centres in different fields; networking events such as the Technology Days or the Green Tech Innovators Club; and the promotion of public awareness of the valley through various means. Although there are common support opportunities, the Green Tech Valley offers **specific formats for different target groups**, for instance:

- the CEO Circle (for an informal exchange between companies’ heads)
- the Green Tech Summer (summer school for possible founders from universities)
- the Solution Groups (to work on challenges concerning e.g. battery recycling)
- the Marketeers Circle (to exchange to improve future marketing opportunities).

Besides those formats, the Green Tech Valley has developed a range of **information materials and tools** aiming at providing guidance and information on relevant green tech topics, such as the CO<sub>2</sub> toolkit (listing relevant emissions calculators or life cycle assessment databases) or the hydrogen research map (overview of existing hydrogen research in Austria).<sup>6</sup> The Green Transformation Cards are another tool of the Green Tech Valley

<sup>3</sup> See <https://www.wirtschaft.steiermark.at/cms/ziel/162478749/DE/>

<sup>4</sup> See [https://www.greentech.at/wp-content/uploads/2022/12/GTV\\_Jahresbericht\\_2022\\_WEB.pdf](https://www.greentech.at/wp-content/uploads/2022/12/GTV_Jahresbericht_2022_WEB.pdf)

<sup>5</sup> See <https://www.greentech.at/en/about-the-cluster/>

<sup>6</sup> All tools can be found here: <https://www.greentech.at/tools/>

and one of the prestige projects (they will be explained in detail in Box 1).

The Green Tech Valley is making direct references to the **EU framework**. For instance, future activities of the valley are also embedded in the Austrian JTF programme. An example is the Green Startupmark project which was only published in November 2023 (see box further down for more information). Additionally, it provides an overview of the European Green Deal (EGD) for companies or research organisations concerning the regulatory framework or funding opportunities in line with the EGD objectives.<sup>7</sup>

### Goals and Approach

At the project's outset, the objective was to establish itself as a **leading global hub for innovative green tech companies** by increasing the concentration of cleantech firms in the region. However, the project's focus has evolved to some extent over the years. Initially, the primary emphasis was on providing companies with suitable locations. With this goal accomplished and the valley evolving into a thriving hub for green-tech companies, the emphasis has shifted toward recruiting employees for these companies and sustaining growth.

Furthermore, there is now a heightened focus on nurturing the **innovation ecosystem in the region** and exploring ways for companies, research institutions, and the public sector to collaborate more effectively. The underlying principle guiding

these efforts is a commitment to a long-term perspective.

The central achievement of Green Tech Valley's work is that it could establish itself as a **leading location for green tech solutions not only in Austria but also globally**. Over its existence, the valley has generated 600 green tech solutions dedicated to promoting circular practices and addressing climate change. The region's significant concentration of businesses, coupled with their above-average growth, has led to the creation and ongoing generation of jobs in the area. Beyond merely presenting business opportunities for green tech companies, the valley also presents extensive prospects for the R&D sector, actively engaging with young, innovative start-ups. Up to now, a significant share of the COMET Competence Centres for Excellent Technologies (national R&D centres) is located in the valley which illustrates that the valley has a certain attractiveness beyond the region's border. One specific project that is seen as a major achievement is the development of the Green Transformation Cards that help companies develop their transformation plan (see box 1).

Throughout the years, the valley has received **various awards and honours** that serve as tangible evidence of the project's success. Those include national ("Clusterpreis 2020") and international (such as Global Cleantech Directory 2012) or European (REGIOSTARS 2012 and 2022) awards.

## Key success factors and lessons learnt

One central success factor for the valley is the **active and close cooperation with companies, research institutions and the public sector**. There are exchanges between the actors quarterly ensuring close coordination. The success of those cooperation formats, also going beyond the regional level, can be illustrated using the example of the Green Transformation Cards: Here, the engagement with the Enterprise Europe Network enabled the cards to be promoted at the EU level and quickly translated into English.

The benefits of cooperating with different types of organisations and stakeholders also apply to single projects taking place in the valley: the cooperation between science, academia, industry, and start-up centres is a key aspect of the JTF project Green Startupmark (see box further down). This **inter- and transdisciplinary approach** is important for the success of the project and ensures the inclusion of different points of view and perspectives. Similar experiences were highlighted by stakeholders concerning the Innovators Club.

To enable the effective functioning of the cluster organisation, emphasising clients, ensuring a straightforward operational approach, and adhering to specific principles of action are crucial. Moreover, achieving success is associated with a **strategic focus on various industries within the green tech sector and adopting a long-term perspective**. This strategic orientation is reflected in the organisational structure of the cluster organisation, characterised by a public-private partnership – not relying on a solely project-based organisation but toward a more enduring framework.

The Green Tech Valley's history shows the importance of **local visions to mobilise the right actors** and how important intermediary organisations are to creating a successful initiative for the green transition and regional specialisation.

<sup>7</sup> See <https://www.greentech.at/tools/eu-green-deal-vorteile-fuer-unternehmen-in-oesterreich/>

## Box 1: Green Transformation Cards

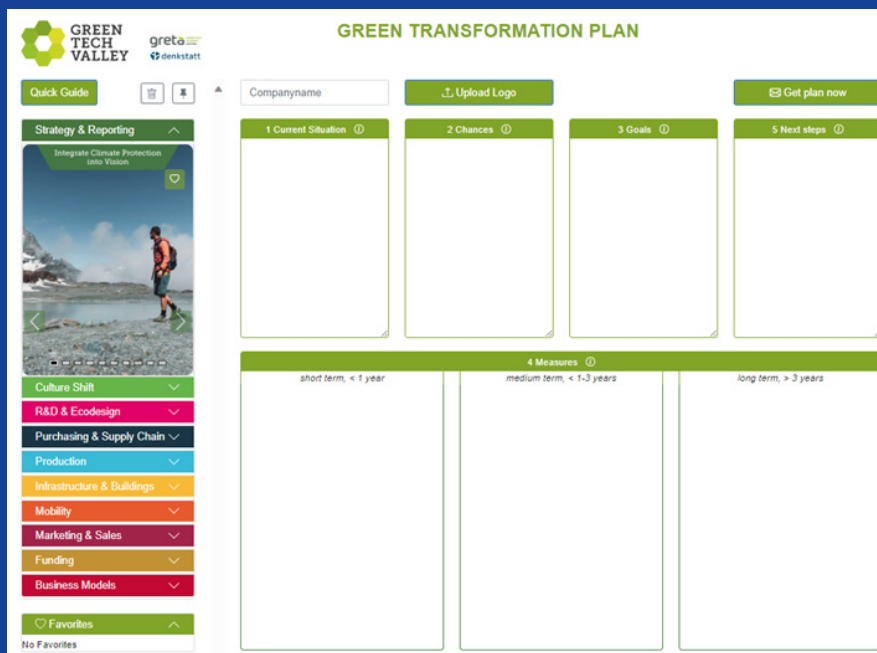
The Green Transformation Cards are a tool that has been developed by the Green Tech Valley in cooperation with a consulting institute (Denkstatt) and the Green Tech Academy Austria (GRETA). The cards are meant to be used by companies, showing in a playful yet effective way the necessary steps for a comprehensive green transformation. The cards were developed with three main hypotheses in mind:

- 1. Climate protection and green transformation is teamwork:** Many departments within a company are needed, therefore the cards are tailored to different corporate divisions.
- 2. It is (still) difficult for companies (and society) to assess which measures are effective for the green transition.** Bearing that in mind, the cards show the benefit of a measure for climate protection and the corresponding costs.
- 3. People like to play:** Climate protection can be a technical topic. Therefore, the cards provide easy access to the topic in a fun and appealing way.

The cards are structured in 10 main categories (including all relevant corporate divisions), suggesting in total around 100 specific measures. The cards can be utilised in different set-ups and for different purposes: inspiration (to get an overview of what can be done), sharing and brainstorming (internal forwarding to the responsible department), do-it-yourself workshop (to develop an action plan), and lastly, implementation of the measures.

There is a full package accompanying the cards: not only are the cards available as a print version but they can be also downloaded for free online. Moreover, there are guidelines and tips available online on how to organise a workshop and there is an online tool, the Green Transformation Canvas, where the cards can be interactively used (see screenshot below for illustration).

Figure 1: Screenshot of online tool “Green Transformation Canvas”



Source: <https://www.greentech.at/en/green-transformation-canvas/>

So far, the cards are available in German (tailored to the Austrian context, e.g. concerning funding schemes, and regulatory frameworks) and in English (applicable in every EU Member State). More translations are planned (currently in planning: French and Slovenian) because this might contribute to the utilisation of the cards by SMEs in various European countries (by providing them the opportunity to work in their native language).

Up to now, the cards are used by 5 000 companies – 4 000 from Austria and 1 000 from 22 EU Member States. The cards received very positive feedback from their users and could be a tool to attract more companies Europe wide for the green transformation, as the cards are an easy start to the green transition.

## Scalability and transferability

To ensure the transferability of the approach, it is important to recognise that a cluster like the Green Tech Valley can only yield positive outcomes when there is a **specific regional specialisation based on regional strengths**. Attempting to enforce a specialised cluster for political goals or societal trends without addressing regional needs and strengths is unlikely to succeed. It is essential to assess strengths and emerging transformations, considering how these aspects could generate synergies when determining a local specialisation. For example, industries in the green tech sector often require substantial investment, and appropriate regional structures, such as financial support mechanisms, must be in place when developing this sector in a given region.

Concerning concrete initiatives that are of relevance for other regions, one needs to mention the **Green Transformation Cards**. Originally being developed in German, the high demand for the cards quickly led to the translation and adaptation into English – applicable across EU Member States. With two more translations planned (French and Slovenian), the potential reach of the cards will be further increased.

Another transferable aspect is the involvement of the cluster in the **programming of the JTF**. For instance, the valley is involved in the Green Startupmark project that receives JTF funding from 2023 to 2028. Depending on the focus of the TJTP, other innovation clusters could strive for something comparable (see box below for more information).

## Box 2: Green Startupmark

**EU funding:** ERDF/JTF 2021-2027

**Budget:** EUR 6 million

**Operational Programme:** ERDF/JTF 2021-27: Investments in employment, growth and the transition to a low-carbon economy in Austria 2021-2027 <sup>8</sup>

**Region:** Upper Styria

**Duration:** 2023-2028

The project “Green Startupmark” is an ERDF/JTF-funded project in the Operational Programme of Austria 2021-2027. It was officially launched in the summer of 2023 and had its medical start in November 2023. It runs for five years until 2028 and targets the JTF-region Upper Styria. The project is implemented by four main partners: the Green Tech Valley, FH JOANNEUM with Green KAIT Founders Centre, Montanuniversität Leoben and ZAT Leoben. Every partner is responsible for one of the main pillars (see below).

Green Startupmark is embedded in the “Startupmark” programme, which is a part of the economic strategy of Styria. The targeted sub-region Upper Styria has a **high potential for start-ups in the area of green technologies** as it is a university and industry region. The project aims at enabling local actors to form an ecosystem. The project is available for all initiatives with a clear green technology aspect. It was a conscious decision not to focus on one specific sector to be available to as many interested people as possible. The following offers are included in the project and are implemented by the different partners:

**Green Incubator:** Creation of an incubation and innovation space for potential founders and start-ups (Campus Montanuniversität Leoben)

**Startup-Combo:** Founder support for pupils, students and researchers and price money for green start-up concepts (ZAT Leoben & FH JOANNEUM with Green KAIT Founders Centre)

**Green Incubees:** Support for pre-seed phase start-ups concerning development, implementation of business plans and networking with experts/mentors (ZAT Leoben & FH JOANNEUM with Green KAIT Founders Centre)

**Consulting-Support:** Start-ups (& selected companies) receive consulting support for growth and technology-relevant projects (Green Tech Valley).

**Green Startup Support:** Awareness and support measures for (potential) start-ups and incubees in all founding phases (Green Tech Valley, ZAT Leoben & FH JOANNEUM with Green KAIT Founders Centre)

The **expected benefits for the JTF region** are clear: the whole innovation ecosystem will be strengthened, and talents and new start-ups in the region will be stimulated. Additionally, already existing green start-ups are expected to grow and initiatives as well as infrastructure will be expanded. Last but not least, academic competencies in the area of start-ups, green technologies and digitalisation will be reinforced.



For this specific project, Green Startupmark, a necessity for transferring such an approach is the **cooperation with local actors and service providers** as they know the region and are represented on site. For the moment, it is important to have this strong regional anchoring and to be able to provide tailored support. For the future, an extension of the programme to more regions might be an option, however, more resources would be needed. Additionally, one should be aware that often support is going to the regions where already many things are happening and therefore, it is beneficial to have a programme focused on a region where there is a real need to develop a green innovation ecosystem (support to the region where it is needed the most).

### Key challenges

The project has been in operation for more than 15 years and has experienced significant growth over that period. The operators have encountered political changes that play a crucial role in garnering **political support for the valley**, given its long-term presence and outlook. Despite the valley now being a well-established cluster in the region, this was not always the situation, necessitating increased efforts.

According to interviewees, the lack of a **political will (or the missing active support) towards green transition** is a factor that can be still challenging for companies in the green tech sector. For instance, the costs of non-sustainable production and technologies are still too low as green tech solutions could be applied on a broader scale. Those challenges can make it hard for companies to work on sustainable solutions. The framework conditions often do not address this issue to enable companies to produce green products in a marketable way. Strategies

Concerning the overall set-up of the cluster organisation, stakeholders highlighted the **classic structure** as an important aspect: companies of the Green Tech Valley are also shareholders of the cluster organisation. This enables focused work that is close to the actual needs of the companies. This focused and intensive work of the cluster organisation is also increasing the visibility of the valley, as well as the industry, and contributes to a positive perception of the sector.

Since its establishment in 2005, the valley has been undergoing expansion, both in terms of sheer numbers and in its outreach to neighbouring regions (Carinthia). These two aspects are undoubtedly interconnected, with one serving as a precondition for the other.

exist in many cases to approach this issue, also regionally, but the implementation is often in need of improvement. Public funding schemes, that are often perceived as difficult to handle by companies, can further complicate the successful implementation of green tech projects.

As a result of the shift in geopolitics, green tech has become a **highly emphasised sector**. In the United States, for instance, there is a rising trend in aspirations toward green tech solutions. Consequently, European locations, including the Green Tech Valley, need to strategically capitalise on the emerging opportunities. This may present challenges, considering that influencing the value chain for green tech solutions from a European perspective is a complex factor. Moreover, the expansion of small green tech companies into foreign markets remains challenging, acting as a limiting factor. Funding mechanisms are an important aspect to contribute to the competitiveness of green tech solutions.

## Outlook

After having established itself as a **leading green tech cluster in Austria** and being a key player in the region (and across regional borders), the Green Tech Valley has shifted its focus areas over time. Now, a stronger focus is **the pioneering and fast green transformation of leading companies**. Additionally, the growth of the valley and the associated cross-regional working with Carinthia, the neighbouring region, is a change that will contribute to achieving a bigger size to have an impact on the transformation.

Moreover, the Green Tech Valley has developed to **provide practical tools for implementation**, supplementing the necessary solutions for green transformation. A notable illustration of this evolution is the Green Transformation Cards, which have been warmly embraced by the companies utilising them. Given their utilisation not only by companies but also by consulting institutes or chambers of commerce, they serve to outline essential transformation steps for interested clients/members. This highlights the capacity of the valley's solutions to reach a wider audience and address prevailing needs.

Looking ahead, the Green Tech Valley intends to **maintain its established formats while expanding its activities** along the paths of innovation, network, and growth. New activities are:<sup>9</sup>

- **Innovation:** Green Startupmark (see box 2), Green Utopia (student-developed green future), additional flagship projects.
- **Network:** Strategy development 2025–2030, cooperation with Burgenland (neighbouring region), circles (for HR).
- **Growth:** Real-lab Weiz, industrial re-use, networking platform, cooperation through different events.

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<sup>9</sup> For an overview of all planned activities for 2024, please see the annual report of 2023 (only in German): [https://www.greentech.at/wp-content/uploads/2023/12/231205\\_GTV\\_Jahresbericht\\_RZ2-buerste\\_ok.pdf](https://www.greentech.at/wp-content/uploads/2023/12/231205_GTV_Jahresbericht_RZ2-buerste_ok.pdf)



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