

**Boost potential of Young Innovators to pioneer change in energy efficiency inside Danube Macro-region**

## **DANUBE ENERGY +**

# **Transregional Danube Energy+ Hubs Strategy**

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Authors	Kristina Korcekova Paulina Podskubova



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# 1 Introduction

The **Danube Energy+** (“DE+”) project under the Interreg **Danube Transnational Programme** started in the fall of 2018 by a consortium of 9 organizations from Slovakia, Slovenia, Czechia, Croatia, Serbia, Ukraine, Bulgaria and Romania under the leadership of the lead partner EIT InnoEnergy Germany. The project’s goal is to create an enabling environment which will support the key target group – the Young Innovators – in pioneering a change in the energy efficiency field by setting up highly innovative startups in the Danube macro-region. The consortium as well as its goals reflect the socio-economic challenges of the region, as defined by the Danube Transnational Program’s strategy: *“The Region has very wide disparities. It has some of the most successful but also the poorest regions in the EU. In particular, contacts and cooperation are often lacking, both financially and institutionally. Enterprises do not sufficiently exploit the international dimension of marketing, innovation or research. The share of highly educated people in the Danube Region is lower than the EU27 average, again with*

FIGURE 1 Regions of the Danube Energy+ Consortium



*a pronounced divide. The best often leave.*“DE+ project’s main mission has been therefore to overcome these divides by allowing the 9 partners to co-create and learn from each other, while also transferring know-how from the more developed countries to the less developed ones and through the support to young innovators, carriers of potentially revolutionary ideas, the project aims at fostering economic growth and development in the region.

The strategy presented here is the key future-oriented document, reflecting on the know-how gathered in the years of 2018-2020, where an entrepreneurial education **Tool** and an ecosystem support **Package** were implemented in one round of **Pilots** in all of the 9 consortium regions. The strategy is also the core document outlining how this know-how and mutual learning can be further built upon, developed and transferred both vertically, within the regions and horizontally, to new ones. It informs and guides the consortium regions in developing their custom-made **Action Plans** with concrete steps leading to the establishment of the Hubs - a physical or virtual entity with the mission to carry on the mission of the Danube Energy+ project to educate, support and connect young innovators in the energy efficiency field, ultimately ensuring sustainability of the projects’ outputs.

## 1.1 Situational analysis

Regional and subsequent comparative transregional analysis were the first tasks performed by the consortium. The goal of the analysis was to identify gaps in the education and support to Young Innovators, who are therefore unable to fully use their potential and develop their energy-efficiency related innovations into a commercial product. The results showed, that while Germany is somewhat naturally leading performer in all key indicators, the participating regions are dispersed across the ranking field, with Czechia and Slovenia in particular well performing in the technical and R&D indicators, while Balkan countries and Ukraine populating the bottom ranks. Results therefore affirmed the existence of several persistent differences. Major variance within the region was identified in terms of patent applications, where Germany significantly outnumbered the other countries with about 25 times higher amount of patent applications. Similarly, Germany outperformed the rest in the case of new business density as well as percentage of high-technology exports. However, the divide between Germany and other countries was also accompanied with existing disparities between respective countries. This was observable mainly in the number of researchers in R&D, ranging from 1000 to 4000 (per million) across the whole region. R&D expenditure in % of GDP demonstrated another divergence and differences were also present in energy use per capita and time required to start a business.

However, commonalities were equally identified. In terms of the underlying conditions, the regions share the same geopolitical area, facing the increasingly fast-paced world requiring adaptation of a large part of the work force and industry alike. Requirements for the new skills for the 21<sup>st</sup> century are a shared imperative, while climate change is a threat to the industrial Germany or Czechia as well

as it is to more rural Serbia or Bulgaria. Innovation is commonly understood as a panacea for both uncompetitive economy and climate change consequences, while authorities identify startups with the individually sourced innovative ideas as the key actors to be supported. An innovative startup not only disrupts its field and brings about societal benefits, it also inspires and modernizes the whole society. Therefore, EU-backed schemes as well as national funding support a variety of entrepreneurial education programs, which are believed to guide the innovators on their road to innovation commercialization and therefore success. The figure 2 below summarizes the basic assumptions for the Strategy formulation.

TABLE 1 Challenges of the Danube Region

<b>FAST PACED WORLD</b>
<i>Danube region is developing but not yet on par with Western Europe (with exception of Germany), defined by a variety of development stages and modernity of the economy and education systems. Automation in the factories and new technologies are dramatically reshaping local economies.</i>
<b>LACKING INNOVATION</b>
<i>Most countries of the region are consistently scoring as moderate to modest innovators in the European innovation Scoreboard, all while innovativeness is becoming an imperative in order to maintain competitiveness and to transform countries into high-value-added economies.</i>
<b>LACKING ENTREPRENEURIAL EDUCATION</b>
<i>Critical transversal and soft skills, such as creativity, critical thinking, collaboration, communication and flexibility are missing from the school curricula in the Central European region, while entrepreneurial success hinges on mastering of these skills.</i>
<b>CLIMATE CHANGE AND ENERGY CHALLENGES</b>
<i>Lack of precipitation, higher average temperatures and extreme weather occurrences threaten the Danube region. Drought is already affecting the crops while other sectors are also under threat. Energy poverty, use of fossil fuels and inefficiency of energy use are present.</i>

## 1.2 Key project results

The consortium developed and piloted an educational Tool designed for Young Innovators in the field of energy efficiency. As the key activity of the DE+ project, the Tool implementation unearthed crucial learnings for the design of the Hub. These learnings relate to the nature of innovations generated in the region, elements of education needed and the interest of other stakeholders in the activities.

TABLE 2 Three key learnings to inform DE+ Hub strategy

### LEARNING 1: ENERGY EFFICIENCY AS A FIELD IS TOO NARROW

*In the Pilot scheme, a total of 66 ideas was accelerated. Out of this number, the most ideas belonged to the field of Environment (19) and only 13 ideas tackled challenges related to Energy efficiency. The limited pool of innovations within the energy efficiency has become apparent during the open call for participants, which led the consortium partners to open the call for related fields of environment and sustainability. Such development hinges mostly on the size of many of the regions participating in the DE+, which small in terms of population (below 5 million inhabitants), naturally limiting the number of innovators. Additionally, it is possible that due to the highly technical nature of energy efficiency innovations, a certain level of expertise from the field is necessary, and holders of innovative ideas may be either older than the projected target group of Young Innovators, or present in other center of innovativeness, such as already existing energy and utility companies. Therefore, a communication campaign led mostly in the academic world and online would not reach this audience. Overall, sustainability as a field is sufficiently specific, united in the challenges to tackle and understandable by the public, as well as addressed by public policies, to be the field specialization of any future program implementations.*

### LEARNING 2: ENTREPRENEURIAL EDUCATION OFFERS CRUCIAL 21<sup>ST</sup> CENTURY SKILLS

*The quality of the Tool and its delivery has been assessed by the target group of Young Innovators as high, contributing to their know-how in the three key areas: Idea generation, Business development and Sales & pitching. Quality of the program is due not only to its organizational efficiency, but also to the expertise of many partners in designing and delivering similar acceleration programs. While previous expertise smoothed the delivery of the Pilot, it also required to situate the Pilot in the hierarchy of acceleration programs defined by the maturity of ideas. This was especially true for those partners, who run other acceleration programs already. However, in targeting a less developed audience of innovators, that is, the pre-startup stage, these partners formulate a parallel value proposition. Rather than focusing purely on the business support to a concrete innovative idea, the value was found in entrepreneurial education per se, in the expertise sharing leading to the opportunity to “try” to be an entrepreneur, as well as to hone skills in pitching, communication and*

*presentation. These skills, disconnected from the concrete ideas, are recognized by public authorities as part of the future education curriculum and offer a growth avenue for the DE+ outputs independently from the energy efficiency field.*

### LEARNING 3: ECOSYSTEM ACTORS ARE WILLING TO SUPPORT PILOT-LIKE PROGRAMS

*Since the project's start, DE+ placed the utmost importance in the cooperation and cocreation with Associated partners and the Regional Alliance networks. During the Pilot implementation, innovators were introduced to additional stakeholders from the regional innovation ecosystems. Frequent discussions lead to a sense of co-ownership over the project's outputs, will to continue the collaboration but also contributed to expertise sharing and mutual help, as the other stakeholders may also be running programs offering support to young entrepreneurs, organizing events or developing analytical reports and materials – all activities of the DE+ consortium. These links ought to guide the Hub's creation and explore the existing interests of the ecosystem actors to ensure longevity of the Hub.*

To solidify the results of the activities so far and leverage the networking already executed, the consortium is set to establish regional Hubs to carry on the goals of the project and ensure its sustainability. Following the three key learnings summarized in the Table 2 above will inform the Strategy of the consortium as a whole and the respective Action Plans for the partners, who may choose to leverage only the most prominent learnings.

## 2 Hubs' role and mission

Using the learnings from the Pilot implementation and meetings with stakeholders in the Regional Alliances as a springboard, we define the Hub's role and mission as a prolongation of the key project activities. As such, the Hub's concrete agenda – beyond assuring the longevity of the DE+ outputs – will be shaped by each consortium partner under the forces of the partner's overall strategy, long-term goals and the particular region's interests. This strategy therefore sketches out the possible avenues for the Hub's development, which will be further developed in the regional Action plans. By "mission" we understand as the purpose of the Hub. By "role" we understand the concrete activities the Hub will be performing in order to fulfill its mission.

### 2.1 Hubs' Mission

The Hubs' importance for the future of the region is multifaceted. Connector is the main capacity of its mission - a specific mode of connectivity then depends on the region. Hubs' mission is to be the beacons of Danube-wide cooperation, enabling synergies and cooperation, fast-tracking

development in the key areas which will increase competitiveness of the region. The mission of each Hub will be defined as a combination of the goals identified below and together, they will ensure the longevity of Danube Energy+ outputs and results.

➤ **TO STRENGTHEN THE LINKAGES DEVELOPPED IN THE PROJECT**

Partners held regular meetings with the ecosystem actors, business support organizations, academia and research organizations, public authorities and innovative businesses and corporates in the name of the DE+ project. These meetings shaped future collaborations between the consortium partners and other stakeholders. Hub's mission will be therefore **to provide a common ground for meetings, exchanges and collaboration definition** after the project's end.

➤ **TO ESTABLISH THE TOOL AS AN ENTREPRENEURSHIP EDUCATION REFERENCE**

The Tool curriculum and the connected support Package represent a concrete blueprint for delivering the entrepreneurship education program. The curriculum is modular, comprehensive and can be adapted to various development stages of the education recipients. With a Pilot run in each region, the entrepreneurship education element of the DE+ project was the most recognizable activity, as it was associated with a wide scouting and recruiting campaign. It is therefore a **“product” around which the Hub can be build and which can be offered on a possible commercial basis.**

➤ **TO ENABLE TRANSFER OF KNOW-HOW TO NEW REGIONS AND AREAS**

The DE+ implementation was limited to the 9 regions of the Danube area. For some partners, regions were synonymous with the whole country, for others, such as Germany or Ukraine, only a part of the country belonged to the geographical scope. Moreover, even if the “region” did encompass the whole partner country, given the geographical anchorage of the consortium partners, the Pilots were primarily communicated in that area (such as Zagreb, Ljubljana, Pardubice or Bratislava). It is to be noted that virtualization of many DE+ activities due to the Covid-19 opened the program to other locations within the regions, however, a return to in-person events is to be expected within the timeframe of the Hub's activity. The final component of the Hub's mission is then **to transfer the know-how to other parts of the regions, to enlarge the network of partners geographically and to potentially deliver entrepreneurship education to new audiences.** Additionally, the knowledge transfer can be directed to areas outside of the consortium regions.

## 2.2 Hubs' Role

Hub's role is defined as a concrete assumed function, which contributed to the mission fulfillment. The key principle in crafting the Hub's role is the imperative of complementarity, meaning that the

Hub should not replicate an existing structure or actor, rather, it should complement their activities and identify potential functional gaps. Additionally, the Hub's role ought not to be artificial or redundant to its founding entity – the respective project partner. The Hub's role should therefore be in synergy with both the project partner and other stakeholders. This document shall highlight possible avenues of Hub's roles in respect to the chosen focus, which in turn is categorized following the key activities of the DE+ project and the proclaimed needs of the partner regions as voiced during the Consortium Strategy meetings. In all of the roles outlined below, the Hub will be communicated as a distinct web page, relating its mission and vision. The specific role – or a combination of roles – a respective Partner will choose for their Hub, will depend on the main mission, complementarity to existing activities and funding available.

TABLE 3 Possible roles a Hub can perform

### HUB AS A SPACE

*The most straightforward understanding of a Hub is that of a physical space (such as Impact Hub or various co-working Hubs). Physical hubs offer innovators space to hold their office, to meet with partners and to tinker. They also offer a space for events and networking, supporting a creative atmosphere. This role is suitable for academic organizations or public authorities residing in their own real estate. Such Hub could be financially supported through corporate sponsors, residing innovators (directly or through local grants) or local schemes for entrepreneurship support. Alternatively, a project partner can collaborate with an existing entity to populate their space with content, such as programs or events.*

### HUB AS A LEGAL PERSON

*Project partner may choose to establish their respective Hub as a separate entity, such as a non-governmental organization. Suitable mostly for for-profit partners, the benefits of such an arrangement include eligibility to access local grant schemes and NGO funding and de-coupling of the Hub's activities from the partner's for-profit business development, effectively continuing the DE+ project as a separate entity.*

### HUB AS A HOLDER OF KNOW-HOW

*A collection of curriculum and know-how is the main output of the DE+ project. Each partner has contributed to the creation of the education Tool and implemented one full program for Young Innovators. The generated know-how is the key asset the Hub can utilize. Project partner (or a separate, new-founded entity) can offer the know-how in terms of analytical services, building on the mapping and transregional analysis, or in terms of the educational entrepreneurship program. These services can be provided on a partnership basis (such as offering content to an existing space) or as a*

*stand-alone service to corporate wishing to support intrapreneurship, public authorities and municipalities aiming at improving employability or universities and research organizations in need of innovation commercialization skills.*

#### HUB AS AN ORGANIZER

*During the DE+ implementation, the project partners enhanced existing partnerships and developed new ones during the various networking and consultative events. In some cases, the Associated Strategic Partners of the project were active in supporting the partners in the delivery of the Pilot. Hub as an organizer represent a role the hub may choose which builds on this networking experience. Possible activities include organization of thematic events, conferences, workshops and talks connecting actors in the field of energy efficiency (or alternatively, sustainability) or connecting stakeholders invested in the entrepreneurship, such as successful founders with aspiring innovators. Funding for such Hub can be procured from the local business support organizations, such as business agencies, which are able to allocate funds in exchange for visibility.*

### 3 Implementation and Governance

Hub's shape will be defined on a regional level due to the diversity of partners in the project - some for profit, some non-for-profit - and diversity of regional situations. The Hub's mission, role and way of governance will be defined on the crossroads of the needs of each consortium partners, their organizations' long-term strategy and the needs of the ecosystem, as uncovered in the course of the DE+ implementation.

Hub's implementation plan and governance model will be defined in the Regional Action Plan, setting the stage for organizational type of the hub, its premises, activities and supporters. The action plan will be consulted with the Regional alliance members and other relevant stakeholders. Partners will be advised to target policy authorities in particular, as aligning the action plan and the hub's activities with the policy of the region maximizes the impact of the DE+. As part of the Regional Action Plan, each project partner will seek additional funding for the Hub to secure its activity after the DE+ end in July 2021. The amount of the funding contracted can vary, depending on the Hub's character.

### 4 Hubs' stakeholder engagement

Stakeholder engagement has been a crucial part of the DE+ project throughout its activities. As the DE+ project operated in the innovation ecosystems of the respective regions, we referred to the third parties as the "ecosystem actor", defined as ***anyone who could support the Young Innovators in their paths to successful ventures***. These actors include established start-ups, corporations, public

decision-makers, funding bodies, support organizations such as incubators, accelerators, specialized media as well as networking and communications events, fairs and conferences. The most active stakeholders were the Associated Strategic Partners and the Regional Alliance members. The latter are contributed to the development of the Tool curricula as well as its practical implementation during the Pilots and will remain the key external input sources. Regardless of the roles chosen by the respective regions, the Hub's creation will be defined by a strategic partnership with at least one other entity – the sponsor. It is however recommended to tie the Hub with more stakeholders and ecosystem actors additional to the sponsor, such as expert bodies, policy makers or potential clients.

This engagement will continue as none of the identified possible roles of the Hub can be successfully delivered without support from the larger network and the Hub will not be an immovable entity set in stone. It will be iterating its needs and roles in discussion with the external stakeholders. In the process of the Regional Action Plan shaping, the partners will engage stakeholders through roundtables and the motivate them to collaboration through the public launch ceremony. Additionally, depending on the chosen Hub architecture, stakeholders may be listed on an online forum, called upon to discuss and support Young Innovators or further offer their insights as the Hub is going on with its activities.

Hub's main function, regardless of its physical location or main activities, will be to assemble stakeholders and represent the go-to entity in the questions of supporting early-stage ideas and young innovators in the energy-related sectors. The stakeholders' network will be built on the Regional Alliances, stakeholder support groups which were instrumental in the delivery of Danube Energy+ outputs. Hubs shall develop and engage their stakeholder network following the tenants below:

## **Key tenants of stakeholder engagement**

### ➤ **COMPLEMENTARITY OF ACTIVITIES**

Stakeholders from public bodies, academia, corporates and startup scene will be engaged in order to maintain diversity of viewpoints.

### ➤ **INTEREST IN REACHING YOUNG INNOVATORS**

Stakeholders will be addressed based on their interest in working with young innovators, either by recognizing them as sources of societal and economic progress or through their existing interactions.

### ➤ **INTEREST IN REACHING THE INTERNATIONAL COMMUNITY**

Upon their establishment in the respective regions, Hubs will be encouraged to interact, to carry on the mutual learning process and to ensure stakeholder interaction across the borders.

### ➤ **PUBLIC POLICY ADAPTATION AS THE FINAL GOAL**

Hubs ought to recruit public policy makers among the stakeholders active in the Hub, ensuring political sustainability of the project results as defined by the Manual of the Interreg Danube Transnational Program<sup>1</sup>. Unfavorable, confusing or outdated innovation support policies remain a key structural obstacle stated by the Young Innovators.

## 5 Code of Operations and COVID response

Regional Action plans, developed on the basis of this Strategy, will adhere to the principles of Data protection, Transparency and Inclusivity. In the light of the Covid-19 crisis, the Hub leaders will also adhere to the principles of Safety.

### ➤ DATA PROTECTION

The personal data collected through the hubs must be processed in accordance with all applicable legal acts and data protection clauses. The Hub leader is committed to establish and make available the principles of data processing on the relevant website. The Hub leader is committed to implement sufficient organizational and technological measures, in order to ensure the security of personal data.

### ➤ TRANSPARENCY

The Hub leader will ensure open communication in regard to the Hub's financing, acknowledging the financial origins in the Interreg Danube Energy+ Project, referring to the project's partners and outputs in the full course of the Hub's operations. The Hub will acknowledge any additional donors and sponsors, partners and supporters.

### ➤ INCLUSIVITY

The Hub will be open to all individuals and organizations operating within the confines of the law and without preferential treatment based on personal characteristics of interested parties.

### ➤ SAFETY

Hub's operations will adhere to the regional health and safety recommendations, relating especially to in-person events and gatherings. Thus, Hub can be developed as virtual entities or can make recourse into the virtual arena to mitigate possible health risks.

## 6 Transferability

Transferability is another avenue of ensuring durability of the project outputs and results, in order to sustain territorial impact and long-term benefits after the project's end. The creation of a Hub, activity central to the Work Package T3 is designed to ensure durability within the regions of original

<sup>1</sup> <http://www.interreg-danube.eu/uploads/media/default/0001/06/ad41b5deb15ebdfcf01b259d1280d19b763520ec.pdf>

implementation. A more ambitious, and welcomed, approach to ensuring durability is that of transferability - that is, transferring the project's activities to new territories or new settings. With the creation of the Hub, the project outcomes will be anchored in the respective regions and can emanate to the other parts of said regions. Transfer of the DE+ know-how to other regions – be it within or outside of the DTP area – are linked to the programs supporting international collaboration and developmental aid. As such, by choosing specific funding opportunities, project partners can place transfer to new regions into their Hubs' DNA. Such course of action is encouraged and will be supported. Additionally, the projects' outputs will be available publicly on the web pages of the regional Hubs.

Transferability to other regions may be enabled by natural regional interconnection supported by local funding schemes. For larger states, Interreg regions consist of smaller units - such is the case of Ukraine or Germany. In other cases, smaller states such as Czechia, Slovakia or Croatia represent a single region. In the former case, horizontal transferability is possible on a national level, from one German region to another. In the latter case, international organizations based on historical relationships represent a transferability avenue. The **International Visegrad Fund** unites the countries of the so called Visegrad Four - Hungary, Slovakia, Czechia and Poland. With the exception of Poland, the V4 countries are also part of the Interreg DTP programme, albeit Hungary did not participate in the consortium. The Fund financially supports projects enhancing collaboration between these four states, but also provides support to projects which contribute *"transformation processes in selected countries and regions, especially non-EU member states in the Western Balkans and the Eastern Partnership countries"*<sup>2</sup>. Know-how transfer among the post-communist countries is encouraged, as the shared past allows for deeper understanding of the local situation, increasing the chances for a successful project or policy uptake. Local development aid agencies, such as Slovak Aid in Slovakia, also offer funding opportunity and support transfer of know-how to the countries of Eastern Partnership and in the Western Balkans. These regions are best positioned to benefit from the know-how generated in the DE+ project while the experience of the Ukrainian project partner testifies to the interest of the local organizations to collaborate, learn and exchange with their EU-based counterparts.

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<sup>2</sup> <https://www.visegradfund.org/apply/grants/visegrad-plus-grants/>