



INNO GREEN
Design Options Paper

**Encouraging INNOvation
for development of
GREEN jobs**

September 2018



This Design Options Paper was prepared by the INNO GREEN project team.

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Introduction

The Europe 2020 Strategy emphasizes as its priorities the achievement of smart, sustainable and inclusive growth in a competitive, low-carbon and resource-efficient economy. One of the main objectives of the Strategy is to boost European economy and competitiveness on a global level while pursuing the transformation to a low carbon economy. A so-called green growth is gaining momentum across European countries as a way to pursue economic development while supporting environmental protection, biodiversity preservation and sustainable use of natural resources. This encompasses development of “green” jobs in eco-industries as well as the “greening” of traditional industrial sectors¹. Green growth requires adoption of new technologies and business models, developing new products and supporting new patterns of demand. The “Framework Strategy for a Resilient Energy Union with a Forward Looking Climate Change Policy” proposed by the Commission highlighted how an innovation driven transition to a low carbon economy offers great opportunities for growth and new jobs as it would enable EU industry to benefit from the first-mover advantage².

In this document, we are considering the so-called green jobs, that are supporting EU economy’s investment in resource efficiency, energy efficiency, renewable energy, waste and water management and consequently lead to reducing costs by being less reliant on primary materials and imports. This kind of transition to a greener economy may be more challenging for small and medium size companies (also called small and medium sized enterprises, SMEs) than large companies, although they can be more flexible in adapting to the fast changing market environment. The willingness and capability of SMEs to exploit so-called green business opportunities generally meet with size-related resource constraints, skills deficits and knowledge limitations. The experience of innovation support agencies, supporting SMEs in their endeavour to strengthen their innovation competencies show that this is even more prominent for small and micro companies that are specific due to their small size, resource constraints and consequently specific characteristics of their management and organizational system. SMEs, unless they are suppliers of niche products, are usually poorly acquainted with the state of the art in technologies, knowledge and market development and the possibilities for up-skilling of staff or management. Furthermore, some data indicate that SMEs have not yet grasped the

possibilities offered by green economy and green employment. The INNO GREEN model proposed in this publication aims at the supply of practical and innovative tools to support SMEs in their effort to develop sustainable business practices and the creation of green jobs.

This Design Options Paper is a result of the INNO GREEN project, co-financed by the EU ‘s Horizon 2020 research and innovation programme and directed towards boosting peer learning between three project partners in order to raise their competences for encouraging innovation for development of green jobs with SMEs. The lead partner, LIR Evolution from Bosnia and Herzegovina with cooperation of the Centre for Innovation and Development, RDA Green Karst (Slovenia) and Europaisches Zentrum Fur Erneuerbare Energie Gussing GmbH (Austria) have joined their experiences and knowledge on working with SMEs in order to explore the best ways in dealing with this issue. We started with an exploration of best practices across EU and specifically, with viewing and discussing the best practices in our own regions. Based on what we have observed, based on discussions with different stakeholders and considering limitations encountered when supporting green businesses, the partnership designed the INNO GREEN model, which includes main elements of the support to be provided when encouraging innovation for development of green jobs. The model has been in parts tested within each region: we organized pilot projects in each region, addressing specific challenges that we identified (for example, the best way to explain the benefits of green economy and green employment to SMEs was explored in Slovenia). We have also discussed about the model with innovation agencies outside of our partnership. For this reason, the partnership organized a virtual conference on 11th September 2018, inviting all interested parties to participate and give us their view on the subjects explored and the INNO GREEN model itself (link to the conference <https://global.gotomeeting.com/play/recording/0fb20b1ac97476bda3ece2ec6cc0f383020bb9045696a72b31e96dd29b19e5ba>). All these information are included in the final version of the INNO GREEN Design Options Paper, which proposes to innovation agencies a way of developing or strengthening their own approach towards encouraging innovation in SMEs for the development of green jobs.

It is our genuine aspiration, that innovation agencies across Europe will benefit from this exchange of knowledge and that together we can make a difference. We deliberately prepared a paper, that does not offer solely professional explanations, but includes our practical ex-

1 Green jobs: Employment potential and challenges, European semester thematic fiche, 2015.

2 COM/2015/80 final.

periences and views as well. Prepared in this manner, the INNO GREEN Design Options Paper should be viewed as a starting point for designing or reviewing an innovation agency's own approach to encouragement of SMEs and development of green jobs, which needs to be adapted to specific regional context of the said agency. For this exact reason, we equipped the INNO GREEN Design Options Paper with information on our regions and descriptions of their specific characteristics that influence the successful implementation on the INNO GREEN model. In the same token, reader must be careful to understand the INNO GREEN model, but also to acknowledge its own specifics and develop an approach that will be useful in its own environment. We will especially welcome information on your activities in this direction. If you are going to tackle the implementation of the INNO GREEN model in your region, we will gladly respond to your potential enquires about it. We also look forward to your feedback in regards to this process, so we can further strengthen the quality of the INNO GREEN model.

For further communication, we are available at office@lir.ba (Bosnia and Herzegovina), info@rra-zk.si (Slovenia) and office@eee-info.net (Austria).

Team INNO GREEN



1. Terms and definitions - an approach towards green economy and green innovation

The issues of green economy and green jobs are – similar to other economic terms – always problematic in light of various diverse comprehensions of their meaning, not to mention the diversity of phrases used for it. This conceptuality is a complex issue, interlinked with many similar concepts. We do not imagine taking on these tasks, nor will we try to elaborate all of them. In the following chapter, we present only selected concepts, that we consider crucial for understanding of the subject on hand. Whereas these concepts are only the most common used and not exclusive, they are especially important to be utilized in the phase of motivating the entrepreneurs and other stakeholders by getting them to understand the issue and their contribution to it. It is the first of the tools offered to the reader by the INNO GREEN partnership.

1.1. Sustainable development

Green economy is imbedded in the wider notion of the sustainable development, which stands for “meeting the needs of present generations without jeopardizing the ability of futures generations to meet their own needs – in other words, a better quality of life for everyone, now and for generations to come. It offers a vision of progress that integrates immediate and long-term objectives, local and global action, and regards social, economic and environmental issues as inseparable and interdependent components of human progress.”³ A simplified interpretation of this explanation is that the sustainable development includes the idea of working and living in a way that allows for preservation of natural resources and to social wellbeing at the same time. This is not something that is the sole responsibility of bigger entities such as political institutions and business organizations, but also a responsibility of everyone living in this planet.

All over the world, there is an increased awareness of the damage the human race has already done to the planet Earth, to the extent that we have endangered our own natural conditions of living. Also, as a society we have come a long way, but have at the same time developed so many disruptive practices that only majority of human population can be considered to live in a state of wellbeing. The awareness of such issues is starting to take on the primary responsibility of more and more countries, including EU. Article 3 of the Treaty on the European Union (2009) proclaims that the Union shall work for the sustainable development of Europe based on balanced

economic growth and price stability, a highly competitive social market economy, aiming at full employment and social progress, and a high level of protection and improvement of the quality of the environment. On 25 September 2015, the United Nations General Assembly formally adopted the universal, integrated and transformative 2030 Agenda for Sustainable Development, along with a set of 17 *Sustainable-development-goals* (SDGs) and 169 associated targets. The EU also has committed to implement the SDGs both in its internal and external policies, thus contributing to the strengthening of the sustainable development in the broadest sense. While these activities address the problem of degradation of our national environment at a policy-level, engagement of other actors, including SMEs is of utmost importance when generating a global, comprehensive effect. For these reasons the notion of sustainable development must be further explained to the SMEs as well.

1.2. Green economy

The term “green economy” was first coined in a pioneering 1989 report for the Government of the United Kingdom by a group of leading environmental economists, entitled *Blueprint for a Green Economy*. It was not much in use until 2008, when the term was revived in the context of discussions on the policy response to multiple global crises. It stands for “an economy that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities”⁴.

³ European Commission: <http://ec.europa.eu/environment/eu-ssd/> (9th August 2018)

⁴ United Nations Economic Commission for Europe: <https://www.unece.org/sustainable-development/green-economy/what-does-green-economy-mean.html> (retrieved 9th August 2018)

In 2008 the United Nations Environment launched the Green Economy Initiative (GEI), which consisted of global research and country-level assistance, encouraging policy-makers to support environmental investments within the context of sustainable development. EU also is a part of this initiative, operating under the United Nations Economic Commission in Europe: it facilitates greater economic integration and cooperation among its member countries and promotes sustainable development and economic prosperity through policy dialogue, negotiation of international legal instruments, development of regulations and norms, exchange and application of best practices as well as economic and technical expertise and technical cooperation for countries with economies in transition.

Based on the earlier work on green economy an Inclusive Green Economy (IGE) has evolved, offering an alternative to today's dominant economic model, which exacerbates inequalities, encourages waste, triggers resource scarcities, and generates widespread threats to the environment and human health. In its simplest expression, such an economy is low carbon, efficient and clean in production, but also inclusive in consumption and outcomes, based on sharing, circularity, collaboration, solidarity, resilience, opportunity, and interdependence. It is focused on expanding options and choices for national economies, using targeted and appropriate fiscal and social protection policies, and backed up by strong institutions that are specifically geared to safeguarding social and ecological floors⁵.

In short, green economy presents one of the elements that support the sustainable development, along with social and environmental changes that need to take place in order to allow generations to have a sound and healthy future.

While EU supports the United Nations goals and is committed to the implementation of 17 SDGs, it develops also its own initiatives, creating strong institutional linkage between environment, economic policy and financial encouragement for supporting eco-innovation, resource efficiency, sustainable production and consumption, prevention and management of waste and management of water resources. There is however, one difference observed between the two: while the United Nations strongly connects the environmental and social component in the green economy concepts, the social component in EU's perception of green economy is somewhat distant, putting more emphasis on the environmental than on social consequences of traditional economic models. This is also evident in a concept of circular economy, which is gaining a lot of momentum especially in EU and which we explain hereinafter.

⁵ United Nations Environment Programme: <https://www.unenvironment.org/explore-topics/green-economy/about-green-economy> (retrieved 9th August 2018)

1.3. Circular economy

Circular economy (CE) is a concept currently promoted by the EU, by several national governments including China, Japan, UK, France, Canada, The Netherlands, Sweden and Finland as well as by several businesses around the world⁶. It entails gradually decoupling economic activity from the consumption of finite resources, and designing waste out of the system. Underpinned by a transition to renewable energy sources, the circular model builds economic, natural, and social capital. It is based on three principles: (1) designing out waste and pollution, (2) keeping products and materials in use and (3) regenerating natural systems⁷. The importance of the concept of circular economy is in its emphasis on the systemic shift that "builds long-term resilience, generates business and economic opportunities, and provides environmental and societal benefits"⁸, which is a step away from the traditional recycling practices. Circular economy brings into business practices emphasis on product, component and material reuse, remanufacturing, refurbishment, repair, cascading and upgrading as well as solar, wind, biomass and waste-derived energy utilization throughout the product value chain and cradle-to-cradle life cycle⁹.

In short, in order to progress, the entire business as a system needs to change, exploring also the way our economy works. In addition, there is a need to rethink and redesign organizational and production processes, designing products that can be "made to be made again" and powering the system with renewable energy. An important element of such change is also a consideration of competences in business organizations as well as support organizations: it questions whether with creativity and innovation we can build a restorative economy¹⁰. Consequently, there is an emphasized need to develop so-called green jobs, which are not concerned just by working in the sectors recognized as "green", but also by working in organizations who are using the circular economy approach. Innovation plays an important role in such circumstances and innovation support agencies need to adapt to the SMEs demand for supporting them in these endeavours as well.

⁶ Korhonen, J., Honkasalo A. and Seppala, J. (2018). Circular Economy: The Concept and its Limitations. *Ecological Economics* 143, 37.

⁷ Ellen MacArthur Foundation: <https://www.ellenmacarthur-foundation.org/circular-economy/overview/concept> (retrieved 9th August 2018).

⁸ Ibid. 7.

⁹ Ibid. 8.

¹⁰ Ibid. 7.

1.4. Green jobs and employment

In terms of a clear definition, the concept of green jobs is sadly disregarded. Despite its wide usage, mostly on policy level, there is no real consensus in regards to its meaning and the concept is often characterized in accordance with the current interests expressed and based on the strategic directions planned. Nevertheless, there are some standing agreements on the basic elements of the green jobs and employment:

- they are strongly connected to protection and preservation of the natural environment;
- they can be developed in the traditional industry, but even more in new, so-called green sectors;
- they are a consequence of transition to green economy or specifically, to circular economy.

Although there is no accepted definition of “green” jobs, it is generally an accepted view that green employment helps and supports decrease of negative effects stemming from other employment to a degree that is sustainable and acceptable for environment and society. A number of sectors can implement strategies for green employment expansion, starting from eco-industries to supporting the “greening” of traditional industries.

Regardless of lack of definition, there are countless evidence of its importance: just in the EU the eco-economy employs more than 5 million people with a turnover of more than 700 billion EUR in the environmental goods and services sector. This figure does not include jobs in other sector that are impacted indirectly such as organic farming, sustainable agriculture, eco-tourism etc. What is clear is that a so-called green employment is growing, but the skills needed to “green” the economies are still lacking. The main challenge is to equip organizations with the right kind of knowledge that will allow them to meet the demands of the transition to the circular economy. This applies for all the employees of innovation supporting organizations as well.

1.5. Green entrepreneurship

Green entrepreneurship has developed as a concept of entrepreneurs, taking conscious action to address environmental issues. Such actions can be as simple as developing a recycle and reuse policy in the company for materials such as paper or plastic. It can also be more advanced, such as using new techniques for reducing emissions of production gases or using renewable energy instead of fossil fuels. One of the first notion on green en-

trepreneurship is provided by Berle (1991)¹¹, who also emphasizes: “Green entrepreneurship is taking responsibility to create the world we dream of.”

There are three main segments of green entrepreneurship, that at the same time present also three basic pillars of sustainable development (see also the beginning of this chapter):

- protecting the environment and preserving resources;
- social welfare;
- economic sustainability.

Green entrepreneurship should therefore not only be directed to provide environmental sustainability, but should also incorporate the so-called social (creation of workplaces) and economic (surviving in a long run) sustainability. It is based upon the connectedness of all three dimensions, which poses several challenges for SMEs to overcome, pertaining to the internal organizational processes and structures as well as to addressing the market and providing fitting products and services.

Successful green entrepreneurs typically exhibit the following characteristics:

- they realize ideas with a high level of risk;
- they possess strong internal motivation and sensitivity to environmental issues;
- they address an environmental problem consciously as the core of their business activity;
- their business activities have a positive effect on the natural environment while they are financially sustainable.

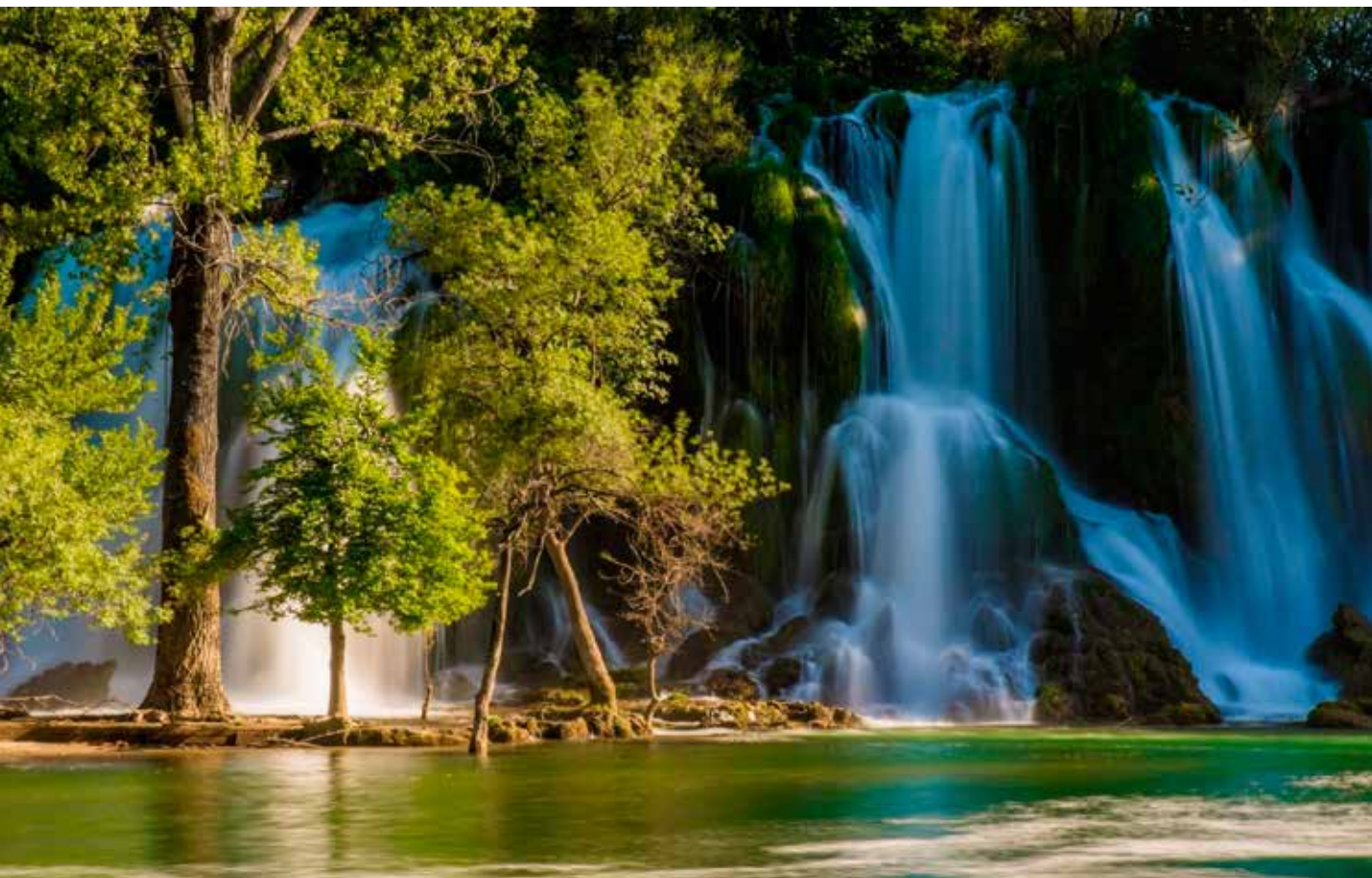
Green entrepreneurs typically start businesses based on the principle of sustainability with strong underlying “green values”. Investments in green business contribute to positive externalities for society, which is especially prominent in cases when green businesses have the potential to be scaled up to reach the sustainable transformation of an entire industry. Even when green businesses contribute only to the creation of a small niche market, they can propel new job creation. Moreover, green businesses are often recognized as engines of change and a source of introducing innovation.

Another specific characteristic of green entrepreneurs is a strong connection between their business and personal passions and values. Most of them share a fundamental belief in the importance of the environmental and social awareness above strict economic success, which might be perceived as a hindrance often due to their common lack of economic considerations, but on the other

¹¹ Berle, Gustav (1991). The Green Entrepreneur: Business Opportunities That Can Save the Earth and Make You Money”.

hand prove also a strong motivation and commitment to achieving one's business goals.

According to the Eurobarometer survey¹² in 2013, 42 % of EU SMEs have at least one full or part-time green employee, amounting to more than 20 million green jobs in the SME sector across Europe. More than half of these jobs were in SMEs offering green products and services (one in five SMEs), with 3 million green jobs concentrated in SMEs active in eco-industries (air pollution control, renewable energies, energy efficiency, waste management, recycled materials, environment-friendly services). However, the increase in green employment in recent years is mostly taking place in SMEs not offering green products and services. This is due to the increased pressure from rising costs of energy and materials to become more resource efficient. It has been emphasized that SMEs find it more difficult to comply with environmental legislation than large companies do. A lack of expertise, lengthy approval procedures for new products and a lack of consumer demand are the main obstacles that prevent SMEs from entering the green markets.¹³ These are also factors that the INNO GREEN partnership considered the most.



¹² Eurobarometer survey: How green are European SMEs?, EC, MEMO/13/1152 of 17/12/2013.

¹³ Green jobs: Employment potential and challenges, European semester thematic fiche, 2015.

2. The role of innovation in green economy

There is no doubt on the role and importance of innovation in the growing economies. On policy level, the EU considers innovation as one of the driving forces for the boost of European economy growth and presents an integral part of its competitiveness. In addition, the role of so-called eco-innovation has been recognized several decades ago, realizing that “government action is essential to shape the environment for green innovation”¹⁴. Such perspectives marked the EU innovation policy, resulting in implementation of the OECD’s 2010 Innovation Strategy, the UN Agenda for Sustainable Development and least of all the establishment of the Innovation Union, one of seven flagship initiatives of the Europe 2020 strategy for smart, sustainable and inclusive growth.

A simplified description of the Innovation Union initiatives suggests a set of activities that are directed to creating an “innovation-friendly environment” and consequently improve conditions and access to finance for research and innovation in Europe¹⁵. By ensuring that innovative ideas are turning into products and services, the creation of growth and jobs is accelerated. The initiative comprises of more than 30 action points, but is mainly focused to the following three aims:

- making Europe a world-class performer in science;
- revolutionizing the way the public and private sectors work together, notably through Innovation Partnerships;
- removing bottlenecks such as creating internal markets for skills, patents, venture capital, innovation procurement and standard setting to foster ideas being quickly implemented on the market.

Due to close connection of the innovation potential and creation of green growth, this is the area to which we will mostly concentrate. While it is common to emphasize the importance of eco innovation as the most integral part of creation of green jobs in Europe, also the importance of the so-called social innovation needs to be emphasized: social innovation has not only played an integral role in the current financial period, but is also strongly emphasized as an influencing factor of EU’s growth in the future. For this reason, in this publication we include both.

2.1. Eco innovation

Eco innovation is usually defined as all forms of innovation activities, resulting in or aimed at significantly improving environmental protection. It includes new production processes, new products or services and new management and business methods, the use or implementation of which is likely to prevent or substantially reduce the risks to the environment, pollution and any other negative impact of the use of resources throughout the lifecycle of related activities. It is clear that eco innovation present a vast area of interest, which cannot be simplified and easily presented. However, to provide a reader with a clearer impression of what it might entail, we present the following possibilities of eco innovation:

1. ENVIRONMENTAL TECHNOLOGIES:

- pollution control technologies including waste water treatment technologies;
- cleaning technologies that treat pollution released into the environment;

- cleaner process technologies: new manufacturing processes that are less polluting and/or more resource efficient than relevant alternatives;
 - waste management equipment;
 - environmental monitoring and instrumentation;
 - green energy technologies;
 - waste supply;
 - noise and vibration control.
- #### 2. ORGANIZATIONAL INNOVATION for the environment:
- pollution prevention schemes;
 - environmental management and auditing systems: formal systems of environmental management involving measurement, reporting and responsibilities for dealing with issues of material use, energy, water and waste;
 - chain management: cooperation between companies so as to close material loops and to avoid environmental damage across the value chain (from cradle to grave).

¹⁴ OECD (2011): Fostering Innovation for Green Growth. <http://www.oecd.org/sti/inno/fosteringinnovationforgreengrowth.htm> (retrieved 17th August 2018).

¹⁵ Publications Office of the European Union (2013): Innovation Union – A pocket guide on a Europe 2020 initiative https://ec.europa.eu/eip/agriculture/sites/agri-eip/files/innovation-pocket-book_en.pdf (retrieved 17th August 2018).

3. PRODUCT AND SERVICE INNOVATION offering environmental benefits:
 - new or environmentally improved products (goods) including eco-houses and buildings;
 - green financial products (such as eco-lease or climate mortgages);
 - environmental services: solid and hazardous waste management, water and waste water management, environmental consulting, testing and engineering, other testing and analytical services;
 - services that are less pollution and resource intensive (car sharing is an example).
4. GREEN SYSTEM INNOVATIONS:
 - alternative systems of production and consumption that are more environmentally friendly than existing systems (biological agriculture and a renewable-based energy systems are examples).

(EXAMPLE 1): Green system innovation is installation of a low-enthalpy geothermal system utilizing Ground Couple Heat Pump system for heating/cooling, that gathers heat from three vertical probes, each 100 meters deep and contributes to saving energy from heat. The action has been implemented in the framework of the IPA Adriatic project LEGEND. It is also a demonstrative action that motivated development of green jobs in the wider region of Srbac (Republika Srpska, Bosnia and Herzegovina). For more information see: <http://www.ipadriaticbc.eu/projects/legend/>

(EXAMPLE 2): An initiative of the City of Banja Luka replacing a formerly inefficient district heating system using heavy oil with a more efficient system, using renewable resource: wood biomass. The action was implemented through public and private partnership. Such green heating technology has brought positive economic and environmental effects, improved the quality and sustainability of district heating and has at the same time created opportunities for new jobs in wider region of Banja Luka (Republika Srpska, Bosnia and Herzegovina). For more information see: <https://ekotoplanebanjaluka.com/>

Acknowledging the presented classification of eco-innovation, it is also important to emphasize that eco-innovation is not limited to environmentally motivated innovations, but includes unintended environmental innovations as well. That means that the environmental benefits of an innovation can be a side-effect of other goals. Thus, institutional innovations such as changes in values, beliefs, knowledge, norms and administrative acts are also important factors to be observed. The same applies to changes in management and organization.

2.2. Social innovation

When speaking about social innovation, the main emphasis is usually on the objective of social innovation development: meeting social goals. Social innovation seeks new answers to social problems by (1) identifying and delivering new services that improve the quality of life of individuals and communities and (2) identifying and implementing new labour market integration processes, new competencies, new jobs, and new forms of participation as different elements that contribute to improving the position of individuals in the workforce. The concept of social innovation focuses attention on the ideas and solutions that create social value as well as the processes through which they are generated. Irrespective of its definition, social innovation has been increasingly perceived as an answer to the rising number of societal challenges in Europe, such as refugee crisis, growing social disparities and exclusion, youth issues, unemployment or poverty.

In order to foster social innovation, it is important to raise awareness about successful social innovation initiatives as a response to pressing societal challenges that have not been appropriately addressed by public policies. At the same time it is important to build on policy-makers competencies to address these subjects as well. In the past decades, social innovation has gained particular attention and is now considered an important tool to identify and respond to social challenges when the market and the public sector have failed to do so. The non-profit sector plays an important role in fostering social innovation, because it is not primarily focused to making profits and can therefore pay attention to long-term social issues. Nevertheless, social innovation and consequently social entrepreneurship still presents business activity, which follows the same processes as any "regular" entrepreneurship, including maintaining the financially sound business.

In general, the three key mechanisms that are driving contemporary social innovation are:

- exchange of ideas and values;
- shifts in roles and relationships;
- integration of private capital with public and philanthropic support.

(EXAMPLE 1): A good example of social innovation would be "Lifelong Learning Concept" promoted by the Agency for Economic Development of City Prijedor "PRE-DA-PD", which introduces the young generation to jobs in IT technologies and design, in order to satisfy the social demands for jobs in those areas in Republika Srpska and Bosnia and Herzegovina. For more information see: <http://www.predaprijedor.com/kreativni-centar/>

(EXAMPLE 2): KARSO Employment centre from Pivka (Slovenia) is one of the typical businesses based on social innovation. It only employs disadvantaged groups: invalids and people with light mental disorders that are performing gardening activities, producing simple products. While their business still needs to provide for basic operational processes (management, marketing etc.) it is also engaged in education of their employees and catering to their specific needs (by adapting their working space, working around a schedule that they can manage etc.), thus providing additional employment options also for specific groups that usually are not highly employable.

2.3. Grassroots innovation

Grassroots innovation is an umbrella concept for a wide range of movements such as cooperatives, voluntary associations, informal community groups, voluntary labour and the social economy (Hossain 2018, 1). It pertains to a diverse set of activities in which networks of neighbours, community groups, and activists work with people to generate bottom-up solutions for sustainable developments. These are novel solutions that respond to the local situation and the interests and values of the communities involved and where those communities have control over the process and outcomes (Gupta et al., 2003; Seyfang & Smith, 2007).

As Seyfang and Smith (2007) emphasize, these initiatives involve committed activists who often seek to experiment with social innovations as well as using greener technologies and techniques in areas such as housing, renewable energy, food, and alternative money. They frequently seek to create new social institutions and 'systems of provision' based upon different values to those of the mainstream. This kind of operating contributes significantly to the transformation to sustainability, since it embraces social, cultural and ethical values in opposite to mainstream innovations that are developed for commercial value primarily. In addition, grassroots innovation are differentiated from the mainstream innovations in the following characteristics:

- the main aim of grassroots innovation is to solve societal problems;
- they are created through values and culture;
- they work under a community ownership structure;
- they take place mainly at the individual, group and societal levels;
- they usually depend on voluntary labor being the main sources of funding.

Although grassroots innovation have been explored for over two decades, there is still not much information on its characteristic and implications for supporting their development. A recent research on grassroots innova-

tion by Hussain (2018) summarized what we know about grassroots innovations so far, which is why we will present the reader with mainly his conclusions.

Grassroots innovation is found to be dominant in five sectors: community energy, community currency, co-housing, agriculture and organic food. Grassroots movements usually operate in a very harsh environment in terms of finance, policy support, and growth. They are often faced with inability to provide even basic operational conditions such as housing of their activity. Scaling up grassroots movements is also challenging for several distinct reasons, such as funding scarcity, the departure of key people, and a high turnover rate among community members. Grassroots movements work and think in ways that are not conducive to scaling up much beyond their original conception. Moreover, they may also not be practical in a new context due to their rootedness in a particular community.

A pivotal element of grassroots movements is sustainability, although their real contribution to sustainable development is still not recognizable. Most grassroots movements make a limited contribution to sustainability when compared to other initiatives. The magnitude of their contribution to sustainability is difficult to measure, and this prevents them from attracting the attention of financial organizations, politicians, and policymakers. Most grassroots movements are also non-profit ventures, so their success is not measurable in financial terms. One dilemma is whether the focus should be on small-scale urban projects to solve local problems in developed countries or emphasize rural settings, especially in developing countries. The evidence for the success of grassroots movements is still largely anecdotal and narrative, and there are no well-developed key performance indicators (KPIs) to assess them. Whether they should be evaluated based on the criteria used for commercial ventures is still under debate. However, grassroots movements show a socially transformative path toward sustainability.

Grassroots organizations do not carefully assess the scale up approach and how they contribute to sustainability. They need to consider the possibility of survival of their initiatives in the long term. Turning grassroots initiatives to commercial ventures should be consistently considered to provide success to their initiatives. Local and national governments tend not to consider grassroots initiatives in their policies. A positive exception is the EU's initiative: Local Action Groups (LAGs) are common organizational structures to address local communities' initiatives that are being supported by EU funding as well. The former LEADER Programme and current Community Lead Local Development Programme present local development method which has been used for 20 years to engage local actors in the design and delivery of strat-

egies, decision-making and resource allocation for the development of their rural areas. It is implemented by around 2 600 Local Action Groups (LAGs), covering over 54% of the rural population in the EU and bringing together public, private and civil-society stakeholders in a particular area.

(EXAMPLE 1): The development of a number of self-organized small scale district heat systems in South Burgenland. The basic idea was the utilization of local forestall biomass for heat supply. This led to the construction of a small heat grid in a small village, belonging to the municipality of Güssing, in 1992. It is organized and operated by the participants. After the proof, that this is a viable solution, citizens of other villages came to study the practice and decided to implement similar systems in their locations by self-organisation. The idea spread over the region and in the meantime there are approximately 20 of these biomass based small scale heat grids in operation.

(EXAMPLE 2): An establishment of Local Action Group (LAG) Savus in Bosnia and Herzegovina, with a mission to improve conditions of living in villages and create ambient for successful business activities while respecting natural environment in the region. The vision is to promote sustainable development of industry, tourism and agricultural production, through a private and public partnerships, investing in infrastructure as well as human capital, while protecting the environment to develop the entire area of LAG evenly and to give visible contribution to the development of society in Bosnia and Herzegovina. For more information see: <http://savus.ba/o-nama/>



3. The INNO GREEN model development

While the first two chapters have been focused to establish a foundation for a reader to develop a clear perspective about the area of green jobs development and the role of innovation in this perspective, the following chapters are directed to explaining the INNO GREEN model that has been proposed by the partnership. As has been already suggested in the introductory chapter, the INNO GREEN model aims at the supply of practical and innovative tools to support SMEs in their effort to develop sustainable business practices and the creation of green jobs. It is not however exclusive and infinite. It provides merely suggestion about how to address the support of innovation for the development of green jobs in one's region, but it needs to be regarded critically as well, in terms of realizing its potential for specific situations as well as in terms of recognizing the regional specifics that can influence its implementation and success.

As said, within the mainstream economic development the green economy sector is generating substantial employment and economic output. In both, development and developing countries especially small and micro companies account for the vast majority of enterprises, creating significantly greater levels of employment that larger companies do. However, this recognition of their role in economic development has not penetrated green economy planning to the same extent as it has in mainstream economic planning. Current economic research and policy guidance tends to focus either on how mainstream medium-sized enterprises can move into new opportunities in green industries, or can "green" their own operations to be more environmentally and socially responsible. Less information is available on how small-scale social and environmental enterprises already involved at the local level create social and environmental change, using business and entrepreneurship operating models to do so. Precisely this was the INNO GREEN partnership's motivation to continue with its exploration.

Based on project partners' experiences in the support and assistance of SMCs, SMEs and municipalities in energy management and efficiency development, as well as green entrepreneurship, we have developed a tool, the INNO GREEN model. We did not try to come up with something new, but rather to develop a model, which would allow the reader to consider different approaches to encouraging innovation for the creation of green jobs, specifically adapted to particular regions' characteristics. The INNO GREEN model was built on two main pillars:

- The first pillar for the model was an intense desktop research of existing approaches on academic level, published in studies, articles and discussion papers. Among the many approaches, the characterizations of green entrepreneurship by behaviour and market orientation, as elaborated by Schaltegger and Petersen from the Center for Sustainability Management) appeared to be most suitable for the model.
- The second pillar for development of INNO GREEN model was the collection of good practices that can be regarded as green innovation within the project regions. We brainstormed on what can be regarded as green innovation in known companies and other organizations and then searched for cases that can be regarded as best practices and looked for their commonalities. This work led to the insight, that three main forms of an approach towards performing green innovation can be detected. These approaches can be seen as a process of commitment, which, when turned into concrete activities, can be described as pathways to carry out the innovation.

The three pathways of the INNO GREEN model thus can be described as:

- **Reactive pathway** – innovative steps are carried out as a consequence of pressure, because of altered internal or external conditions, regarding the enterprise only.
- **Active pathway** – the awareness of a problem, need or potential, not only in the own enterprise, but also in the sector of operation, leads to innovative steps in order to optimize workflow and/or market position.
- **Proactive pathway** – innovation is carried out by addressing potentials or problems which can be found even on trans-sectoral level. This pathway is advancing the state of the art in the respective domains and creates new standards and benchmarks.

We explain each of these pathways in detail in the following chapters.

3.1. The reactive pathway

The reactive pathway is the most common one and is characterized by the adaption of processes or procedures in the business to new framework conditions or internal problems or needs, occasionally also potentials. In this case innovation is carried out as a consequence of pressure to adapt or optimize the workflow. The cause of the innovation pressure can be altered environmental regulations, changes in staff, replacement of machines etc. Innovation presents an opportunity to step ahead and the “greening” process is more or less a by-product with positive effects, which, nevertheless, is offering new perspectives and advantages for the enterprise. The reactive pathway, thus, can also be regarded as the “green chance” for further enterprise development.

The respective main steps, leading to green innovation on the reactive pathway are presented in Figure 1.

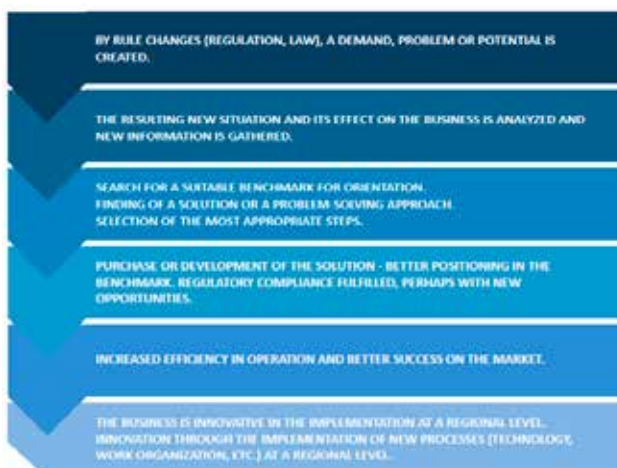


Figure 1: Steps of the reactive innovation pathway

A good illustrative example for the reactive pathway, taking up the “green chance” is the example given by Mushroom d.o.o. in Čelinac, Republika Srpska, Bosnia and Herzegovina: founded in 2002, the SME is involved in purchasing, picking and processing of forest fruits. Business began in the family house and backyard, then expanded through purchase of a former factory. As the business is highly depended on nature’s gifts, the company has to constantly seek and implement innovations to respond to the customers’ needs. The company has a certificate of organic production. It provides employment in the region and has an environmental permit that is periodically renewed in accordance with the Law. Hence, the company responds to the needs of customers for natural organic and healthy food. Business is conceptualized in harmony with the nature and natural environment and production is tailored to the specific needs of customers through a wide range of products (fresh, dry, raw, in dif-

ferent types of packaging). Company does not have any pollutants, the production is ecological, and waste consists of tails of fresh mushrooms that are thrown as regular garbage. Every year company renews and strengthens partnerships and looks for new ways to respond to customers’ needs. The practice presents a strong model of sustainable green entrepreneurship in the BiH region and wider. The business offers positive social impact as SME produces healthy food and contributes to promotion of a healthy lifestyle. Moreover, the business is ecological, environmentally friendly and does not create any pollution, so the environmental impact is also positive. In addition, the economic impact across region is evident in the creation of new employment, that can be considered green jobs as well.

3.2. The active pathway

The active pathway is characterized by an already existing awareness of a problem, need or potential, not only in the own enterprise, but also in the sector of operation. An active pathway is aiming at increasing efficiency in workflow and/or resource management as well as gaining advantages on the market by using the innovation as a promotional instrument. Depending on the accurateness in the progress of the analysis, an enterprise can select either of the two options:

- developing its own approach towards a solution based on own experiences;
- intensive benchmark investigation, finding the right components for carrying out the innovative steps.

The active pathway is not only targeting at increasing efficiency in the workflow, but also at increasing effectivity of the enterprise on the market. Thus, it can be considered as a contribution towards the establishment of a new sectoral benchmark (see Figure 2).



Figure 2: Steps of the active innovation pathway

An illustrative example for the active pathway by greening the business is the example given by Smrekarjeva domačija, Slovenia. Smrekarjeva domačija is an organic tourist farm, which offers a modern interpretation of traditional farm. Set up in 2015, the farm has a new multipurpose center, providing rooms and space for private gatherings and business meetings. Guests are provided with home food from organic farming and other products from this eco-farm. The example presents an innovative approach of combining tourism and farming on a new level (e.g. offering professional infrastructure for business meetings) as well as a contribution to preservation of cultural heritage. The latter incorporates: conservation of family-owned historical farm, offering traditional meals, developing educational programs etc. By growing and nurturing autochthonic animal and plant species the eco-farm also minimalizes impact to natural environment. The farm has also been able to employ three employees, categorized as green jobs.

3.3. The proactive pathway

The proactive pathway can be seen as the most complex one and is mostly carried out by big enterprises, which are having the necessary staff and budget at their disposal. Nevertheless, for example in the fields of the service sector, also small or very small companies can be breaking new ground. A prerequisite for proactive innovation is the knowledge of problems, needs and potentials which are common to a number of branches or sectors, as well as the currently available sector-specific solutions for them. The innovative spark is the detection and the bridging of gaps in the know-how for problem solution or potential activation. The proactive pathway, thus, is targeting at an advanced state of the art and at a new benchmark example (see Figure 3).

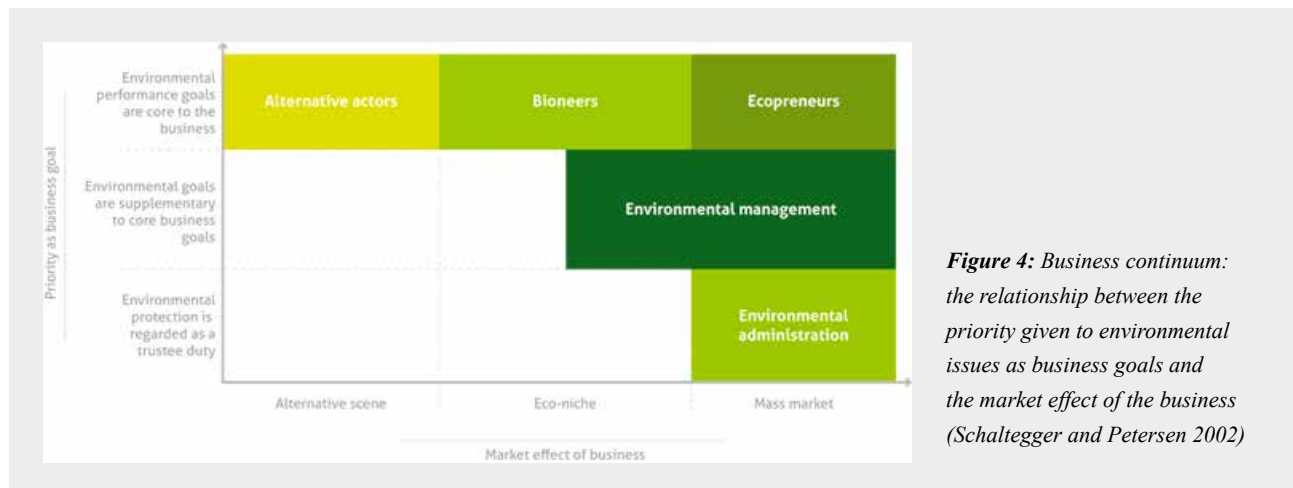
An example of the proactive pathway, moving towards eco-preneurship is the example given by Wolf Nudeln GmbH in Güssing, Austria: the company is a family enterprise, now in 3rd generation. It has its own chicken farm, a production line for various types of noodles and pasta and a production line for bread and pastries. The noodles are sold in the whole region of east Austria, mainly in supermarkets. In 2010 the company established a bio-gas facility, using the complete chicken manure together with agricultural residues, organic waste from the company and silages for energy production. The generated energy (heat and electricity) is used to supply the production lines of the company with the required amount of energy. In the following years the company established the "CO2-neutral" food production also as a successful marketing strategy. In September 2018 a new packaging line was implemented, replacing the conventional plastic packages for the products completely by recyclable special paper packages. The packaging machine is the first of currently four existing machines worldwide in action. Besides the utilization of organic waste and manure for energy self-supply, the packaging line is a new benchmark, not only for food packaging, but also for packaging other products.



Figure 3: Steps of the proactive innovation pathway

4. Business continuum and positioning matrix

The description of phases in the previous chapter contributes to understanding of basic elements of INNO GREEN model, it is important to understand also the process embedded in the implementation of the INNO GREEN model. Thus, the model is additionally based on the so-called positioning matrix for eco-preneurship, as it was developed and published by Schaltegger and Petersen (2002) (see Figure 4).



The combination of the dimensions: “environmental priority as business goal” and “market effect of business” provides the business positions shown in Figure 4 and allows us to distinguish eco-preneurship from other forms of corporate environmental activities. Along the vertical axis there are:

- **Environmental administration** – organisations in which environmental issues are of low priority consider environmental protection as a trustee duty and concentrate on the implementation of given environmental regulations and standards.
- **Environmental management** – environmental issues are considered as being a supplementary aspect of business. Besides cost reduction and the improvement of competitiveness, eco-efficiency, image campaigns and the differentiation of products and services are major goals of this position.
- **Eco-preneurs, green pioneers (Bioneers), alternative actors** – companies and entrepreneurs located on the top line of the Figure 4 treat environmental issues as central to their core business because their economic success is strongly linked to their environmental performance.

Along the horizontal axis of Figure 4 the market effect is distinguished by alternative scenes, eco-niches and mass markets:

- **Alternative actors** – suppliers characterised by alternative economic modes (e.g. non-monetary swapping) act among themselves in an alternative scene or eco-scene. Turnover is intended to secure personal living style. Market goals are subordinated.
- **Bioneers** – eco-niches mirror medium-sized market segments and are occupied by so called bioneers. The expression bioneer is a combination of ‘bio’ and ‘pioneer’ and attempts to express the central role of research and development and the attempt to find customers with high preferences for their inventions and innovations. Bioneers focus on attractive market niches with their customer-focused eco-products.
- In comparison, **eco-preneurs** and their companies aim to gain a large and growing market share and to achieve high or increasing turnover in mass markets.

Characteristics	Enterprise type		
	Member of alternative scene	Supplier of niche market	Market Leader
Market served	Alternative scene	Eco-niche	Mass market
Supplier	Alternative actor	Bioneer	Ecopreneur
Customer group	Peers	A group making particular demands or with particular interests	Largest range and number possible
Strategic focus	Identification with exchange partners	Niche market	Strategic focus

Figure 5: Overview on the market effects of environmentally oriented enterprises (EEE 2018, according to Schaltegger and Petersen 2001)

The observed innovation-related behaviours of entrepreneurs, as described in the three main innovation-pathways (reactive, active and proactive) are fitting well with Schaltegger’s and Petersen’s “business continuum”, the resulting new matrix can be depicted as shown in Figure 6 below.

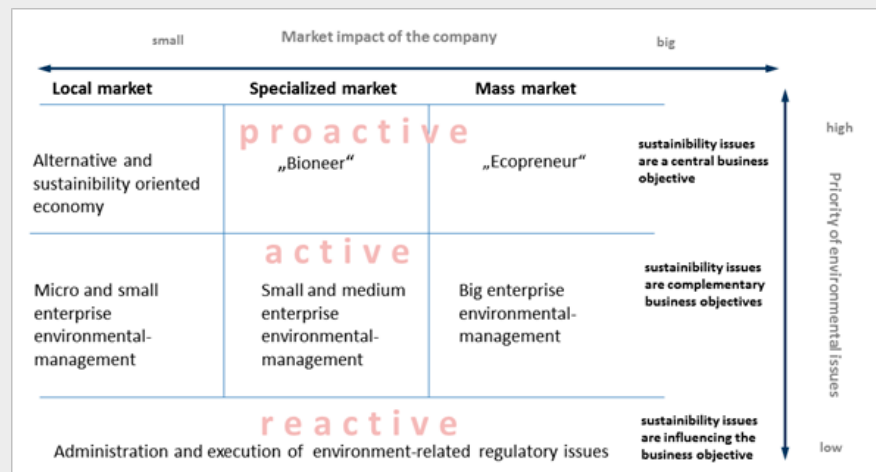


Figure 6: Differentiation of the business continuum according to Schaltegger and Petersen by superimposing commitment activity pathways

4.1. Matrix modification for the INNo GREEN model

Since the INNO GREEN project is focussing on SME’s and not on big market players the matrix was modified, in order to comply with the requirements for a SME-landscape of enterprises. Three different descriptions can be provided for following an SME’s progress towards greening its business:

- The term “eco-preneur” is used for all enterprises,

which are having sustainability issues as a central business objective. Eco-preneurs are choosing a proactive pathway in the implementation of green issues in business. This kind of enterprises is focusing on promising new developments on the regular market or the detection of non-used potentials for supplying the markets with services or products, which had not been available in this form before (pull-factors).

- At the next level, where sustainability issues can be seen as important complementary issues in business objectives, enterprises are choosing the active

pathway for carrying out innovation. This level can be described as the “greening business”. Enterprises are still relying on established processes, but are introducing sustainable processes into their operation to gain an innovative momentum for more success on the markets.

- The less intense level of green innovation can be called “green chance”. Sustainable issues are influencing the business objectives, but can be seen more as a consequence of framework conditions (push-factors), which can lead to (also remarkably) more sustainability in the whole operational field of the enterprise.

While eco-preneurs are more active in developing their activities according to potentials and pull-factors of the economy, the “green chance” enterprises are more reacting to push-factors. The “greening business” enterprises can be seen as the group in between, either reacting to push-factors in an innovative way or detecting and unlocking potentials according to pull-factors.

Figure 7 is depicting the adapted form of the business continuum matrix which now complies better with the objectives of the INNO GREEN project. As an example, various business branches have been inserted according to the probable position at which they currently could be found. The matrix is furthermore not a static picture, but more a positioning framework in which the enterprises can move in each direction, according to their innovation efforts.

4.2. Use of the matrix

The matrix is a map of the economic landscape where an enterprise is currently positioned and the possible direction, where the enterprise can move to, when carrying out innovation efforts, in order to unlock market potentials. It provides also pathways for this movement, according to the starting point of the innovation effort and the possible target points in the economy-landscape, which can be obtained, if certain steps are taken.

The matrix framework is not only focusing on the economic impact of innovative activities but is strongly bound to the sustainability issues, as represented by the UN sustainable development goals, which have also been respected by the European Union. Designing it in this manner, the INNO GREEN partnership aspires to provide a useful tool for other innovation agencies and wider professional community. Nevertheless, to provide a reader with more practical information on the possibilities of its implementation, in the following chapters we present the characteristics of our regions and the lessons we have learned during the peer learning process, provided to us by the Horizon 2020 and Peer Learning for Innovation Agencies Action.

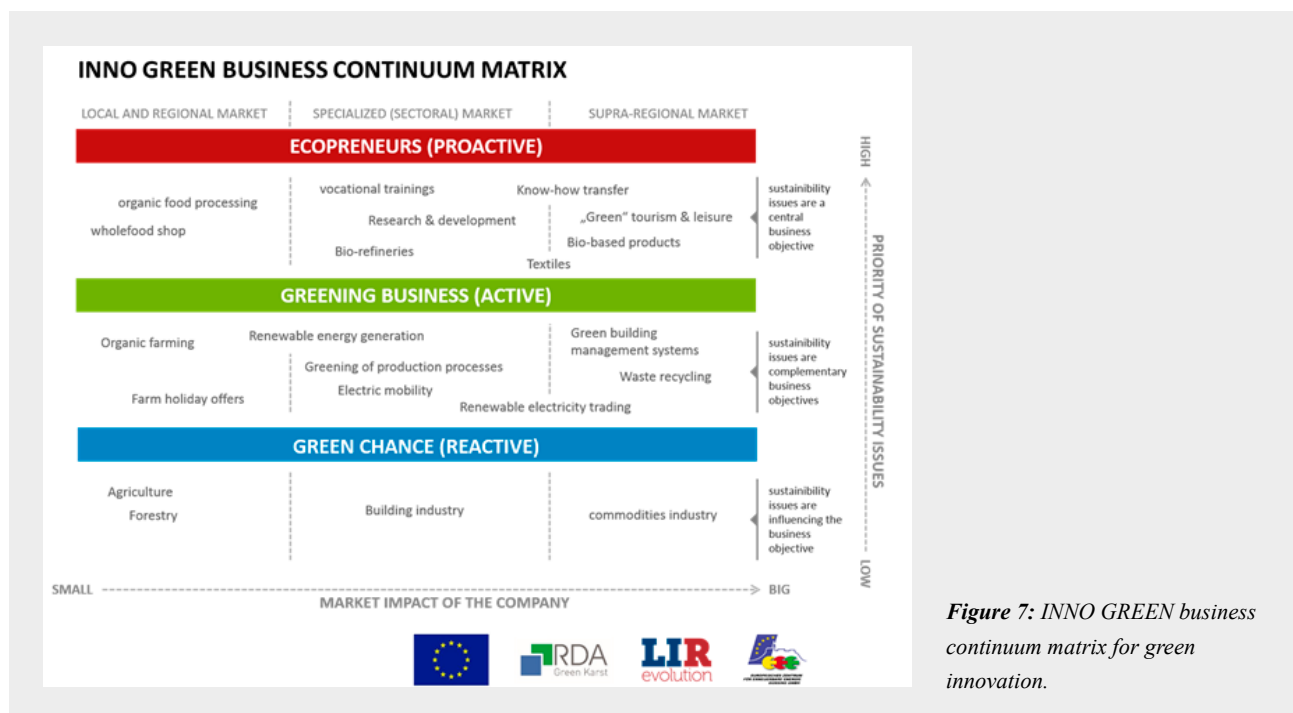


Figure 7: INNO GREEN business continuum matrix for green innovation.

5. Regional experiences in implementing the INNO GREEN model

The INNO GREEN model is based on the participating partners' observation of various practices in encouraging innovation for development of green jobs, discussions with various stakeholders, support organizations, business experts, entrepreneurs, and our own experiences in supporting green jobs. We have described some of the most interesting practices we encountered during this exploration and we have engaged in a live debate with several stakeholders, also during our virtual conference. Thus, this Design Options Paper is aimed at offering the knowledge we have acquired to other innovation agencies that might be interested in this subject, thereby encouraging them to adopt this model.

In this chapter, we aspire to encourage the reader to consider, which of the presented model's characteristics pertains to one's innovation agencies' regional context. In doing so, we prepared a set of key elements that can be of assistance to the interested readers, but before that we presented our regions in order to give you a better insight in our starting positions. Based on this, we have added our experiences and examples throughout the explanation of key elements to help you better understand the learning process we have gone through.

5.1. The regions

5.1.1. BANJA LUKA REGION, REPUBLIKA SRPSKA, BOSNIA AND HERZEGOVINA

The INNO GREEN lead partner, LIR Evolution, is based in Banja Luka region, part of North-Western Republika Srpska and a well-developed region in Bosnia and Herzegovina. This region offers an interesting case for empowering innovation capacities of local SMEs in green entrepreneurship, particularly in forestry, agriculture and tourism sectors. Banja Luka is a recognizable centre in regional terms, but also a modern European city. It is the second largest city in Bosnia and Herzegovina and a home of the University of Banja Luka, as well as numerous state and entity institutions. The Republika Srpska Government and the National Assembly are based in Banja Luka. The Bosnia and Herzegovina State Agencies based in the City include the Indirect Taxation Authority, the Deposit Insurance Agency, as well as a branch of the Central Bank of Bosnia and Herzegovina.

According to the 2013 census, Banja Luka has 185,053 inhabitants. It covers a surface of about 1.232 km². Due to a large number of green areas, parks and avenues, Banja Luka is called „the city of greenery“, but also it is known as “the city of youth, sport, and culture“. The city is located in the valley, at an altitude of 163 m, at the crossing between Dinaric Mountains in the south and Pannonia plains in the north. It is characterized by the moderate continental climate.

The area surrounding Banja Luka is mostly woodland, although there are mountains a little further away from the

city. The natural beauties of the surrounding area offer possibilities for development of green tourism. The city and surrounding area host a number of popular tourist attractions such as thermal springs, spas, Banj Hill, a waterfall of the Vrbas river near Krupa, rafting on the Vrbas river, fishing, rock climbing and hiking along the Vrbas canyon. Apart from green tourism, in wider area there are also possibilities for other types of green business development such as forestry, waste recycling, organic agriculture (beekeeping, mushroom, medical and aromatic plants collecting and cultivating), production of biomass from animal and agricultural waste. Out of the total number of business entities in Republika Srpska in 2016, about 26% or 7.998 operates in the Municipality of Banja Luka. The enterprises are mainly export oriented, especially those operating in wood and metal processing sectors.

LIR Evolution team implemented the pilot action consisting of the workshop and round table dedicated to green entrepreneurship development during the regional event “Employment day” in the Municipality of Laktaši. The aim of the pilot project was to strengthen the stakeholders' awareness and motivate discussion about the importance of green entrepreneurship, its perspectives, opportunities and barriers to its development in our region. During the discussion, it became clear that organizations in Bosnia and Herzegovina (SMEs, public companies, business support organizations and employment agencies) are not familiar with the concept of green entrepreneurship and have rather vague idea about it. Moreover, regional organizations are not showing strong interest in development of green entrepreneurship. When asked about barriers to development of green entrepreneurship, the participants suggested a number of

reasons including cultural aspects (fear of risk), low level of awareness, lack of subsidies, unfavourable loans, high taxes, and lack of administrative support. The current situation in BiH related to green entrepreneurship development is characterized by the lack of initiatives (e.g. investments and promotional activities) that would support the development of green entrepreneurship at a larger scale. Without changes in economic conditions (e.g. taxes, subsidies, regulatory framework), it is unlikely that green innovations in business will replace already established traditional technologies to a significant degree. On the other hand, Bosnia and Herzegovina has great potential for development of innovative ideas in green entrepreneurship. Its beautiful nature, large forests, and clean water could be used wisely for the development of green entrepreneurship.

In the framework of the pilot action implementation, we attempted to test the INNO GREEN model approach that is characteristic for our region. Our analysis showed that existing entrepreneurs in BiH are typically following the reactive path of innovation where "green innovation" is more or less a by-product with positive effects for environment and society. Occasionally, entrepreneurs are even not aware of greening potential of their businesses. Thus, in Bosnia and Herzegovina it is important to contribute to raise of general awareness about potentials of green entrepreneurship and to implement concrete instruments to support SMEs (e.g. presentation of EU funds for green entrepreneurship development through use of available project applications and work of project management experts, conducting trainings and workshops on green entrepreneurship, assistance in development of green business model and business plan, exchange of knowledge and best practices with entrepreneurs from EU countries, application of model of cooperative companies that would allow guaranteed sources of income for small producers, implementation of "green technology" demonstration projects). Through analysis of regional best practices, LIR team learned that networking and strong connections with local communities are of crucial importance for success in green entrepreneurship.

5.1.2. THE PRIMORSKO-NOTRANJSKA REGION, SLOVENIA

The Primorsko-notranjska (Littoral-Inner Carniola) statistical region (NUTS 3 level), home of RDA Green Karst, comprises the municipalities of Bloke, Cerknica, Ilirska Bistrica, Loška dolina, Pivka and Postojna, and has a total surface area of 1,456 km² (7.2 % of the surface area of Slovenia).

It has 52,531 inhabitants. In terms of surface area, it is one of the smaller regions in Slovenia. It is also the most sparsely populated region in Slovenia – it presents ap-

proximately one fifth of the most densely populated region – the Central Slovenia (Osrednjeslovenska) statistical region. Nevertheless, the high population growth rate, higher rate of births and higher immigration rate have been contributing to the increase in the population density in the last few years.

In terms of economy, the region is one of the less developed in the country, as it contributes only 1.9 % to the GDP of Slovenia. In 2018, there were 3,916 registered companies, which shows an increase in comparison to the past period. Micro companies present a large majority of regional companies (92.5 %), followed by small companies (4.9 %), medium-sized companies (1.2 %) and large companies (1.2 %). A large share of the companies in the secondary and tertiary sectors is represented by craft businesses (services, especially woodworking and metalworking). The regional economy is viable and export-oriented, and the population is professionally trained.

There are 16 support organizations in the Primorsko-notranjska region, offering different kinds of services, some regulated on a national level (such as the Chamber of Commerce) and some regionally located (such as Local accelerator center established by the Municipality of Pivka). There are two secondary schools, one higher vocational college and no additional research organizations in the area, which is one of the region's weaknesses.

Although the rate of work activity in the region is the highest in the country, a large number of the inhabitants of the Primorsko-notranjska region commute to work to the neighbouring regions. Thus, the economic strength of the regional population is relatively high. The region is recognized for its preserved natural resources, vast wooded surroundings, unique Karstic terrain, but also by its rich cultural heritage and great tradition in crafts and industry (especially wood-processing and tool-making industry). All these elements are in the centre of the regional developmental potentials. Combining good accessibility inside and outside the region and the close proximity of several urban centres (Ljubljana, Koper, Nova Gorica, Rijeka and Trieste are all within approx. 45 minutes distance by car), the Primorsko-notranjska region offers numerous possibilities for conducting business as well as for quality living.

A distinctive characteristic of the Primorsko-notranjska region is its developmental specialization in supporting sustainable development in all aspects of working and living and simultaneously its strategic orientation to building and sustaining an eco-region. One of the initiatives that support this kind of development is also the establishment of regional brand Green Karst, which is currently predominately utilized by the Regional Destination Organization for enhancement of tourism in region, but serves also as an element of encouraging "green" in

regional development. Encouragement of innovation for development of green jobs in region relies greatly on these elements. Nevertheless, similarly to situation in BiH, in Primorsko-notranjska region too we have established a level of reactive phase within the INNO GREEN model, which we further explored in our pilot project.

Based on discussions and realizations from the INNO GREEN project, the partnership has come to understanding that the first major issue, related to supporting innovation for development of green jobs is the misunderstanding of the potentials brought to SMEs by the green economy. For this reason, the RDA Green Karst decided to implement a workshop providing SMEs and participants from supporting organizations for entrepreneurship with understanding of green economy concept and opportunities it offers to SMEs.

We organized a workshop on the subject, inviting SMEs who might be interested. The workshop was organized on 5th September 2018. We invited a lecturer from Slovenian Government Office for Development and European Cohesion Policy, Ms. Marjana Dermelj, who has an in-depth knowledge of circular economy concept, best practices as well as the policy decision-making on this subject. 12 participants attended the workshop, including participants from RDA Green Karst local municipality and media. The workshop lasted three hours, Ms. Dermelj presented the context of green economy as well as its principles. The rest of the workshop was devoted to discussion on actual cases, including cases of the attending SMEs and other cases on regional level.

With the workshop we addressed the problem of SMEs not knowing exactly what does green job, green economy and other related concepts mean and therefore do not recognize their potentials either in market or in their own processes. This is the first stage of a so-called proactive phase in the INNO GREEN model that characterizes the majority of SMEs in Slovenian regions, but – according to the INNO GREEN partnership’s realizations – also in other regions. By providing more information, this phase can be addressed adequately.

Based on the workshop we have recognized the suitability of the approach, but not of the method selected. This issue seems to be a rather abstract one for an average SME to absorb, which is why a more individual approach is recommended (for example, smaller groups, individual discussions or face-to-face consulting). However, using cases as an example to show the possibilities of development of business ideas proved as an effective method to be used in the future as well.

Some particular issues emerged during the workshop, the most evident connected to the registration of busi-

ness entities. In Slovenia at least there is a strict division between SMEs and NGOs, which influences the existing financial support as well. It is to be noted that many green jobs are created based on individual’s value of natural environment and therefore his/her green perspective. Being “environmentalists” in their core, these individuals often operate within NGOs rather than within SMEs, which makes it more difficult to gain financial support and develop financially stable activities in the future as well. This is something that needs to be acknowledged on policy-level as well. We have continued this discussion also during the Virtual Conference, organized in September 2018 in Banja Luka and have confirmed of the importance of awareness raising activities.



5.1.3. THE “ECOENERGYLAND”, AUSTRIA

The “ÖkoEnergieLand” (EcoEnergyLand) is a merger of 17 municipalities in the form of an association in the district of Güssing. The district of Güssing is situated in the NUTS 3 region “Südburgenland and can be, according to EUROSTAT classified as LAU (local administrative unit) 1 region. The EcoEnergyLand itself is thus classified as a LAU 2 region with a total number of ~ 16.000 inhabitants. The total area of these municipalities is 378 km².

The region is weak in infrastructure, the district of Güssing has no railway connection and no direct connection to a motorway network. The region is thus to be described as peripherally located. The poor infrastructure is also a major cause of the region’s economic weakness. Although the region can score points with a high quality of life (untouched nature, quiet location, low traffic, gentle climate, keyword soft tourism), but lacking a relevant number of large leading companies and attractive SMEs.

This, in turn, is the cause of a high proportion of commuters and ongoing migration, leading to further weakening of the region. The current contribution of the region to the national GDP is only 0.7%.

Almost half of this area is forest, which is the most important resource in this region, followed by agricultural land (maize, cereals, oilseed rape, sunflowers). The landscape is hilly, the settlements lie mainly along the two main waters Strem and Pinka. The region has about 2,000 hours of sunshine.

The ÖkoEnergieLand has been aiming for energy autonomy for years. It uses regionally available resources from which heat and electricity are produced.

Independence in energy supply, primarily through the use of available biomass and the sun, creates additional economic opportunities for the population and businesses, increases added value, opens up new income opportunities and secures regional jobs. At the same time, all actors endeavor to strengthen regional economic cycles in general and to promote greening in all sectors of the economy.

Thus, the eco-energy state has an international character that can also be used as a basis for increased eco-energy tourism. Because the district of Güssing/Southern Burgenland is a disadvantaged region, structures and infrastructures must be rapidly set up in order to exploit and further extend the lead in the field of "eco-energy".

The Austrian partner organized a workshop in Güssing, in August 2018, in collaboration with the Austrian chamber of commerce (WKO), aiming at exploring pathways for green innovation in SMEs. The local WKO contact point is responsible for services and counselling of the members of the Austrian chamber of commerce. A membership in the WKO is obligatory for each entrepreneur or company (except agriculture) in Austria. Thus, the regional contact point is acting as an information hub for all enterprises (about 1600) in the region.

The pilot started off with a presentation of the INNO GREEN project and the developed INNO GREEN model, including the three green innovation pathways detected in the model development. The following discussion was firstly focused on the definition of green entrepreneurship and its applicability in various branches of the regional SMEs. The participants agreed that a theoretical approach would not be very helpful in promoting green entrepreneurship within the region, so the discussion turned towards finding examples of successful green innovation activities of already established or recently founded enterprises. Since the staff of the contact point is very well informed about the activities of the member companies,

a series of best practices was found and then analysed by means of the green innovation pathways as sketched out in the course of the INNO GREEN project. It turned out, that there are a few companies following a very proactive pathway and the biggest part of companies was mainly following the reactive pathway, capturing some green chances in the course of adaptations. The number of companies involved in an active pathway was estimated as rather small, also due to the lack of information on greening their business by applying measures for achieving one of the established green labels for sustainable entrepreneurship, which are available in Austria and which can be used as a marketing tool for the company. The knowledge on the varieties of green labels for enterprises and their advantages, for example by applying the labels and thus becoming a member of a promotion network which can lead to new or better positions on the market, is still low among the number of SMEs in the region, although many green activities are taking place mainly in the renewable energy sector.

Another topic appearing in the discussion was the fact, that many companies would be willing to focus on green innovation, but do not have the capital to do so. The current system of respective incentives are mainly bound to consulting activities rather than to incentives regarding the implementation of measures and investment. Although such incentives are existing, they are strongly focusing on energy relevant activities.

Green innovation, within this structural context, seems to be more an issue for well-established and also financially potent or newly founded companies and less for the big number of very small (< 5 employees) enterprises who representing 95% of the companies in the region.

The main issue was to test if the developed model, including the pathways are applicable to enhance green innovation within the region. The main result was, that the model provides a tool for analyzing the strategies pursued by the SMEs in the region and to find gaps or barriers which are influencing the rate of green innovative activities



5.2. What did we learn?

When an innovation agency is at the beginning of designing its own support systems, there are a lot of references one can turn to (books, web pages, accumulated documents, etc.). However, in our experience, you can be far more efficient if you seek advice from your professional community, namely other innovation agencies and, particularly, people who are directly involved in working with similar matters. Getting their personal insight presents an added value to the usual, more impersonal methods of communication and gaining knowledge.

As already emphasized, we are presenting the reader with practices that we have observed during our learning process and consider indispensable in the process of supporting innovative entrepreneurship. However, once again we urge you to pay attention to the manner of adopting these practices. For this reason, we have devised our gained knowledge in a few simple considerations rather than provide you with an actual tool (in addition to INNO GREEN model). They are meant to guide you through the self-assessment process and to provide you with the foundations for further activities you might plan based on these considerations. Nevertheless, we are all available to engage in further discussions with any interested innovation agency, which either has its own suggestions regarding the INNO GREEN model or would like to engage in a discussion on their own implementation of the model.

5.2.1. CONSIDERATION NO. 1: ENHANCEMENT OF GREEN JOBS MEANS A LOT OF SIMULTANEOUS PROCESSES

When dealing with supporting the green jobs development, it is important to recognize the complexity of this issue. There are several issues to be aware of, which we will explore in depth in the following considerations we are offering you. However, here is a brief overview of some of the most important areas to consider:

- An innovation agency needs to have the knowledge on legislation in different areas of expertise, depending on the sector of entrepreneurs they are dealing with.
- Dealing with green entrepreneurs involves different processes related to increase of their competitiveness (for example, organizational restructuring, offering new or advanced projects and services, marketing etc.), which are often going on simultaneously. Due to lack of consistent agreement on the nature of "green", it is often the case that an innovation agency will have to do a lot of additional research in order to assist the entrepreneurs in adequate way.

- Another area that should not be overseen is the question of future characteristics of businesses, which involves also the knowledge on trends in individual sectors and in green economy in general. For average innovation agency, this indicates the importance of suitable skilled consultants, who are constantly following current situation and trends in these areas.
- The support of green entrepreneurs is differentiated from the "regular" entrepreneurs in the sense that it is overcoming the economic aspect of their activity. Green entrepreneurship is about ensuring the sustainability, which puts emphasis on the linkage between the three dimensions: economic, environmental and social. This should be reflected in supporting activities as well.

From the innovation agency's management point of view these considerations might present an opportunity to re-evaluate their own organizational processes and human resources structure. For example, some INNO GREEN partners find it more effective to provide different expertise within their organizations by recruiting specialists with specific knowledge in different areas of expertise (this may include employment as well as outsourcing), thus allowing for comprehensive approach for clients within the organizations. On the other hand, an innovation agency might also organize their activity by specializing in specific knowledge, depending on the area of green entrepreneurship it is addressing. Regardless of the selected choice, it is important to acknowledge the need for adaptability of innovation organizations also in issues that pertain to their organizational structure.

5.2.2. CONSIDERATION NO. 2: THE IMPORTANCE OF KNOWLEDGE ON LEGISLATION ON COMMUNITY LEVEL

Whereas it might be a seemingly logical consideration to know about the legislation in one's area, it is the experience of INNO GREEN partners that entrepreneurs are not always dealing with activities in one specific sector and that several areas of legislation usually need to be addressed. An example from Slovenian "Smrekarjeva domačija" shows the latter: while developing an eco-tourist services detailed knowledge on the green economy and entrepreneurship was needed, but also additional requirements of eco-agriculture, green or sustainability certification were necessary to address.

Furthermore, the partners have encountered in several cases a lack of awareness of SMEs on the applicable regulations and compliance standards, coupled with limitations of access to suitable medium/long-term financing. It is important to have a clear overview of SMEs

that innovation agency is dealing with and recognize this kind of bottlenecks. This specifically pertains to regulations and compliance standards that are supported by financing institutions and that usually exerts even stricter conditions of co-financing. Agencies might respond with different means (individual consultancy, training, preparation of business plans etc.), depending on their services and level of skills. Nevertheless, it is necessary to present SMEs with a clear, systematic and above all comprehensive image of what is going to be expected from them in the process of gaining financing and complying with regulations and standards beforehand.

It is the experience of Slovenian and Austrian partners that the existing legislation and regulations are too complicated and usually connected to a large amount of bureaucracy, as it is the case in most EU-related legislation and regulation. However, in regions where legislation is still being developed, this is an opportunity to avoid this situation and implement measures that will relate more to the needs of average SME. This pertains also to the establishment of new instruments, on regional and local level (such as for example, the establishment of local fund to support green innovation).

5.2.3. CONSIDERATION NO. 3: FORESEEING THE FUTURE CHARACTERISTICS OF BUSINESS ENVIRONMENT

In addition to knowledge on legislation and normative regulation, it is crucial to observe the future characteristics of business environment as well. This above all includes the assessment of current situation among entrepreneurs an innovation agency is dealing with and to predict future trends in geographical as well as sectoral area. For example, in Austria there is already a relatively high level of awareness within SMEs on the subject of energy efficiency and there are several good examples of companies, who have successfully adapted to market requirements and trends. However, there are still entrepreneurs who lack awareness and activity on this matter. For example, in construction sector, entrepreneurs are not aware of the EU trend and anticipated regulation that from 2020 on each newly-constructed building will be obliged to near zero-energy requirements. In this case, as in many others, it is necessary to: (1) gather information on the current knowledge of SMEs and (2) to plan supporting activities as well. Based on INNO GREEN partners' experiences, the best approach is to select few sectors that an innovation agency will address and where it exhibits the most competencies.

In INNO GREEN partners' experiences there are several excellent tools to be utilized for this purpose, for example [STOA](#) (Science and Technology Options Assessment), provided by EU Parliament.

5.2.4. CONSIDERATION NO. 4: RAISING AWARENESS IS CRUCIAL FOR SUCCESS

Raising awareness is of great importance, not only for entrepreneurs, but also for general public and specifically, decision-makers. While raising awareness might be seen as a usual activity to start with, in this case it is not just for the purpose of general informing. The INNO GREEN partners have encountered several times the discussion on the fact that people do not really realize the potentials of green economy as well as the consequences of ignoring it. Thus, the raising awareness activities are not aimed just to directing attention to the importance of the environmental concern, but also to the benefits that SMEs and other stakeholders are provided with, if supporting the notion of sustainable development and the consequences of them, not being in line with the latter.

Surprisingly, even on level of decision-makers there is often the case that they are aware of the issue, but do not exhibit a relevant level of knowledge on the matter. For these reasons, more activities should be directed to explanation of general notions such as the aim of sustainable development, the role of green economy and innovation in this relation and other similar considerations, but also to information on the already available positive support tools such as the existing sustainable labels, "green" certification, financing instruments, "green" public procurements as well as on the needs of SMEs and other involved stakeholders. Moreover, discussions should be stimulated in order to advance the understanding and not just sharing of information amongst decision-makers specifically, since they are in position to offer new encouragements as well, on local, regional, national and even international level.

As an example we provide you with an Austrian case of "[Klima- und Energie- Modellregionen](#)", which has been developed as a tool for raising awareness amongst stakeholders such as policy makers, but also economic entities and population. In the climate and energy model regions, cooperation between municipalities is being stepped up in order to promote the optimal use of natural resources, the exploitation of energy saving potentials and sustainable economic development in the regions. They successfully demonstrate that active climate protection and a contribution to the energy transition are possible at the regional level. A key success factor here is that the regions, by being close to decision-makers and citizens, can drive forward process and structural change and make a variety of efforts in raising awareness by the implementation of flagship initiatives on educational as well as infrastructural level.

5.2.5. CONSIDERATION NO. 5: BUILD ON ENTREPRENEURS' MOTIVATION FOR GREEN JOBS DEVELOPMENT

The entrepreneurs' motivation is the most questionable element of encouraging innovation for the development of green jobs, which is why the INNO GREEN partnership has devoted considerable attention to this question. The list we are providing readers with is not exhausted, but it gives indication on some of the main considerations pertaining to this issue:

- Addressing the entrepreneur's interest in green: for consultant who is dealing with enhancement of green entrepreneurship, it is important to know, if the motivating element for entrepreneurial activity is either (a) a moral question of preserving environment or/and (b) economic benefits provided to entrepreneur by going green.
- Recognizing the already existing "green" practices of entrepreneurs: in many cases, entrepreneurs already exhibit green practices, but are not aware that they can be utilized as an element of entrepreneurs' competitive advantage. It has been proven as a good practice to assist the SMEs to establish connection among their current activity and the economic benefits they bring out. The latter is also always a solid argument when approaching SMEs: presentation of economic benefits of going green (profits, costs savings etc.) is one of the most acknowledged reasoning when stimulating green entrepreneurship. An example for entrepreneur's motivation for green jobs development is the Wolf noodle factory in Güssing, Austria. Since the company is also having its own poultry farm for self-supply of eggs for the noodle production, they decided to use the chicken manure together with organic waste and additional silage from its own farming for energy self-supply with heat and electricity. The biogas plant went into operation in 2010, together with the new marketing line of "CO2 neutral produced pasta" and pastry. Thus, the existing jobs were turned into green, and the company is successfully growing, creating further green jobs. In September 2018 the new packaging machine for recyclable packages took up operation, turning another production line and the connected jobs into green. Hence, the company is melding responsibility for the environment with general entrepreneurial activity and is additionally raising awareness about sustainability on the customer side.

Other issues must be addressed as well, related to motivating eco-entrepreneurs:

- Active engagement of entrepreneurs: when explaining "the green", it is relevant to involve interactive methods that push entrepreneurs to consider,

what they can do immediately in order to move towards this mode of acting and simultaneously, if there is a possibility to adapt their current strategy of development.

- The importance of strategic approach: there is a need for innovation agencies to offer support with building a green strategy for entrepreneurs, with an emphasis on the economic and environmental benefits as well as showing them the possibility of funding. EU and other funds are available for green entrepreneurship development in various regions. For example, the Western Balkans Enterprise Development and Innovation Facility (WB EDIF), funded by the EU, aims at improving access to finance for SMEs in the Western Balkans. WB EDIF also aims to create a more favourable financing environment for SMEs and a sustainable equity market on the long-term. The Challenge to Change C2C, is the program established by SIDA and the Embassy of Sweden dedicated to co-financing innovative business ideas, products or services which may lead to increased employment, increased competitiveness and sustainable socio-economic development in BiH. The Skills for Jobs Programme is funded by the Swiss Agency for Development and Cooperation (SDC) and dedicated to capacity building and strengthening of collaboration between educational institutions and employers in order to increase employability of labour force and specifically youth in BiH. Establishment and promotion of mentoring services for SMEs in the countries of the Western Balkans is a project funded by the Japanese International Cooperation Agency (JICA) with the goal to establish continuous mentoring support for local SMEs. The mentor identifies key problem in the enterprise, and then offers support in finding solution which would improve the SME's development. All of these programs could be used as a support for development of green enterprises in region of Western Balkan.
- Analysing the unsuccessful stories: a lot can be learned from unsuccessful cases as well, which is why it is important to monitor both, best and worst practices within green entrepreneurship, following up on the elements of support to be avoided. This precisely is also the added benefit of peer learning and experiences exchange: different activities have different influences in different regions, which is an opportunity for gaining a wide range of knowledge of possible consequences of individual approaches.

A final consideration related to motivating green entrepreneurship is the question of innovation agencies' activities within their regional innovation eco-system. It is important to take active part in co-creation of the support

environment. The INNO GREEN partnership suggests a proactive approach in doing so and engagement in activities such as sharing information on different existing activities, services, funds and news, attract the support of local decision-makers, municipalities and others. Also, the collaboration between support organizations is one of the least addressed issues in developing regional innovation eco-system, while at the same time the most important. In discussion with stakeholders this was especially emphasized: knowing people in the support environment, collaborating with joint activities influences the impact the combined support services have in the area.

5.2.6. CONSIDERATION NO. 6: ENHANCEMENT OF SKILLS

In order to improve the process of service provisions for encouragement of innovation for development of green jobs the innovation agencies must provide a suitable level of specialized knowledge of consultancies. This pertains to (1) expert skills in specific sectors, which usually includes some kind of technical knowledge; (2) information on available technologies and compatibility, (3) advocacy competences, that are necessary for awareness raising as well as for co-creating support instruments and least, but not last (4) networking and collaboration, which contributes to co-creation of regional innovation ecosystem as well.

Further, there is a lack of in-house capacities of SMEs noted on the level of all participating partners' regions. An innovation agency should provide training programs, technical assistance, coaching and consulting to contribute to diminishing this noted lack, but also encourage SMEs to utilize outsourced expertise in order to contribute to the quality of provided solutions, services and products.

A particular area of SMEs skills development is also a process of recruiting and introducing skilled workforce with specific new knowledge in the companies to which innovation agencies can assist. In addition, on regional level there are activities that might be utilized by the innovation agencies and contribute to the availability of skilled workforce to SMEs (employment matchmaking, promotion of specific vocations, collaboration in the development of new vocational and training programs, scholarship schemes etc.).

5.2.7. CONSIDERATION NO. 7: THE IMPORTANCE OF CREATING INSTRUMENTS FOR SUPPORTING THE DEVELOPMENT OF GREEN JOBS

There are several instruments already available on national as well as EU levels to support the encouragement of

innovation for development of green jobs, although on the level of entrepreneurs we have detected a very low level of awareness from their side on the existing financial and other manners of support in this area. For these reasons, the activity of awareness raising must include also information on the possibilities that entrepreneurs can utilize, but this of course presupposes also a thorough knowledge of the existing services and instruments at innovation agencies too. This debate is closely connected to the debate within the consideration No. 6.

During its explorations and particularly during discussions with stakeholders, the INNO GREEN partnership has established that there are plenty of instruments who have an indirect impact to encouraging green jobs. For example, through the Scholarship Scheme in Primorsko-notranjska region, Slovenia is offering potentials to influence the characteristics of companies' human resources, while the Primorsko-notranjska Guarantee Scheme, established within the RDA Green Karst, Ltd. incorporates criteria for selection of supported projects, products or services that are embedding also the "green component", thus influencing the "greening" of business who utilize this kind of support. For more information on the said instruments see: <http://www.rra-zk.si/en/projekti/projekti-v-izvajanju/regijska-stipendijska-shema> and <http://www.rra-zk.si/en/projekti/projekti-v-izvajanju/regijska-garancijska-shema-primorsko-notranjske-regije>

It is strongly suggested that an innovation agency performs a thorough research on the existing instruments, questioning what is its contribution to greening businesses. While instruments are usually singularly focused, their structure, used criteria, possibilities of promotion often provide opportunities for strengthening the support to development green jobs.

5.2.8. CONSIDERATION NO. 8: WORK ON LIMITATIONS

Finally, while there are many areas that can be tackled by systematically and goal-oriented approach, it needs to be recognized that business is a dynamic and complex area of interest, which does not always (or maybe never) follow rules very closely. For this reason innovation agencies should recognize also the limitations they are dealing with, either pertaining to the national or regional systems that innovation agency cannot directly influence or relating to its own characteristics. This could for example include the system of registering companies, lack of specialized knowledge of consultancies or the need for continuity of financial support organizations that are usually publicly funded. Regardless of the identified limitation, it is important to find suitable approach to addressing these, even if this requires setting up a new business model for supporting innovation agency as well.

6. On partners

6.1. LIR Evolution

The organization is established by experienced members, who have long-term extensive experience in identification, design and implementation of integrated and development projects funded by European Union and other financiers. LIR's references include 48 projects on sustainable economic development, waste management, environmental protection, energy and rural development. LIR Evolution has 5 full-time employees and pool of over 20 associate experts. LIR's consultants have long-term experience in energy efficiency, agriculture, waste management and environmental protection, economic and business development. The knowledge they have in above fields corresponds to the European Union standards. LIR Evolution has organised numerous international, national and local conferences, meetings, trainings and seminars, and has established a strong relationship with local stakeholders, SMEs and citizens. LIR is registered as an organization for innovative technology development and scientific organization in the database of legal entities enrolled in research and innovation at the Republika Spaska Ministry of Science and Technology.

Within its projects most notably related to green growth and promotion of green jobs (funded by EU, as well as other financiers), LIR Evolution conducted wide spectrum of activities and implemented a number of pilot actions such as: energy-efficient reconstruction of Srbac Cultural Centre building, installation of energy efficient thermal insulation and windows, installation of a low-enthalpy geothermal system (heating/cooling system that gathers heat from three vertical probes, each 100 meters deep); realization of small solar photovoltaic power plant (10kW) on the roof of Electrotechnic high school (Banjaluka); realization of mini solar photovoltaic power plant (5kW) at the Centre of Culture (Gradiska); Energy Demonstration Info Point established in the Grammar school Banjaluka. LIR designed and delivered a number of workshops and trainings aiming to educate stakeholders in the field of ecosystem services, energy efficiency, waste management and environmental protection, shared EU and local best practices, improved capacity on energy planning by local SMEs; organized 3-days regional Road show to promote and disseminate energy efficiency concept, best practices and pilot actions' results; developed reports on energy saving solutions; developed reports on renewable energy sources local potentials; developed report on renewable energy investment opportunities; published various promo materials: posters, flyers, brochures, layman

reports on renewable energy sources exploitation, energy efficiency importance and environmental protection.

In the framework of the INNO GREEN project, LIR Evolution will support local and regional start-ups and SMEs in development of sustainable green business models that will contribute to environmental protection and social responsibility in order to provide balance between economy and ecosystems.

By participating in INNO GREEN project, LIR Evolution aims to spread and transfer circular economy and innovative green entrepreneurship best practices from Austria and Slovenia to Bosnia and Herzegovina. Within the project, LIR will motivate local and regional SMEs to become more "green" oriented, assist to SMEs in development of green business models and facilitate cross-border networking opportunities.

LIR Evolution team is committed to contribute to regional green business expansion as a mode of sustainable development based on balance between economy, environmental preservation and social responsibility.

6.2. RDA Green Karst

RDA Green Karst, Centre for Innovation and Development (RDA CID) is based in Primorsko-notranjska, a small, predominantly rural region in Southwestern part of Slovenia. The RDA Green Karst was established in 2000 by six municipalities (Pivka, Postojna, Cerknica, Loška Dolina, Bloke and Logatec) and five other local, regional and national support and development institutions. Although the RDA Green Karst is a private company, it acts as a non-profit organization and functions as the regional development agency in the area of the Primorsko-notranjska region (NUTS 3 level), covering six municipalities: Bloke, Cerknica, Loška Dolina, Ilirska Bistrica, Pivka and Postojna. This area is part of the Eastern Slovenia Region (NUTS 2 level).

There are two organizational units within the RDA Green Karst: regional Destination Management Organization (DMO), focusing on tourism and Centre for Innovation and Development (CID), offering developmental support to regional innovation eco-system as well as to individual organizations and entrepreneurs needing assistance in this area of innovation.

RDA Green Karst is an experienced international partner that works in project management, has a long history of working with different regional stakeholders and has in the past few years enhanced also its services for business organizations: it provides business consultancy, training and coaching for entrepreneurs and knowledge in business ideas creation, finances, marketing, innovation and other relevant subjects for encouraging innovation, support in obtaining sources of financing for projects in the area of innovation, creating connections between different partners and above all promotion of innovation on regional area and wider.

By participating in the INNO GREEN project, the RDA CID strives to enhance its knowledge in enhancing the development of green businesses, offering especially small and micro entrepreneurs a wholesome set of services that support their business and at the same time contribute to the preservation of our natural and social environment. The RDA CID team believes in sustaining the health and vitality of our environment, both natural and social, for prosperity of present and future generations. We support the "green" idea of living and have a strong commitment to contribute to it. The INNO GREEN presents us with an opportunity to do exactly so.

6.3. EEE Güssing GmbH

The European Centre for Renewable Energy (Germ. abbr. EEE), headquartered in Güssing (southern Burgenland), was founded in 1996. With its employees, EEE develops lasting regional and community-based concepts for energy conservation and for the generation and use of renewable energy.

EEE is also a co-founder of Eco Energy Land (co-operative of 18 municipalities in the region of Güssing) and acts as an umbrella organisation for all energy-related activities in the Güssing region. It organizes lectures and training in the field of renewable energy and tours through Eco Energy Land.

The Scope of EEE's Activities:

- **Supervising Demonstrator Plants:** in the area around Güssing there are already more than 30 Bio-energy plants using various technologies that are in part administrated by the European Centre for Renewable Energy. Know-how gained out of the demonstration sites will be used for upcoming services and projects.
- **Research & Development:** one of the most significant factors in the success story of renewable energy Güssing was and is the integration of research. From the very start, the EEE sought out the coop-

eration of diverse research institutions, whereby the EEE did not undertake much research itself, but took on the role of the classic networker and brings the financial side, the plant engineers and finally the researchers together. A unique innovation like the biomass power plant in Güssing could only be created in this way.

- **Training and Continuing Education:** EEE is arranging and organizing many seminars and symposia and, on request, these can be individually organized at any time. The training section has two aims. On the one part, the organization is working on awareness training in the subject of renewable energies and sustainability issues, and, on the other part, on the usability and quality of resources. EEE has been involved in different transnational co-operation projects during the last years (Central Europe, South-East Europe and cross boarder co-operations with Hungary and Slovenia). In all those projects EEE tries to improve the regional situation in the field of sustainability and renewable energies and move forward the region itself.

Other relevant tasks that the EEE is performing are also:

- make the connection from policy to practice and vica-versa;
- assessing possibilities for new products in the region;
- sharing knowledge and experiences beyond national borders;
- involving municipalities of the region to the overall sustainability process;
- connect with other (existing) projects on innovative trails.

The district of Güssing with about 4,000 inhabitants is considered as an infrastructural weak district within the much larger region with about 27,000 inhabitants. According to statistics, this region was one of the poorest regions in Austria in 1988. Due to the geographically unfavourable location in the eastern border area of Austria, there were no large commercial or industrial settlements and a very poor transport infrastructure in the entire district. Consequently there was a shortage of work and a very high rate of emigration. In addition, there was a very strong outflow of capital from the region through energy purchases (oil, electricity, fuel), while the available resources (e.g. 45% forest) were hardly used. Nevertheless, the district invested energy and funding in developing a so-called "model Güssing", which is the strategy of decentralized, local energy production with all existing renewable resources of a region.

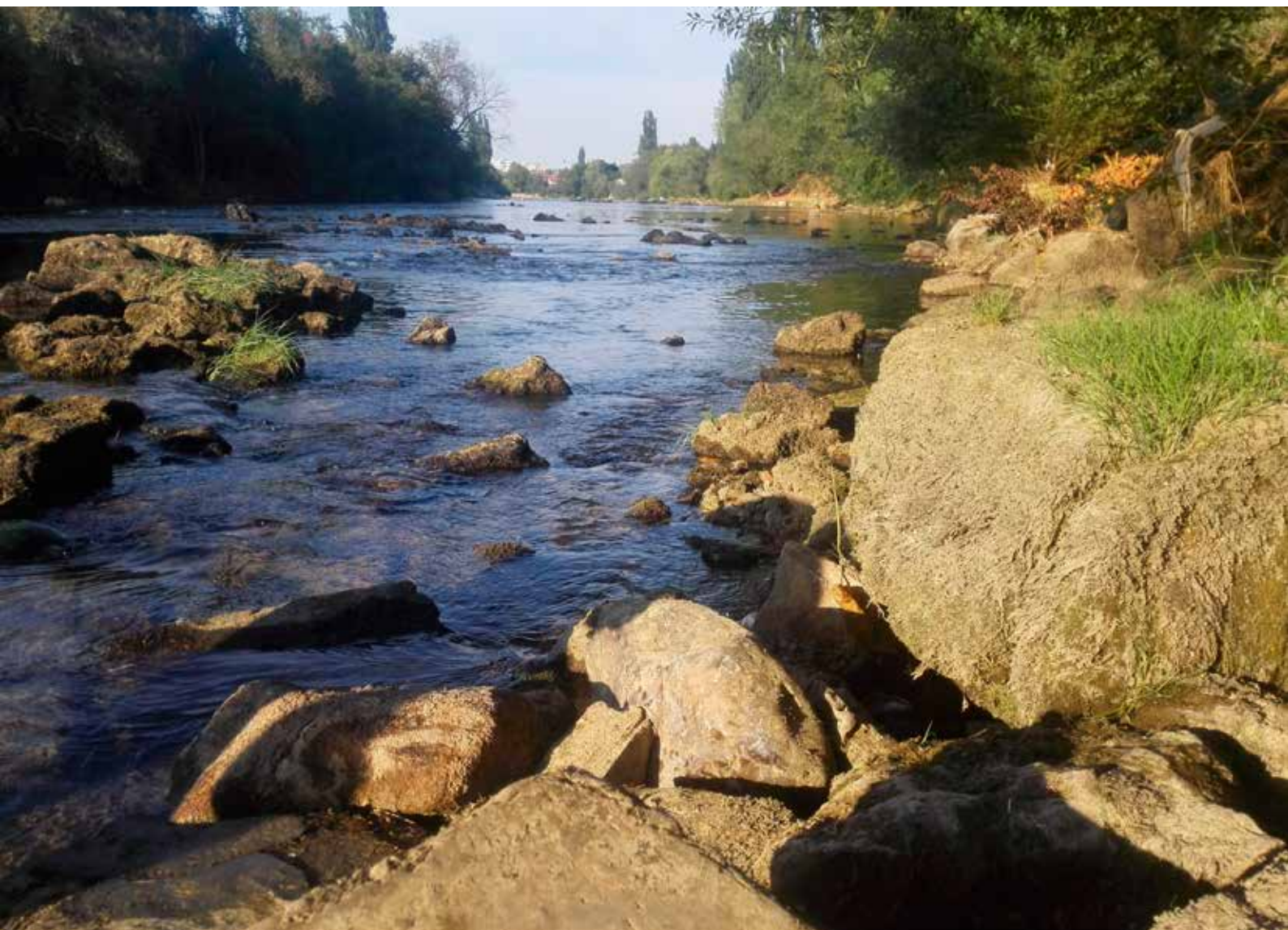
The model was developed out of necessity and was the engine of what has happened in Güssing since the beginning of the 90s under the considerable participation

of the EEE. The basic idea of the model was to use domestic resources for energy generation instead of buying in fossil fuels. This allows for an increase in regional value added (money does not flow from the region, but remains through the use and further processing of domestic raw materials in the region, job creation) while at the same time reducing dependence on fossil fuels. It also achieves a massive reduction in CO₂ emissions. The basic idea was to take control of the energy supply systematically and sustainably boost the region's economy by using renewable energy.

Starting with the use of existing resources, the development and construction as well as the operation of power generation plants, up to the delivery of this energy to the citizens, an infrastructure network for the population was set up in manifold ways. With the creation of jobs and the income from energy production, it was important to promote issues such as: education, leisure, health, sport, tourism, etc. in the region, in order to provide an incentive to people, especially young people, in to stay in the region and make it worth living.

The Eco-energyland, in consequence is the extension of the Güssing model into the region and is currently consisting of 18 municipalities. It was also the EEE that took the next step with the leaders and stakeholders of the Eco-energyland, namely to make it a climate and energy model region. We coordinated the consistent implementation of the model in the region from the very beginning.

With the initiative of the association Eco-Energyland, efforts are now being made to counteract the outflow of capital, to increase energy efficiency and to accelerate the use of renewable energy sources. In the foreground of the regional activities are biomass, residual materials and solar energy, especially photovoltaic. From the INNO GREEN point of view, the whole region has moved from a reactive pathway, by taking up the green chance, to the active and even the proactive one, as depicted in the Figure 7.



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