

NATIONAL SWOT ANALYSIS ON ECO- INNOVATION – CZECH REPUBLIC



WP3	Strategy for eco-knowledge
ACTIVITY 3.2	Analysing the environment for ecoinnovation in partner countries
DELIVERABLE 3.2.4	National SWOT analysis on Eco-innovation

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1. SWOT analysis: National (governmental) perspective

Internal factors	
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<p>STRENGTHS</p> <ul style="list-style-type: none"> • What are the strengths of your country? • What do you do better than many others? • What unique capabilities and resources do you possess? • What do others perceive as your national strengths? <p>What are the strengths of your country? Czech Republic is strong in area of environmental friendly technologies focused on energy efficiency in buildings and infrastructure, sustainable transport and several environmental topics – water efficiency and wastewater treatment, waste management and resource efficiency.</p> <p>What do you do better than many others? Czech Republic performs particularly well in applied research in nanotechnologies and biotechnologies and is making substantial progress towards circular economy.</p> <p>What unique capabilities and resources do you possess? In Czech Republic are internationally recognized scientific institutions and universities such as Central European Institute of Technology, Masaryk University, Charles University, Technical University of Liberec, Brno University of Technology, Mendel University in Brno and Palacky University Olomouc. Thanks to good prepared national innovation strategy, these universities and research institutions offer a good environment for companies and startups targeted at eco-innovation.</p> <p>What do others perceive as your national strengths? Czech national strengths represent from a considerable increase in startups and above-average performance in the fields of nanotechnology, sorting waste and biotechnology. According to environmental strategy goals, governmental support will prioritize:</p> <ul style="list-style-type: none"> - circular economy (sorting waste in middle and large cities, using waste as source, re-using of things) - eco startups and companies (water management, waste management, hydro management or biotechnology transforming frying oil to biopolymer). - eco smart city (city development strategies for more health life in cities and eco-friendly development). 	<p>WEAKNESSES</p> <ul style="list-style-type: none"> • What are your countries weaknesses? • What do innovation leaders do better than you? • What can you improve given the current situation? • What do others perceive as your countries weaknesses? <p>What are you're the weaknesses of your country Knowledge and mentality of Czechs about eco-innovation and eco-friendly development (except waste sorting) are not at such a high level as could they be. This problem is spread not only between normal people but unfortunately in particular groups of industrial companies. However, the situation is improving step by step.</p> <p>What do innovation leaders do better than you? The Czech economy had to go through structural changes after velvet revolution in 1989. Since this the economy situation has improved. Household consumption grew at the end of 2017 by 4.3 %. Company investment spending was mainly driven by building investments and machinery. For the year 2017, gross domestic product (GDP) grew by 4.5 %. The main factor of year-on-year growth was foreign demand. Czech Republic are exporting mainly cars, electrical equipment and chemical products. Eco-innovations in this industrial sectors are not in high level as could be.</p> <p>What can you improve given the current situation? Czech Republic can:</p> <ul style="list-style-type: none"> - improve support of implementation of eco-innovation in dominant industrial sectors, - improve financing of applied research and development, - improve financing of specialized schools and universities. <p>What do others perceive as your countries weaknesses? Sometimes other countries perceive as our weaknesses little venture capital that can invest in new eco-technologies. The majority of innovation invents are co-financed by EU funds, which is good on the one hand. On the other hand, this dependence can turn out problematic for projects finance sustainability.</p>

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External factors	
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<p>OPPORTUNITIES</p> <ul style="list-style-type: none"> • What trends or conditions may positively impact your country? • What opportunities are available to your country? <p>What trends or conditions may positively impact your country?</p> <p>Czech Republic is export exportable economy focused on:</p> <ul style="list-style-type: none"> – Support of pupils to attend high school specialized in handicrafts, – Support of students to study technical branches, – National systematic support for eco-innovative startups and companies, – National systematic support in implementation of eco-innovation in large companies, – Maintenance and development of financing basic and applied research and development, – Better funding for universities based on quality of results of research and development. <p>What opportunities are available to your country?</p> <ul style="list-style-type: none"> – High qualified professors at universities, – Excellent geographical location. Czech Republic is called “Heart of Europe”. – Long term industrial tradition, – Full skilled people. Sometimes we can hear “Gold Czech Hands”. – Very good research infrastructure, – Support for eco-innovation by structural funds and national sources, – Tax deduction for research institution and innovative companies, – Support for birth of startups and innovative companies, – Support for photovoltaics. 	<p>THREATS</p> <ul style="list-style-type: none"> • What trends or conditions may negatively impact your country? • What are your competitors doing that may impact your country? • Does your country have solid financial support? <p>What trends or conditions may negatively impact your country?</p> <ul style="list-style-type: none"> – Lack of qualified employers in industry, – Lack in funding for scientists and researchers, – Unfair competition in eco-innovation (technology fakes), – Structural changes in EU funds after the year 2020. <p>What are your competitors doing that may impact your country?</p> <p>Competitors from less developed countries try to copy some of Czech technologies. It brings problems in economy and intellectual ownership.</p> <p>Some (mainly Western) competitors want to use Czech Republic as an “assembling country”, not recognizing its endogenous innovation ability. So now the potential of Czech Republic is not fully utilized.</p> <p>Does your country have solid financial support?</p> <p>Yes, European Funds have been providing Czech Republic with quite substantial financial support. But this situation is not valid for subjects from all Czech Republic. Lot of small and medium companies want to gain financial sources from EU fund. But bureaucracy and administrative severity put off them from this willingness.</p> <p>Furthermore the support from EU funds is available only for small and medium entrepreneurs, universities and research institutions. Large companies, i.e. those that feed the largest amounts of tax into the national budget, are not eligible for EU funding support.</p>

2. SWOT analysis: National business perspective

Internal factors	
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<p>STRENGTHS</p> <ul style="list-style-type: none"> • What are your identified strengths of companies operating on the national level? • What do you do better than others? • What unique capabilities and resources do you possess? • What do others perceive as your companies strengths? <p>What are your identified strengths of companies operating on the national level? For more and more Czech companies sustainability and effectiveness is gaining importance, concurrent with discussions on green technological solutions. Because Czech Republic is good at research, development and innovation, green solution and eco-innovation are being more and more important for companies of all sizes.</p> <p>What do you do better than others? Czech companies have obviously well-prepared strategies. Thanks to international projects companies can more easily find strategic foreign partners and create consortia with particular companies. Furthermore companies with own innovation or eco-innovation can request tax reduction. In Czech Republic there are numerous green eco startups such as AquaQube (Water quality of the future), AquaADS (ecological advertisement) and eco-innovative companies such as ASIO (waste water and water treatment) and etc.</p> <p>What unique capabilities and resources do you possess? Czechs can invent and develop unique technologies even without the latest high-tech equipment and without large sum of money. Typical example is Nafigate arisen from small startup to large company where in small startup few people invent unique technology called Hydal that can transfer frying oil to biopolymers.</p> <p>What do others perceive as your companies strengths?</p> <ul style="list-style-type: none"> – knowledges – skills – passion for particular project 	<p>WEAKNESSES</p> <ul style="list-style-type: none"> • What are the weaknesses of companies operating on the national level? • What do innovation leaders do better than? • What can be improved given the current situation? • What do others perceive as your companies weaknesses? <p>What are the weaknesses of companies operating on the national level?</p> <ul style="list-style-type: none"> – Not so strong position as certain Western companies, – Strong international competition with well-established rivals, – Sometimes not so good financial position as competitors. <p>What do innovation leaders do better than? Especially large well-established companies have substantial capital to invest into eco-oriented production Lack of market position and lack of money is the main disadvantage for startups, small and medium entrepreneurs.</p> <p>What can be improved given the current situation?</p> <ul style="list-style-type: none"> – National strategy support for eco-innovative products and services, – Financing of eco-innovative products and services, – Opening new markets for eco-innovative products. <p>What do others perceive as your companies weaknesses?</p> <ul style="list-style-type: none"> – For eco-startups it is unexperience with state bureaucracy and legislation. – Unfortunately most investors and businessmen refrain from taking the high risk to invest into eco-solutions, as they underestimate the benefits of non-monetary return. – Market distrust to new eco-solution.

External factors	
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<p>OPPORTUNITIES</p> <ul style="list-style-type: none"> • What trends or conditions may positively impact your national companies? • What opportunities are available to your national companies? <p>What trends or conditions may positively impact your national companies?</p> <ul style="list-style-type: none"> – More high quality coworking centres (like Impact Hubs) for creation new eco-driven startups, – Strategic national support based on real vision for whole Czech Republic in eco area, – Long term promotion of eco topics in Czech society, – Support for customers to buy more eco products and services, – Support for good established companies to produce more eco products or environmental friendly products and services, – Support of smart waste sorting and recycling, – Long term support for circular economy, <p>What opportunities are available to your national companies?</p> <p>Regional and national funds in Czech Republic support eco-innovation and eco-driven technologies. Small and medium entrepreneurs and R&D institutions can prepare project proposals and after an assessment they can get grants or favourable loans for their eco projects. Some of investors and venture capital companies are ready to invest in interesting eco-driven projects. European funds mainly Horizon 2020 focus on supporting and financing of innovative, eco-innovative projects and services to be implemented by startups, innovative companies, research and developing institutions or universities.</p>	<p>THREATS</p> <ul style="list-style-type: none"> • What trends or conditions may negatively impact your national companies? • What are your competitors doing that may impact your national companies? • Do you have solid financial support? <p>What trends or conditions may negatively impact your national companies?</p> <ul style="list-style-type: none"> – Lack of key staff in innovative companies and institutions, – Less sum of patents and trademarks securing eco-technologies and services, – Exit of some high skilled employers to foreign countries, – In some regions of Czech Republic is insufficient support for eco-startups and eco-innovative companies, – Insufficient loyalty of high skilled staff. <p>What are your competitors doing that may impact your national companies?</p> <p>The global competitors have more extensive structure that can absorb losses from unsuccessful beginning business projects. Foreign competitors have often simpler access to broader sources for funding. Czech R&D is in high quality but sometimes not so fast as market needs.</p> <p>Do you have solid financial support?</p> <p>The innovation leader of Czech Republic is South Moravian Region with the centre in Brno. Brno and the capital Prague have access to solid financial support for eco-innovation and for science, research and innovation. Though of course, there is always room for improvement, the situation is superior compared to that another regions of Czech Republic.</p>