

TEMPLATE

Output factsheet: Strategies and action plans

Version 1

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Lead partner	ARPAV
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Summary description of the strategy/action plan (developed and/or implemented)

The summary of the process that leads to pilot cases identification, from the recognition of waste production & destination to the physical flows maps. The present process to prioritize the interventions is also supported by a permanent consultation with the local stakeholders (administrations located in the pilot regions, trade and industrial associations, environmental authorities etc.) to come to a shared hierarchy of waste flows to optimize and/or to close. Our pilot area is the Split - Dalmatia County but with the accent on the largest settlement on the hinterland - Sinj, which is also the sub regional center of the hinterland. Split - Dalmatia County (SDC) is located in the central part of the eastern Adriatic coast. The quantities of the produced industrial waste in the Split - Dalmatia County have been determined with the help of the Environmental Pollution Register (EPR database). After detailed analysis of Split - Dalmatia County, main waste streams from industrial sector were chosen. It was harder task, because in Split - Dalmatia County the industrial sector is not developed enough and if it is, the quantities of waste are very small. As a result of the research, we defined the companies which produce the industrial waste and regarding to that, main waste streams. We selected three companies in Split - Dalmatia area in salting and processing of fish and seafood production. Also, we selected one company for olive oils production, but after detailed analysis, and collected data, the CE solution for these type of process could not be implemented in our small region. In our region, as already mentioned several times, industry is not very developed and companies are mostly small. In our interviews with the potential practitioners of proposed technologies for most relevant selected waste stream, we have got some useful information about implementation. For example, after production of canned fish, generated waste is not handled very well, so companies have to pay waste removal to other companies, what is a big cost for them. After applying proposed technologies of CE in waste generation, waste removal will not be necessary and therefor, costs can be reduced. From the local aspect, concept of the technology would be helpful and beneficial not only for companies but also for the region.

NUTS region(s) concerned by the strategy/action plan (relevant NUTS level)

NUT region is Split - Dalmatia County (HR035). The chosen pilot area is the Split - Dalmatia County but with the accent on the largest settlement on the hinterland - Sinj, which is also the subregional center of the hinterland. Split - Dalmatia County (SDC) is located in the central part of the eastern Adriatic coast. The surface of the land area, with the surface of the island is about 4,540 km² (about 8% of the land area of the Republic of Croatia), and the surface of the sea part is 9,576 km² (about 31% of the sea surface of the Republic of Croatia). In SDC area there are 454,798 inhabitants (about 10% of the population of the Republic of Croatia) in 368 settlements. The average population density is approximately 100 inhabitants / km². According to geographical, demographic and developmental elements, the SDC area is divided into three units: the coast, hinterland and the islands. The hinterland area occupies the largest area, or about 59% of the SDC space. The coast is a narrow belt between the sea and the mountains of the seaside and occupies about 21% of the SDC area. The islands makes about 20% of SDC space. The SDC is characterized by unequal economic development and population density. The majority of the economy and the population are concentrated in the coastal area, where the average density of population is 375/km². The Split, administrative and economic center of SDC is located in the coastal area. With a population of 167.121 inhabitants, Split is the second largest settlement in the Republic of Croatia. Hinterland has a low density, the first evaluation shows that it is less than 40 inh./km². The largest settlement on the hinterland is Sinj with 11,478 inhabitants, which is also the subregional center of the hinterland. All settlements in the island area are smaller than 4,000 inhabitants. Gross Domestic Product (GDP) of SDC was 3,712,508.51 EUR in 2015, which represents about 8% of total GDP of the Republic of Croatia. GDP per capita SDC in 2015 was 8,185.72 EUR. The main activities of SDC are: G Wholesale and retail trade, repair of motor vehicles and motorcycles, I accommodation and preparation of food and C Manufacturing but in 2016, manufacturing had a negative net financial result.

Expected impact and benefits of the strategy/action plan for the concerned territories and target groups

Expected impact and benefits of the strategy are mostly related with Split - Dalmatia County. Frequent meetings and phone calls were organized with the County, partners and the representatives of the different Stakeholder groups. After detailed analysis of Split - Dalmatia County, main waste streams from industrial sector were chosen. It was harder task, because in Split - Dalmatia County the industrial sector is not developed enough and if it is, the quantities of waste are very small. As a result of the research, we defined the companies which produce the industrial waste and regarding to that, main waste streams. We selected three companies in Split - Dalmatia area in salting and processing of fish and seafood production. Expected impact of canned fish production, the and use of CE is that collection of anchovy residues can be separated in two groups: heads and spines, and anchovy remains. Technologie that can be used is transportation of dried anchovy residues to minimise the total mass transported. On one hand, heads and spines can be used to produce fishmeal and fish oil, whereas the anchovy remains can be employed to produce anchovy paste. On the other hand, anchovy residues can be incinerated to obtain energy. Technologie that will be used and which are planned to use can be a big part of the implementation of CE and closing the loop of waste generation. In our region, as already mentioned several times, industry is not very developed and companies are mostly small. So, in the organizative processes, companies have two options; to invest in technology alone, and to use it only for their needs and their waste generation, or to connect with other small companies of the same products and use the technology together in order to reduce and share the costs and to have more benefits of it. In addition, Split - Dalmatia County beside the mainland and hinterland part, includes four islands. In case of connecting companies, transport of waste from companies on islands needs to be included in organization processes. In these processes, the opinion of practitioners is important.

Sustainability of the developed or implemented strategy/action plan and its transferability to other territories and stakeholders

Split - Dalmatia County beside the mainland and hinterland part includes four islands. In case of connecting companies, transport of waste from companies on islands needs to be included in organization processes. In the organizative processes, companies have two options; to invest in technology alone, and to use it only for their needs and their waste generation, or to connect with other small companies of the same products and use the technology together in order to reduce and share the costs and to have more benefits of it. Waste is a big problem for the producers because it is a big cost, and it can be benefit with the use of good and developed technology. From the local aspect, concept of the technology would be helpful and beneficial not only for companies but also for the region. Results can be very promising but it have to be very careful and realistic. Also, it is important to make a financial analysis together with the risk analysis to see how realistic technology is and if the development of technology is realistic. From the local aspect, concept of the technology would be helpful and beneficial not only for companies but also for the region.

Lessons learned from the development/implementation process of the strategy/action plan and added value of transnational cooperation

So after detailed analysis of Split - Dalmatia County, main waste streams from industrial sector were choosen. It was harder task, because in Split - Dalmatia County the industrial sector is not developed enough and if it is, the quantities of waste are very small. As a result of the research, we defined the companies which produce the industrial waste and regarding to that, main waste streams. We selected three companies in Split - Dalmatia area. Several PVC producers were also selected in the area of Sinj. But with the detailed and after the insight into the production plant, it has been established that waste disposal is at optimal level and in this time we have not found alternative to the already implemented form of waste disposal.

Discussions and meetings were organised with external experts, with the managers of the selected companies which are producers of industrial waste in order to determine the initial situation regarding legislation, general waste management tendencies in Croatia and to get to know the pilot area generally. The main lesson to learn was the processes of each production we visited. Also, we had a lot of problem with data collection, so we managed to learn what to do about it and how to handle it. The industrial waste generation statistics could be acquired with the help of the who are responsible for uploading and analysing the information reported by the companies to a central online database. That will also be very good step to improve database for data collection on the Republic level.

References to relevant deliverables and web-links If applicable, pictures or images to be provided as annex

Waste Prevention Portal - The Waste Prevention Portal was developed within the Project for the Development of a System for the Prevention of Waste, Information and Exchange of Good Practices in Republic of Croatia - Waste Prevention Portal (<http://sprjecavanjeotpada.azo.hr/index.htm>)

Holding Centar - Čistoća Information about waste separation and disposal (Changing habits for waste prevention (<http://sada.zgh.hr/>))

DT11.4.2. LOCAL PLANS TO PRIORITIZE INTERVENTIONS . CIRCE2020.

Register on the waste - e-ONTO is a network application for keeping track of the occurrence and waste flow that enables maintenance and entry of data via web application as well as reporting form for waste stream tracking from manufacturer to end destination in a single system.

Also, the web sites of Ministry of Environment and Energy was used. Their main goal is to create conditions for sustainable development - development that meets the needs of the present without compromising the ability of future generations to meet their own needs. The scope of work of the Ministry includes task related to protection and conservation of the environment and nature in line with the sustainable development policy of the Republic of Croatia, as well as tasks related to water management and administrative and other tasks from the field of energy. and al data bases are in their position.