

MUNICIPALITIES' ROLE IN DEVELOPMENT OF INDUSTRIAL SYMBIOSIS

On the 25th of November 2020, forty-five representatives from nine different countries were virtually gathered at the 3rd meeting in the BSR Industrial Symbiosis Council to discuss how municipalities in the Baltic Sea region support Industrial Symbiosis development in their respective regions. The meeting was moderated by senior adviser Per Erik Sjørås from Trøndelag County Council, Norway, one of the BIS partners.

Symbiosis Center Denmark, December 2020

The starting point for the discussion was a guide "How can municipalities support the development of Industrial Symbiosis?" presented by Nina Lander Svendsen from PlanMiljø. The guide is commissioned by the BIS project and prepared by experts from PlanMiljø, IVL Swedish Environmental Research Institute and Næringshagen in Orkdalsregionen.

The guide

The focus of the guide is nine concrete examples where municipalities have influenced symbiotic partnerships in their respective regions. Through the experience sharing, the guide aims to inspire municipalities and enrich and inform their toolbox to support the development of Industrial Symbiosis. Data for this guide was collected via interviews with representatives of the municipalities in Denmark, Finland, Norway and Sweden, and company representatives of the existing industrial symbioses, followed up by desktop study.

Findings

The study finds that a municipality can support the initiation, development and expansion of an Industrial Symbiosis through business development, waste- and supply services, land use planning and public procurement while playing a wide range of different roles in it, for example, as an initiator, facilitator, owner, authority or a business. Moreover, there are eight enabling organizational aspects that can assist a municipality in supporting

a symbiotic partnership: vision and leadership, strategy, structure, systems, employees, culture, communication and partnerships.

By supporting the development of an Industrial Symbiosis, municipalities contribute to the realization of carbon-reductions and decrease in resource demand. Moreover, Industrial Symbioses can benefit municipalities by attracting companies, ensuring jobs and tax revenues, reducing waste treatment costs, and creating a strong local brand, like for instance Kalundborg Symbiosis in Denmark.

Living examples

GreenLab Skive

Maria Slebo Karentius Freund, project leader from Skive Municipality, Denmark, spoke about GreenLab Skive, an energy-focused green industrial park, a symbiotic partnership, where nine waste-, supply- and private companies are exchanging energy, excess heat, biomass and non-recycled plastic waste.

Local politicians' goal for carbon neutrality and energy self-sufficiency by 2029, and the vision of a transition to a "Green Energy Valley" called for actions in the municipality of Skive. With a supportive organizational structure, political support, a willingness to take risks, creativity in solving legislative barriers, and employees with the ability to transfer ideas into reality, Skive Municipality laid the seeds for and nurtured the growth of an innovative industrial symbiosis.

Sotenäs Symbiosis Centre

Peter Carlsson, circular economy project leader from Sotenäs Municipality, Sweden, presented the Sotenäs Symbiosis, based on marine food processing and wastewater treatment, which was started after a study visit to Kalundborg Symbiosis in 2013, and which first model was handwritten on the backside of a napkin on the way back from Denmark.

Sotenäs Municipality was inspired by the concept of industrial symbiosis and established a dedicated symbiosis center to bring people with different competences together, who could work together towards development of industrial symbiosis as well as social symbiosis where the latter refers to collaboration on competence development. The center's steering committee includes various stakeholders such as politicians, the director of the municipality, representatives from large companies, SMEs and research organizations located in the region.

You can read more about these cases as well as other seven examples in the guide.

Group discussions

The meeting participants, who mostly represented organisations working with circular economy and Industrial Symbiosis, had the opportunity to discuss the guide, its structure and recommendations in breakout sessions, and then, present their suggestions in plenum.

It was emphasized that the guide can serve as a first important step in developing a kind of supportive guidance or toolbox for municipalities in the Baltic Sea region. And in the work on such toolbox, it is significant to consider the differences between the regional countries, for example, in relation to Industrial Symbiosis maturity level, administrative system, economy, and even mindset; there is no such thing as a "one size fits all".

Besides, many participants pointed out that the experience sharing is a very useful way to inspire as well as support Industrial Symbiosis development and facilitation. An important part of it is communication, whereby the existing industrial symbioses tell what they are doing, and in a language all their stakeholders can understand.

There were also many considerations on how municipalities can support Industrial Symbiosis. For example, the participants spoke about municipalities' role in establishing networks where neighboring companies can get to know each other, and through resource mapping and matchmaking can establish symbiotic partnerships. Furthermore, many participants stressed that municipalities should participate in projects like BIS in order to be inspired and be aware how Industrial Symbioses work and how they can benefit from such partnerships.

The Baltic Sea Region Industrial Symbiosis Council

The BSR Industrial Symbiosis Council provides a platform for policy learning to build policy capacity in local, regional and national authorities, agencies and other public policy-focused organizations supporting IS development. It engages partners within the project partnership and associated partners, as well as representatives of related transnational initiatives who are invited to join the Council for purpose of project result multiplication. Trøndelag County Council provides a secretarial function for the Council during the project period and leads efforts to ensure that the Council becomes a sustainable platform for policy dialogue, learning, and further capacity building beyond the project period.

The Council meets two times annually during the project period. The 4th meeting is planned for the spring of 2021.



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