

BSR-Bioeconomy

2015-2018 Strategy and Action Plan Towards a BSR Bioeconomy

The Nordic Council of Ministers has in 2013-2015 made a number of efforts to promote the transition towards the bioeconomy¹. This happens through activities in the Arctic Region; in the Nordic region (i.e. among the members states of the Nordic Council of Ministers); and in the Baltic Sea Region.

As regards cooperation in the Arctic and Nordic regions, the Nordic Council of Ministers is cooperating within the 2014-2017 framework for NordBio which unites efforts among the Nordic Councils of Ministers for Environment; Fisheries and Aquaculture, Agriculture, Food and Forestry; Trade, Energy and Regional Policies; Education and Research; and finally Culture. NordBio pools efforts by policy makers, practitioners and experts in a number of projects to promote sustainable utilisation of the living natural resources. Activities target the interests of both society at large and the environment per se, and facilitates the structuring of a competitive economy as well as new methods in youth education in the Arctic and Nordic regions.

In the Baltic Sea Region efforts are being pursued within the context of the Nordic Council of Ministers being Horizontal Action Leader for Bioeconomy under the European Union Strategy for the Baltic Sea Region (EUSBSR) and associated Action Plan.

I. BSR-Bioeconomy priorities, objectives and activities

“BSR-Bioeconomy” is a proposal for a 3-year strategy and action plan that – by leveraging results of cooperation in the Arctic, Nordic and Baltic Sea regions – aim to support further regions and countries in making an effective and sustainable transition towards the bioeconomy.

¹ The *bioeconomy* refers to economic activities based on biological resources. In terms of economic sectors the bioeconomy includes production and consumption of feed and food; biomaterials; and bioenergy. *However*, the bioeconomy is more than an agglomeration of economic sub-sectors: the bioeconomy is an approach for sustainable socio-economic development. Furthermore, the bioeconomy builds on a circular thinking; and the bioeconomy is about making a transition from a fossil-based to a bio-based society through research & development, innovation and the establishment of new value chains.

State of play

Sustainable development – economic, social and environmental – is *the* grandest of challenges in the Baltic Sea Region.

The bioeconomy offers many opportunities for addressing sustainable development. For example the bioeconomy offers a number of new business and job creation opportunities; it offers many new development opportunities for rural areas; and it offers an abundance of opportunities to grow primary industries while at the same time safeguarding the environment, on land as well as in the sea.

Already the Baltic Sea Region is making progress towards realising a number of opportunities embedded in the bioeconomy. One can for example observe: *Good farm practices* (innovative technologies for animal feeding and housing; processing; storage; improved water quality and quantity; and handling of fodder, fertilizer and handling of manure – including with a view to energy production); *good marine practices* (macroalgae harvesting and cultivation, mussel cultivation, reed harvesting, large-scale microalgae cultivation, and sustainable fish aquaculture); *good practices on waste water* management; *good health practices* (on boosting the engagement of smaller biotechnology companies and commercialisation of clinical inventions); *good circular economy practices* (such as through industrial symbiosis) and more generally, many *good practices on technology chains and business innovation*.

These solutions of pioneers inspire national and regional governments; research and education institutions; companies; and citizens to increasingly embrace the opportunities brought to them by the bioeconomy approach for sustainable growth and development.

But there are great opportunities for going further. The Baltic Sea Region is well endowed – with many capable institutions, knowledge and experiences, dedicated individuals, and a number of supporting frameworks at local, regional, national and macro-regional level – to move beyond pockets of bioeconomy smartness to become genuinely smart in the bioeconomy.

Unlocking this potential calls for further joint efforts that links existing knowledge, expertise and long traditions rooted in forestry, agriculture and fisheries together with innovation, research, new technologies and investment. Also, it calls for public and private (companies and citizens alike) to work together in new ways, across sectors, and often outside the stakeholders' usual sector / comfort zone.

This is what the BSR-Bioeconomy strategy and action plan aim to do – to provide a holistic framework and reference point for cooperation towards realising the bioeconomy in the Baltic Sea Region by 2020.

The five grand challenges of the bioeconomy

Research and mapping activities of challenges, opportunities and good practices as well as dialogue activities such as workshops and seminars engaging until now in total more than 300 stakeholders from around the Baltic Sea Region have identified a number of persistent bottlenecks for realising the bioeconomy in the Baltic Sea Region. The key bottlenecks relate to:

- Policies and policy coherence.
- Private sector engagement.
- Research, Technology and Innovation.
- Civil society.
- Communication.

It is these bottlenecks and related opportunities that the BSR-Bioeconomy strategy and action plan aims to unlock.

1. Bioeconomy policies and policy coherence:

The bioeconomy is complex and cuts across sectors. Stakeholders engage in the bioeconomy for a number of different reasons. Therefore the bioeconomy does not fit neatly into one specific policy area but must rather be addressed through a number of efforts in different policy areas. Some regions and countries in the Baltic Sea Region have developed rather holistic policies and some are on the way to develop such policies. In other regions and countries the bioeconomy policies and strategies are being pursued through sector policies such as bioeconomy strategies in research policy – and yet others pursue the bioeconomy within broader sector policies for e.g. agriculture, fishery, forestry, regional development, environment and innovation.

Realising the bioeconomy calls for regions and countries to move beyond silos and sector policies and towards holistic integrated policies and incentives across these “traditional” sectors. But how to actually and practically go about realising the benefits of the bioeconomy?

Sharing of policy practices for purposes of inspiration and policy learning provides opportunities for multiplication of current good bioeconomy policy practices – as well as development of next practices. It is against this background that numerous stakeholders from all around the Baltic Sea Region have called for a BSR policy learning and policy coherence cooperation platform.

As a response the BSR-Bioeconomy strategy and action plan will establish the “**BSR Bioeconomy Policy Dialogue Forum**”. The Forum will aim to become a reference point for policy makers and practitioners on bioeconomy policy learning and policy coherence in the BSR.

The first Forum – to take place in the second half of 2015 – will assess the bioeconomy policy state of play, results achieved so far and key policy development challenges.

The second Forum – to take place in the first half of 2016 – will aim to validate and adopt a detailed cooperation framework for the “BSR Bioeconomy Policy Dialogue Forum”, including also an assessment of funding opportunities and linkages to the EUSBSR.

Thereafter it is envisaged that the Forum will continue to meet twice a year – with agenda points including: information on bioeconomy policy practices from regions and countries; contributions from experts emphasizing on bioeconomy policy tools and instruments; and partners and project matchmaking activities.

To support the Forums – and with a view to further ensure that bioeconomy remains high on the political agenda – the BSR-Bioeconomy strategy and action plan will furthermore on annual basis prepare a ***State of the Bioeconomy in Baltic Sea Region report***. These reports – with the first to be presented at the Forum in the second half of 2016 – will aim to provide a benchmark for assessments of progress and persistent bottlenecks for realising the bioeconomy in the Baltic Sea Region. The reports will provide oversight and recommendations under the following chapters: "The BioECONOMY"; "Bioeconomy Policy and Governance"; and "Cooperation on Bioeconomy in the Baltic Sea Region – state of play". Also, the report will include an annex "Bioeconomy Pioneers and Solutions" to showcase best and next policy practices.

Finally a ***Steering Group*** will be formed to: 1) support the Forums in setting the more detailed agendas; in reaching out to stakeholders; and to follow up on Forum outcomes and results. Also the Steering Group will oversee the preparation of annual State of the Bioeconomy in Baltic Sea Region reports.

2. Private sector engagement:

The bioeconomy essentially calls for new ways of producing and consuming biological resources. Recognising that public consumption only accounts for 20-25% of total consumption it is evident that realizing the bioeconomy goes hand-in-hand with the private sector (in agriculture, forestry, horticulture, fisheries and aquaculture, plant and animal breeding, food and beverage, wood, paper, leather, textile, chemical, pharmaceutical and branches of energy industries) embracing the opportunities – and the public sector providing enabling environments for doing business in the bioeconomy.

To reach out and engage the private sector the BSR-Bioeconomy strategy and action plan will establish the ***"Bioeconomy and Circular Economy Business Forum"***, aiming to become *the* leading and highly visible platform in the BSR for exhibiting bioeconomy and circular economy business solutions. The business forum will provide also a dedicated bioeconomy private sector led platform for business matchmaking activities.

A Steering Group – with participation of leading private sector organisations and platforms already engaged in transnational cooperation in the BSR – will be established to guide bio-business cooperation. The first "Bioeconomy and Circular Economy Business Forum" will be organised in the first half of 2016 – either as an independent event, as an integrated part of another major BSR conference activity, or as a back-to-back activity with such a conference.

It is an objective of the BSR-Bioeconomy strategy and action plan to facilitate the organisation of annual "Bioeconomy and Circular Economy Business Forum" beyond 2016.

The "Bioeconomy and Circular Economy Business Forum" will initially emphasise on three issues of particular importance to engage the private sector in the bioeconomy: Markets; Business Cooperation; and Financing.

2.1 Markets

Existing companies will engage in the bioeconomy if there is a market for new products and services that relate to their current production. Also, new market opportunities will attract

spin-off companies and greenfield start-ups.

Biorefineries is one example of bioeconomic based activity that provides new business opportunities. A biorefinery is a plant that converse different biobased feedstocks (trees, energy crops, waste etc) to a wide range of products, including food, feed, chemicals, materials, and energy. Over the past few years the feasibility – and potential profitability – of biorefineries in the Baltic Sea Region has been proven. As a result full-fledged biorefineries are emerging. This situation provides immediate business opportunities for investors in and operators of biorefineries. Also, and more importantly, up-scaling and technological advancement of biorefining will reduce prices of bio-based production inputs as alternatives to existing inputs thereby making it attractive to substitute to the bio-alternatives in business processes, products and services. Already in the Baltic Sea Region a number of biorefineries are emerging. The first generation of biorefineries were the type of low-value, high-volume products such as fuels and energy. More and more however biorefineries of the type high-value, low-volume products are emerging, such as those producing ingredients for cosmetics, drugs, dietary supplements, feed or food. By supporting such collaborative efforts to further grow the availability of biobased alternatives, the BSR-Bioeconomy strategy and action plan will provide new growth opportunities for companies in the region.

Bioeconomy Public Procurement is another opportunity for growing the bioeconomic market. Public procurement constitutes as mentioned above up to 20-25% of GDP in the European Union. Public procurement practices favouring bioeconomic processes, products and services provide therefore opportunities for growing the bioeconomy market place. Municipalities may for example challenge and task local companies to supply bio- and circular economy based alternatives to the local energy supply. Public construction and building renovation may also provide additional opportunities by demanding bio-based alternatives, and similarly with public transportation systems (e.g. like with biogas buses in Sweden). Already a project “Baltic Green Public Procurement” has identified good green procurement practices and has helped build capacity in authorities around green public procurement. Leveraging from these results the BSR-Bioeconomy strategy and action plan will investigate how to actually and practically transfer such green procurement practices to bioeconomy public procurement schemes.

2.2 Business cooperation

Facilitating business cooperation between companies in related or complementary business areas with a view to spur joint ventures in product adaptation, innovation and development is another opportunity for engaging more the private sector in the bioeconomy.

The BSR-Bioeconomy strategy and action plan will therefore organise bio-business matchmaking activities that in an EXPO format provide opportunities for companies to showcase their bioeconomy business solutions and at the same time enables companies and investors to interact for purposes of cooperation to multiply best and next bioeconomy business practices. The annual events will target participation of 3-500 private sector representatives, bioeconomy experts, practitioners and public and private decision makers from around the BSR. Also, international investors and foreign market representatives seeking BSR bioeconomy business solutions will be in the target group. Experiences from the Nordic Climate Solutions conferences a few years back were very positive. These conferences provided a platform for dialogue, exhibition of business climate solutions, partner matchmaking – and not least for effective communication within the Nordic region and

beyond. Another good example is the Nordic Innovation Accelerator that is a Finnish facilitated effort aiming to match providers (businesses) of environmental solutions with owners (public and private buyers) of an environmental challenge/problem.

Collaboration between bio-, life-science, cleantech and circular economy clusters to spur business cooperation will also be a priority for the BSR-Bioeconomy strategy and action plan. Local and regional cluster development effort mostly emphasise on facilitating cooperation between geographically proximate companies, knowledge institutions and authorities. Cooperation efforts typically include joint technology development and transfer; enhancing excellence and specialization; market development; improvements in the business enabling environment etc. – i.e. various efforts that enhance the competitiveness of companies within the local clusters. A number of the business solutions for bio-, life-science- and cleantech industries are also environmental solutions for sustainable development – and for realizing the bioeconomy in the Baltic Sea Region. Connecting these existing clusters and their business development efforts through cooperation and network activities will spur also cooperation between companies (and other cluster stakeholders) across regions. ScanBalt BioRegion is one successful example of such a meta-cluster partnership in the Baltic Sea Region. Further cluster-to-cluster for business-to-business cooperation efforts may build on ScanBalt BioRegions experiences and results.

In pursuing the above efforts it will be important to ensure that the cooperation framework allows for cross-fertilization between related business areas also across industries and industry clusters – including e.g. ICT, agricultures, fisheries etc. The reason for is as concluded in the report “Creating Value from bio-resources” from Nordic Innovation (2014): *“The largest innovation and growth potential of bioeconomy seems to be in its cross-cutting nature. The following interesting crosscutting growth areas of the bioeconomy in the Nordic countries were identified: bio-based chemicals, biomaterials, biofuels and bioenergy, bio-refineries, resource-efficiency and industrial symbiosis and services based on ecosystem services”*.

Circular economy efforts such as Industrial Symbiosis efforts will integrate into the cluster-to-cluster for business-to-business cooperation efforts – as the circular economy efforts provide important learning and expertise. For example, in Kalundborg in Denmark companies from very different industries have over the past 20 years clustered successfully in an industrial symbiosis. In the Kalundborg Symbiosis, public and private enterprises buy and sell waste products from industrial production in a closed cycle. About 20 companies participate in the cycle. The residual products traded can include steam, dust, gases, heat, slurry or any other waste product that can be physically transported from one enterprise to another. Thus a residual product originating from one enterprise becomes the (cheaper alternative) raw material of another enterprise, benefiting both the companies and the environment. The Industrial Symbiosis Network in Norrköping is another example – and one closer to the bioeconomy. It is an example of *“how synergistically integrated industrial, urban and agricultural activities can play a key role for improving regional sustainability. In addition to significantly improving resource use efficiency and associated economic and environmental performance, the network in Norrköping reduces regional dependence on fossil resources and contributes to the development of a bio-based economy”* (www.industriellekologi.se). Also Finland, through SITRA, promotes Industrial Symbiosis clustering.

Actual and practical cooperation efforts between clusters will include activities such as: mapping activities, seminars, training and study tour activities to crystalize and disseminate good business practices – with associated business matchmaking activities.

2.3 Financing

Even if bioeconomy solutions may have been tested and tried and have proved to provide economic benefits that should be attractive to companies, there is a risk that these solutions are not rolled out at speed and scale due to lack of accommodating financial schemes that can bridge the investment to future costs savings and profits.

To address this gap the BSR-Bioeconomy strategy and action plan will prepare a Handbook on Business and Financing Models for the Bioeconomy. The handbook will make an inventory of good private sector practices for financing the transition towards the bioeconomy. The handbook will assess and communicate financing models closely related to the bioeconomy, as well as related innovative business investment and finance models in the areas such as energy efficiency and renewable energy (e.g. Energy Performance Contracting that has proved successful as a finance scheme to recuperate costs of sustainable energy investments through future savings in production and/or service delivery). The handbook will also summarise on other forms of innovative investment schemes such as for example Crowd Funding schemes that enable (start-up) companies to raise capital for further development through a pool of equity investments, and Local Capital schemes that target and mobilise investment capital in rural areas and small towns.

Communication activities (refer section 5) related to the handbook and its documented financing solutions will be highly prioritised by the BSR-Bioeconomy strategy and action plan – the reason being that experiences from e.g. Energy Performance Contracting are that even when the economic, social and environmental benefits are proven and even when financing models are in place and readily available, there is a risk that the speed of transformation will be slow due to lack of awareness of opportunities and benefits.

3. Research, Technology and Innovation

Research, technology and innovation are key to unlock the potentials of the bioeconomy. The BSR-Bioeconomy strategy and action plan will address this through three sets of actions:

Competence mapping: A network of researchers will prepare an inventory of leading knowledge and research institutions; their areas of excellence within the bioeconomy; and their activities and experiences on ground towards enabling the transition towards the bioeconomy. The competence mapping will feed into the (network) activities to promote shared use of hard and soft (knowledge) infrastructures as presented below – including collaborative research and innovation; technology transfer schemes; business start-up and incubation services.

Inventory of hard and soft infrastructures – including test facilities – suitable for shared uses among companies in the Baltic Sea Region. This will include efforts to connect clusters/hubs/nodes of local, regional and national bioeconomy excellence throughout the BSR with a view to promote smart specialisation in the bioeconomy. In practical terms this could take place through a voucher system or similar whereby clusters/hubs/nodes are giving access to shared infrastructures and have X number of “their” SMEs using them. Sharing hard and soft infrastructures could also take place in the form of business roaming agreements among clusters/hubs/nodes whom thereby on a reciprocal basis serve not only

“their own” companies but also collaborating/visiting companies from partner clusters/hubs/nodes.

Cross-fertilization of bioeconomy “sectors”: It is well documented that more radical innovations often appear when different disciplines are merged. A good example is the impact that ICT has made in recent years on the health economy. Similarly, evidence and experiences are emerging on the opportunities available through cross-overs between the health economy and the bioeconomy; in the cross-over between maritime and agriculture; and between materials and energy. As a result entirely new value chains are emerging. The BSR-Bioeconomy strategy and action plan will address these opportunities – and propose how the Baltic Sea Region through public private partnerships can further promote development of new commercially attractive technologies, products and services.

Bioeconomy innovation consortia: The BSR-Bioeconomy strategy and action plan will investigate the opportunity for developing a framework for bioeconomy innovation consortia whereby companies and universities in the Baltic Sea Region can collaborate to find solutions to bioeconomy companies problems by utilising and commercially activating university competences. Provided proof of interest and feasibility of establishing such bioeconomy innovation consortia, the BSR-Bioeconomy strategy and action plan may assess also the opportunity for establishing a BSR virtual bioeconomy incubation environment/house that accumulate knowledge on bioeconomy test- and demonstration centres/hubs in the BSR with a view to guide bioeconomy companies to centres of excellence in their particular business area.

4. Civil Society

In essence civil society – citizens – are the final consumers all products and services. Therefore any transition towards more sustainable consumption (and production) patterns goes hand-in-hand with the citizens of the Baltic Sea Region (literally) buying into the bioeconomy.

Sustainable bioeconomy consumption: Because a number of negative externalities of producing and consuming are today not priced (fully) into the costs of product and services, sustainable products and services tend to be more expensive than their less sustainable alternatives. Consumers can however be persuaded to consume more expensive alternatives IF these have additional sustainable properties valued by the consumers – and IF the consumers trust these additional properties. The BSR-Bioeconomy strategy and action plan will assess lessons learned from organic and eco-labelling and their potential implications for increasing the demand for bioeconomy based product alternatives by encouraging more sustainable consumption.

Participation in “People’s Meetings”: “People Meetings” – such as the annual *Almedalsveckan* on Gotland, Sweden; *Folkemødet* on Bornholm, Denmark, *Arendal Week* in Norway; and *Suomi Areena* in Finland; and *Arvamusfestival* in Estonia – discussing societal challenges have proven effective to engage civil society. The BSR-Bioeconomy strategy and action plan will therefore seek to cooperate with the organisers of such meetings to facilitate that bioeconomy is part of the discussions. Such activities tie into awareness and communication activities – which is presented below. It will largely be such communication efforts that the BSR-Bioeconomy strategy and action plan will contribute to during “Peoples Meetings”.

5. Communication

A key bottleneck for accelerating the transition towards the bioeconomy relates to its complexity; the many actors from different sectors that engage for different reasons; the relative novelty of the policy, research and business area; etc.

The BSR-Bioeconomy strategy and action plan will as a response undertake a number of efforts to communicate effectively the opportunities embedded in the bioeconomy for realizing economic, social and environmental sustainable development.

Storytelling – 10 short movies on bioeconomy solutions: The BSR-Bioeconomy strategy and action plan will identify 10 unique stories about the bioeconomy and the bioeconomy's solutions to grand economic, environmental and social challenges in the Baltic Sea Region. These stories – emphasising on how stakeholders throughout the Baltic Sea Region already today make important strides towards the bioeconomy – will be communicated in a YouTube format and made widely available through the BSR-Bioeconomy website. Other project activities will help identify these stories.

Experiencing the bioeconomy – study tours: A number of bioeconomy study tours, each participated by 20-30 bioeconomy practitioners, will showcase for bioeconomy proponents how other countries, regions, institutions and companies have already made important leaps towards realising the bioeconomy. These field trips will be thematic according to the various dimensions of the bioeconomy: “Food & Feed”; “Non-Food” and “Bioenergy” as well as cross-cutting dimensions such as “Industrial Symbiosis” and “Bioeconomy Clusters”. Findings from field trips will be reported and feed into workshops and event, including the “BSR Bioeconomy Policy Dialogue Forum” and the “Bioeconomy and Circular Economy Business Forum”, refer section 1 and 2. Thus, the field trips / study tours and associated storytelling will make important contributions towards communication, both at the BSR level and surely also, visits by international delegations to local communities around the Baltic Sea Region will attract much local (media) attention.

BSR Bioeconomy Award: The BSR-Bioeconomy strategy and action plan will develop and implement a framework/competition for an annual bioeconomy award. The award will be granted to champions of radical new innovation, new innovative partnership or new efforts to engage society, demonstrating significant potential to advance the bioeconomy in the Baltic Sea Region. The winners of the BSR Bioeconomy Award will be announced once a year in connection to a “Bioeconomy and Circular Economy Business Forum”. Other competitions – such as the Nordic Innovation facilitated competition “Nordic Built” will provide valuable experience towards the design and implementation of the BSR Bioeconomy Award.

BSR Bioeconomy Observatory – www.bsrbio.net: All BSR-Bioeconomy activities, deliverables as results of reports, network activities, study tours, conferences, awards and short movies showcasing solutions will be made available on the BSR-Bioeconomy website. All together this will de facto constitute a BSR Bioeconomy Observatory. As part of the communication activities, efforts will be made to cooperate with – benefit from and contribute to – efforts of the European Bioeconomy Observatory.

II. Implementing the BSR-Bioeconomy strategy and action plan

In implementing the BSR-Bioeconomy strategy and action plan the NCM will be observing the following:

Reference Group

A reference group – with 10-12 leading representatives from private sector, knowledge institutions, civil society and government from throughout the Baltic Sea Region – will be appointed to oversee the implementation of the BSR-Bioeconomy strategy and action plan.

The reference group will be constituted by one third of its members coming from the policy steering group (refer section 1); one third from the private sector steering group (refer section 2); and one third of its members coming from knowledge institutions and civil society.

The NCM will provide secretarial support for the Reference Group whom is envisaged to convey two times a year.

Funding the BSR-Bioeconomy strategy and action plan

The BSR-Bioeconomy strategy and action plan will not be pursued in its totality under *one* joint budget. Rather the BSR-Bioeconomy strategy and action plan provides a holistic joint framework and reference point for realising a large number of bioeconomy stakeholders' shared vision, objectives and activities for making a speedy transition towards the bioeconomy in the Baltic Sea Region.

In its capacity of being EUSBSR Horizontal Action Leader for Bioeconomy, the Nordic Council of Ministers, with contributions also from the European Union, is likely to be able to fund activities related to providing oversight, management and facilitation of BSR-Bioeconomy cooperation more generally – including for example support to implementation of policy and business forums and some communication activities.

Implementation of more specific and specialised project activities will need support from other partners. Fortunately there are a number of such funding opportunities – including those of Nordic institutions; the EU Horizon 2020 programme; the EU Baltic Sea Region programmes and other European Structural Fund transnational, cross-border and interregional programmes; as well as a large number of local, regional and national support frameworks.

It is an objective in its own right that the BSR-Bioeconomy strategy and action plan contributes to alignment of the numerous funding schemes – and that the strategy and action plan provides a solid reference point and argument for partners' justifications for pursuing specific project activities with support from regional, national, Nordic and/or European Union funds. The Nordic Council of Ministers is willing – on behalf of the many stakeholders – to provide a platform for bioeconomy cooperation that can effectuate such funding alignment.

Results from pre-seed projects, 10 steps towards the bioeconomy

During 2014-15 the Nordic Council of Ministers have supported stakeholders to collaborate in a number of attempts to develop partnerships and joint projects that in different ways are important for realising a transition towards the bioeconomy. So far 8 of such possible 10 “Steps Towards the Bioeconomy” have been initiated. These are:

- Local Capital.
- Protein – The Green Gold of Baltic Sea Region.
- Developing cross-cutting stakeholder involvement for realizing the bioeconomy.
- Baltic Phoenix - Sustainable recovery and recycling of nutrients - safety and efficacy for clear Baltic waters.
- Markets for woody biomass and wood-based energy around the Baltic Sea Region.
- Bio-resources for innovative and sustainable non-food uses.
- Blue Bioeconomy.
- Nordic-Baltic Plant Protein Arena.

The BSR-Bioeconomy strategy and action plan will provide a platform for these partnerships to develop further their cooperation and engage also with new partners, with a view to spin out financially much larger project cooperation activities – activities that then in turn will swing back to contribute to the implementation of BSR-Bioeconomy activities as presented under section 1-5 in this paper².

Integration of other priorities of the NCM

The NCM has a long tradition, many networks and useful expertise in a number of cross-cutting policy areas that are important for paving the way for a sustainable transition towards the bioeconomy in the BSR.

This includes for example policies and cooperation activities related to gender equality; children and youth; and culture – all of which hold keys that can support the Baltic Sea Region to unlock its potential in the bioeconomy.

In implementing the BSR Bioeconomy strategy and action plan the NCM will therefore reach out to engage also this expertise and these stakeholders in bioeconomy cooperation activities.

² Further details are available on <http://www.norden.org/en/theme/nordic-bioeconomy/bioeconomy-in-the-baltic-sea-region/realizing-bioeconomy-in-the-baltic-sea-region/networks>