

Bioeconomy in Regions. German Experiences and Perspectives

We are in Europe en route into a biobased world, into a bio- and knowledgebased Economy. The European Commission has been a trendsetter in this development towards a new Economy since 2005, accompanied by the acknowledgement, that biobased products and processes are one of the emerging lead-markets for the future. The financial means for the well known KBBE-Knowledge Based Bioeconomy in the last European Framework Programme for Research and Technology were already remarkable, but the EC plans much more for the future in the new Programme Europe Horizon 2020 from 2014 onwards, also based on the new European Strategy “Innovating for sustainable Growth: A Bioeconomy for Europe” from February 2012.

The development of this new European strategy is however full in swing in many parts of Europe in the various Member States. This has been vividly demonstrated by the Danish Presidency conference “A Bioeconomy in Action” in March 2012 in Copenhagen. Quite a few member states own already their proper strategies and programmes on nation level, all ahead Germany with its first national strategy of November 2010, in which 2,4 Billion € are foreseen for the next years in research and technology development, followed by The Netherlands as well with their own strong national strategy and programme. Sweden, Norway, Finland and Denmark have been publishing similar initiatives in the last weeks and months, and Belgium - Flanders is preparing until the end of this year a Bioeconomy Strategy of its own. The time is also ripe for Italy, with its strong chemical and food industry.

However, with all these interesting developments one should not forget,

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that the Bioeconomy as any other economic development will be primarily practised and implemented in regions and local areas. Therefore a short look on how Germany has been implementing successfully this new concept seems maybe interesting.

Germany had taken up the proposal of a KBBE of the EC already during its Presidency in 2007 and strongly pushed this development by issuing an international orientation paper, the so-called Cologne paper, in which many important topical and structural proposals for further progress were made. In Germany, the Federal Government took up these ideas, issuing quite a few dedicated national calls for proposals in particular to foster plant biotech and the industrial biotechnology for about 400 Mil. € from 2007-2010. But the Government also accepted that the Bioeconomy become part of the future High Tech Strategy of the country, and established in 2009 a high ranking Bioeconomy Technology Council to get expert advice on these matters. Thus a certain financial start-up commitment by various call for proposals was also accompanied on the political level. Even in the so-called Coalition Agreement between the ruling parties of the Merkel Government the Bioeconomy was acknowledged as an important future concept to be pushed, and the industrial biotechnology was accepted as one of the 8 future key enabling technologies for the economy of the country. So the political support, indeed absolutely indispensable for any new developments of this kind, was strong. In parallel, in 2 important regions of Germany, in the largest land Northrhine-Westphalia (NRW), with 18 Million people larger than many members of the EU and the Chemistry and Energy land in Germany, and Saxony-Anhalt (SA), strongly agriculturally oriented, developed their own ways of supporting and implementing the Bioeconomy. NRW launched an intensive analytical study on the potentials of this region by implementing the Bioeconomy ("Potentialanalyse"), and pushed the establishment of a regional, but nationally oriented first Bioeconomy Science Center in Jülich, with today more than 1000 researches and 50 Institutes. Saxony -Anhalt triggered the establishment of a Science Campus "Plant-Based Bioeconomy" in Halle. What is interesting is, that in both cases not only universities, but also non-university research institutions and Associations, like the largest one in Germany, the Helmholtz Association in Jülich and the Leibnitz Association in Halle took part in these efforts, in cooperation with industrial consortia.

These efforts were "coronated" by the launch of the first German national R&D Strategy and Programme in October/November 2010 with more than 2.4 Billion € for the next 5 years. This strategy followed the comprehensive

recommendations of the Bioeconomy Council in Summer 2010 to the Government to embark on such a programme, with a well defined content.

In this programmatic context the Federal government issued the first call for proposals in the area of industrial biotechnology, in food safety, in particular for Africa, in biotechnology safety in 2011, and in a few weeks the so-called Road Map for biorefineries will be published with more than 500 Mio € for the future development of Biorefining in Germany. Remarkably enough, in the Land of Brandenburg, also a strongly agricultural oriented area around Berlin, the regional government undertook a similar Potentialanalyse for its own, and we expect the results and actions to be undertaken still before the summer 2012.

To encourage the regional development in this new economic concept the Federal government will fund the Region in Saxony-Anhalt and Saxony as a model Cluster-Bioeconomy Region with an amount of 40 Mio € for the next years. This promises to be an extremely interesting experiment, as more than 60 partners, ranging from large chemical giants Like Dow Chemicals to well known Energy conglomerates like Vattenfall, from Fraunhofer Society and many SME's in this area to the Leipzig University on Economics will work together. An important pillar in this endeavor will be to slowly but steadily convert the large chemicals complexes in Leuna to biobased branches, but also to connect relevant industries like Chemistry, Paper and Pulp, energy with the agricultural and forestry sector in an way of using biomass "outside food".

In parallel to these endeavours the German land NRW is also pushing its own strategy ahead by more intimately linking chemistry with sustainable agriculture.

So in final words: To be succesful also in the regions you need not only money on national and regional levels, but also a robust tangible plan and analysis plus a robust nonpartisan political will and intention to go to a new future, based more on plants, animals, microorganisms, with the clear potential to be more sustainable than before, to be more resources efficient than before and to contribute to slowly replace or fossile based past and presence. But this also requires innovative ways for cooperation among a large variety of stakeholders, the acknowledgement, that working and operating and thinking in value - chains and cycles requires new forms of marketing and awareness than in former times. A Challenge, which will deserve its future.