PA #6 The Italian Bioeconomy and supporting knowledge on the transition to a local circular bioeconomy

The Italian Bioeconomy activities make a total turnover of EUR 330 billion and around 2 million employees. It's a critical sector for the country and yet is not adequately preserved. Annually, the sector deployed over 120,000 kton of biomass, half of it is imported. The internal production of raw biomass does not meet the internal demand, but the produced biomass is also exported with an important added value determined by the quality of the production.

In fact, the most important use (both quantitatively and economically) is the food and feed sector with a global consumption of over 60,000 kton of biomass only for such sector.

The Italian food sector is leading in terms of added value with the globally recognizable "Made in Italy" label that is often threatened by "Italian sounding" products.

In terms of turnover, Italy was the third food industry in 2014 with EUR 132 billion and has registered 106 PDO (Protected Designation Origin), 161 PGI (Protected Geographical Indication) and 2 TSG (Traditional Specialty Guaranteed) products.

Looking at the data and having in mind the importance of circular economy, it's important to highlight that the second "sector" in terms of consumption of raw biomass, after food, is the "losses", which of course account for the unavoidable losses in the transformation but represent near 40,000 kton of biomass, which is the 33% of the total deployed biomass. With such number of losses, it is critical to focus on circular economy and to break down barriers that are preventing a sustainable utilization of byproducts from agriculture, food, forestry and related industries.

The application at the national level of the European waste directive proves to be complicated by an internal regulation which was always based on an entirely different structure.

Companies are often discouraged from using by-product fearing an unclear regulation and a volatile interpretation.

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Figure 1: Forestry in Italy

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On the other hand, forestry in Italy is the missing pillar that from decades fails on reaching its full potential. With a Forest land cover that interest over one third of the national surface, only 15.3% of the Italian forest area is subject to forestry management plans, and the production of wood and other products remains stable, but sawmills and infrastructure are decreasing. The current forestry harvest rate is between 18.4% and 37.4% of the annual increase, a lot lower than the European average, equal to 73%.

Companies involved in the bioeconomy sector in Italy face totally different challenges.

The food (linked to agriculture and fisheries) sector is a relevant sector with a well-established transformation and supply chain and the most relevant problems are related to cost of production (far higher than the EU average) and protection of high quality products from counterfeiting in the external market.

The bioenergy and biochemical sectors on the other hand could have an interesting growth potential due to the availability of residues from primary productions in the cascading approach, but such sectors suffer from the lack of a well establish supply chain regulatory uncertainty and disruption of support.

For the tradition, for the geomorphological composition and for the reputation of quality productions, Italian bioeconomy sector could most certainly grow in the future and should run as leading sector for the national economy.

To reach such a goal, policy makers should simplify regulations and companies needs to create strong networks and both horizontal and vertical partnerships in order to overcome barriers related to the cost of production and the concentration of the added value on distribution