

Evaluation of biomasses to be used to produce ingredients for RTE in Portugal

The **main destination** of these undervalued raw materials is the meal factories existing in Portugal. However, this huge mass of resources can be used to obtain a significant amount of bioactive compounds with wide pharmaceutical and biotechnological applications, such as proteins (enzymes, collagen), protein hydrolysates, lipids, astaxanthin and chitin. Among the bioactive compounds extracted from fishery discards and by-products, **proteins** and **oils rich in Polyunsaturated Fatty Acids (PUFAs)**, especially eicosapentaenoic acid (EPA) and Docosaesaenoic Acid (DHA) are particularly interesting for their high commercial value.



Canning Industry

The highest contributor to the generation of fish by-products in Portugal. Mainly generated in the central and north region. Azores contributes with 3,000 t/year.



Frozen Industry

The second largest producer of fish by-products in Portugal. Companies in the centre of Portugal contribute to almost 50% of the by-products.



Fresh fish

Higher availability was evidenced in the centre and north of Portugal, corresponding to the regions with higher population.



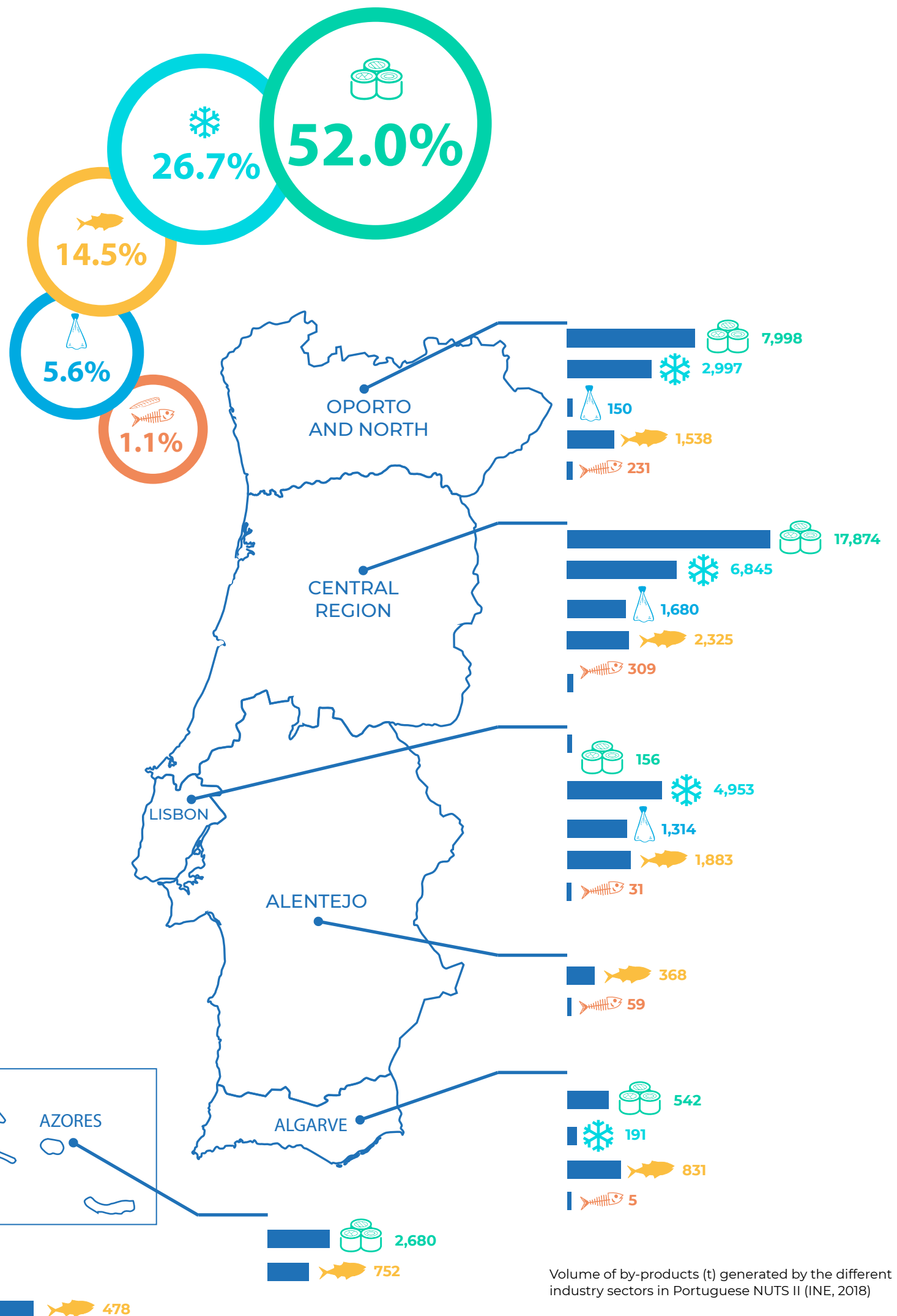
Cod salting and drying industry

By-products have been slightly decreasing during last years. The major part of by-products located in the "Ria de Aveiro" region, in the centre of Portugal and in Metropolitan Area of Lisbon.



Withdrawals and rejections

The center and north of Portugal record the highest amounts. In contrast Algarve had the lowest quantities. The species with more withdrawals and rejections are Atlantic mackerel (*Scomber scombrus*) and chub mackerel (*Scomber colias*).



Volume of by-products (t) generated by the different industry sectors in Portuguese NUTS II (INE, 2018)