

MARINE BY-PRODUCTS IN NORWAY –SUPPLY AND UTILISATION

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Catch / Production -> By-products

• White fish	768 000 MT	->	338 000 MT
• Pelagics	1 324 000 MT		
• Herring	526 000 MT	->	194 700 MT
• Aquaculture	1 361 000 MT	->	407 000 MT
• Shellfish	32 000 MT	->	10 000 MT

• TOTAL	3.5 mill tons	->	950 000 MT
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By-products utilization – Main processing method (2017)

	Demersal species	Pelagic	Aquaculture	Shellfish	Total
Fishmeal processing	18 250	136 624		900	155 774
Silage processing	49 490	56 938	225 262		331 690
Fur feed processing -frozen	27 078	-	-		27 078
Hydrolysis of fresh guts			135 637		135 637
Products for human consumption	61 313	1 196	14 338		76 847
Edible oils & extracts	10 634				10 634
Miscellaneous				2 500	2 500
SUM	166 765	194 758	375 237	3 400	740 161

Degree of utilization: Demersal - 50 %; Pelagics – 100 %; Aquaculture – 91 %; Shellfish – 21 %

Non use of marine by-products (MT)

Heads – White fish

Guts, miscellaneous – White fish

Bleeding blood – Aquaculture

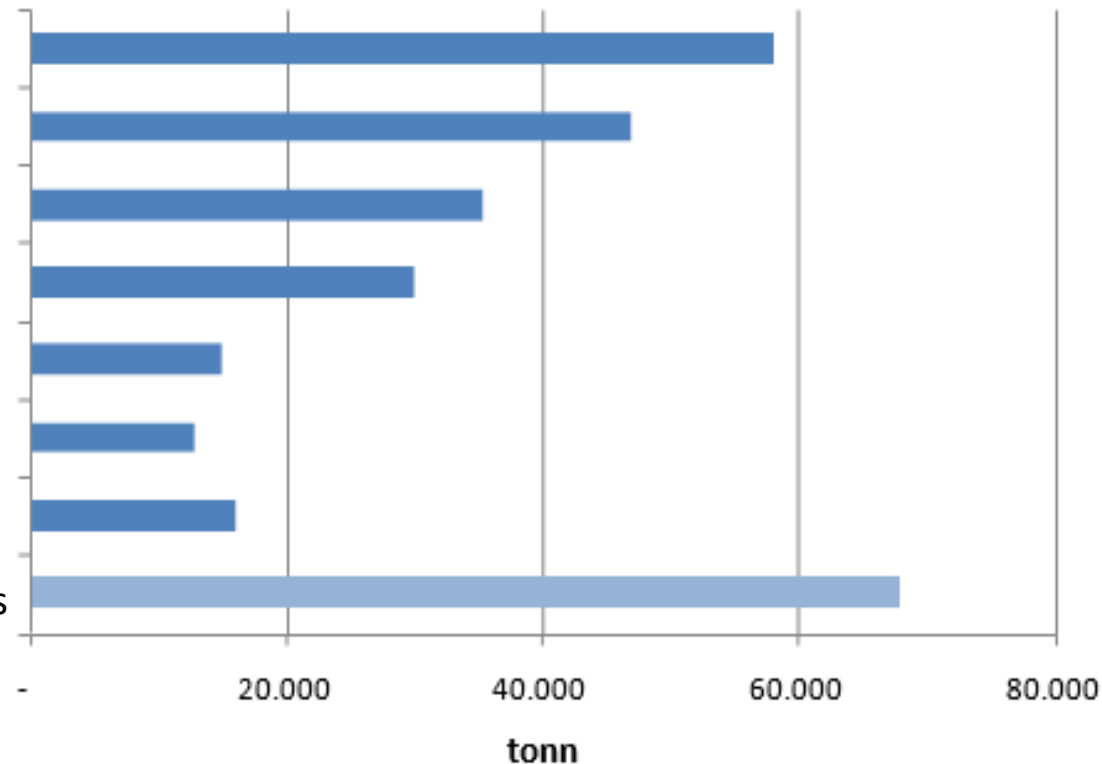
Liver - White fish

Roe – White fish

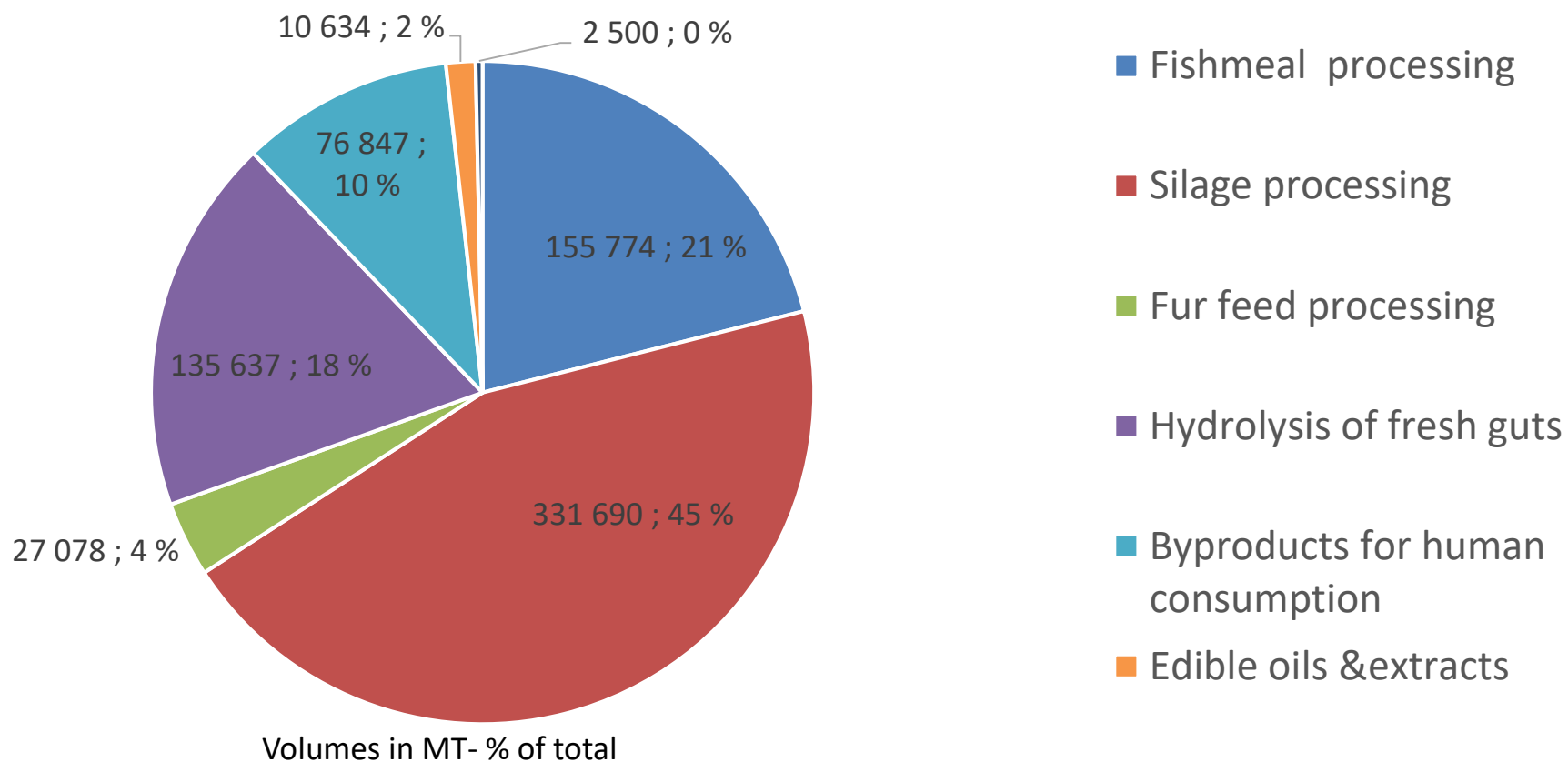
Shells - Shrimp and Crab

Backbones – White fish

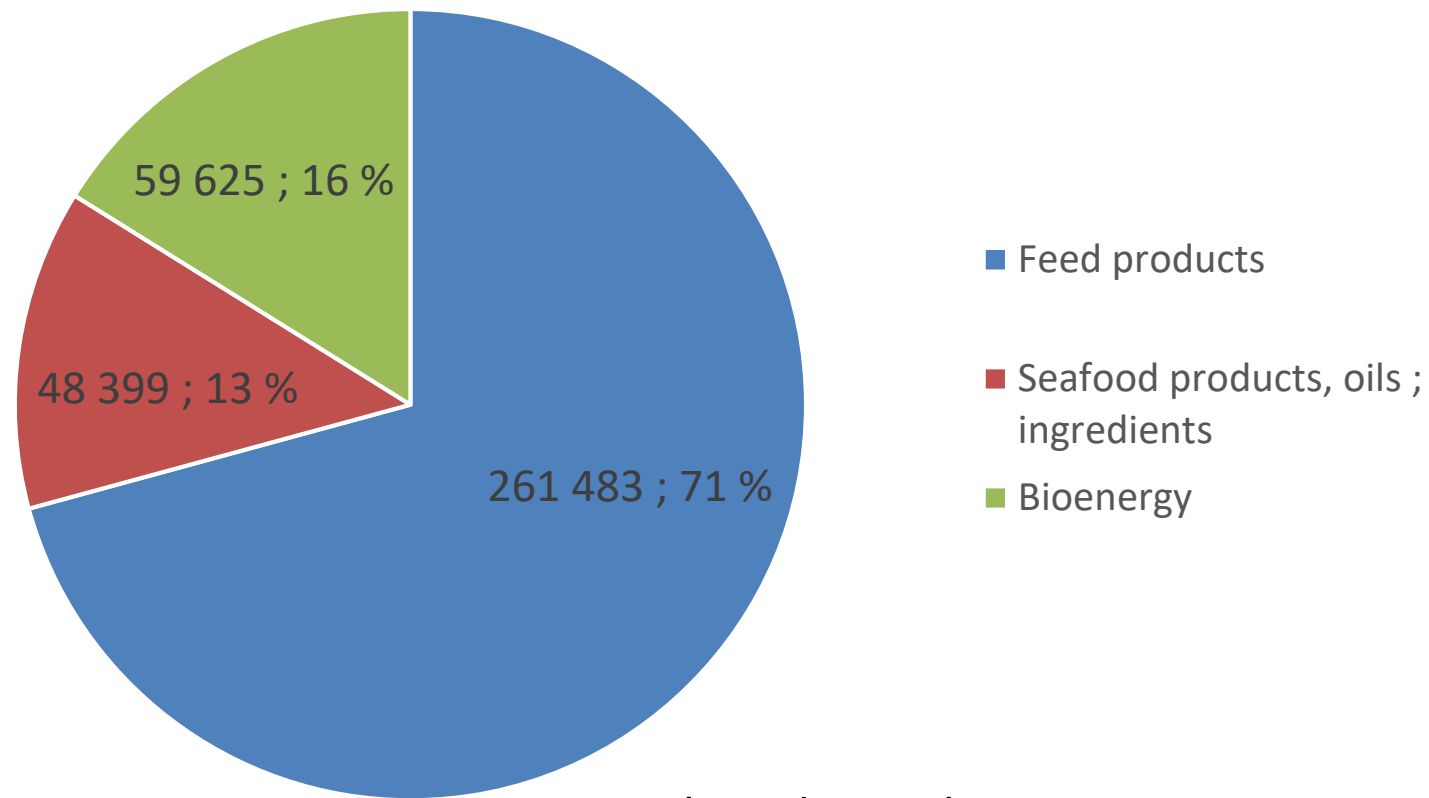
Heads/guts – deliveries foreign vessels



Utilization of byproducts – Processing method

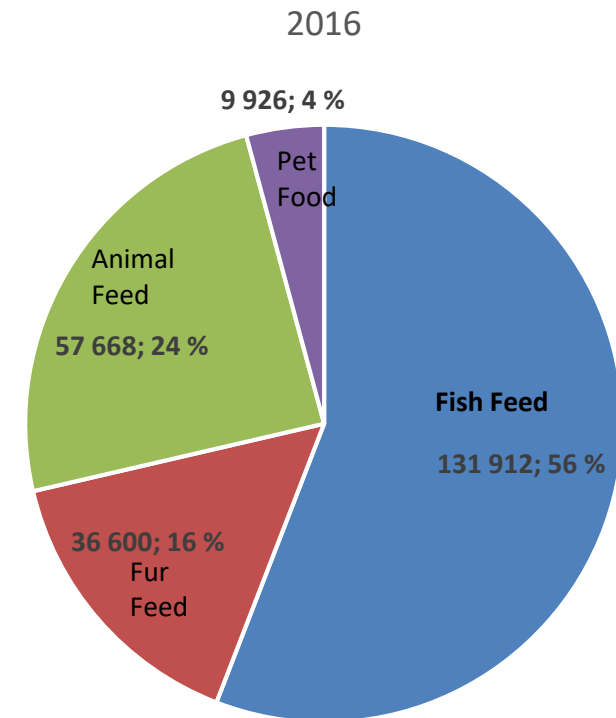
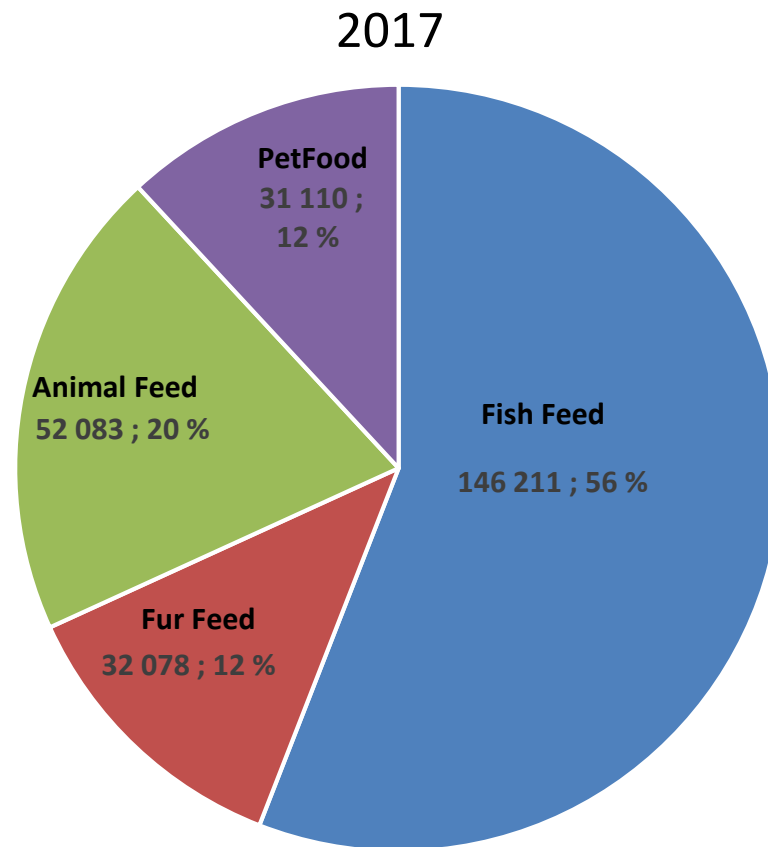


Main Market Areas

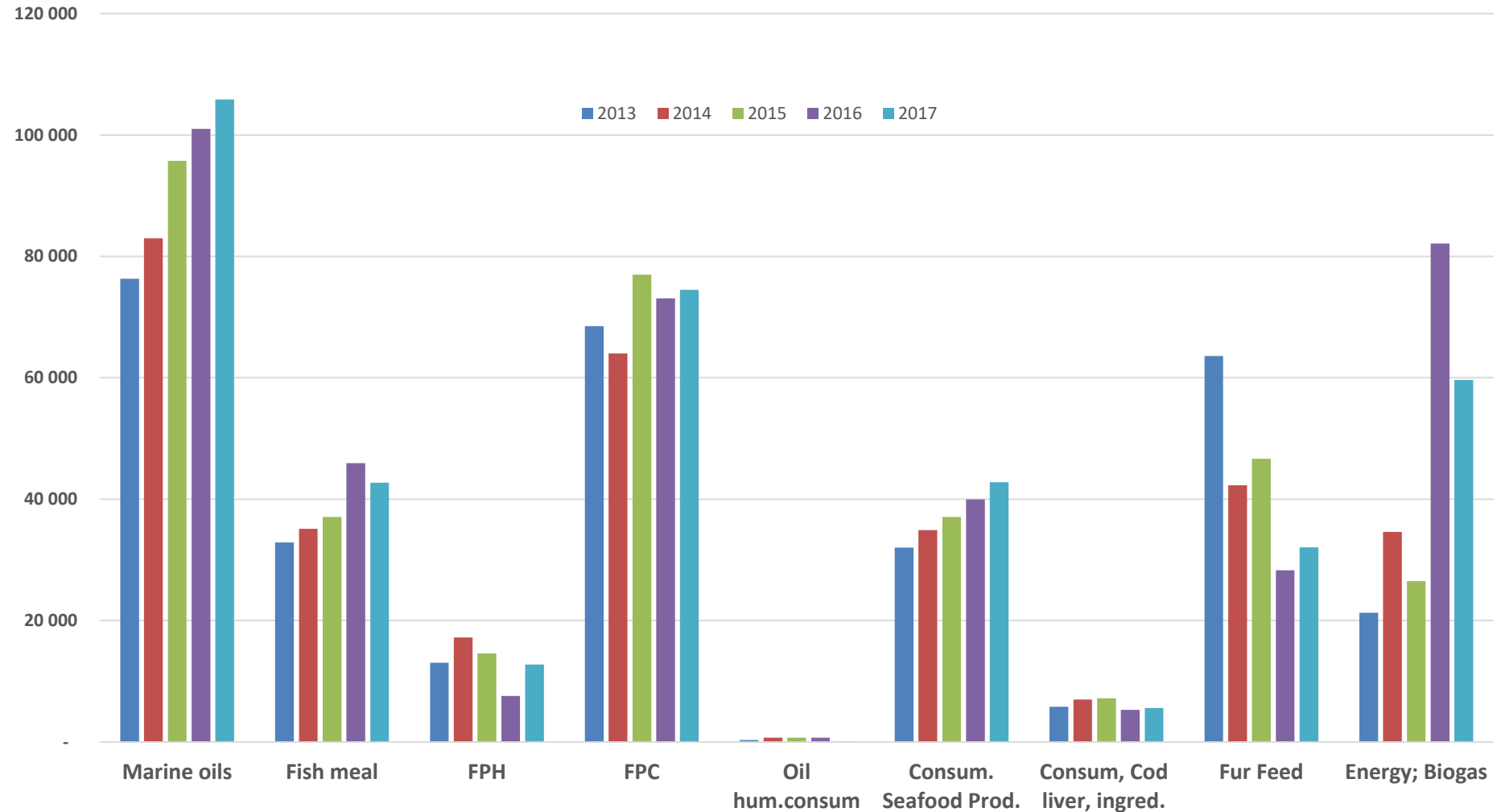


Total product volume: 369 506 MT

Specification of feed markets

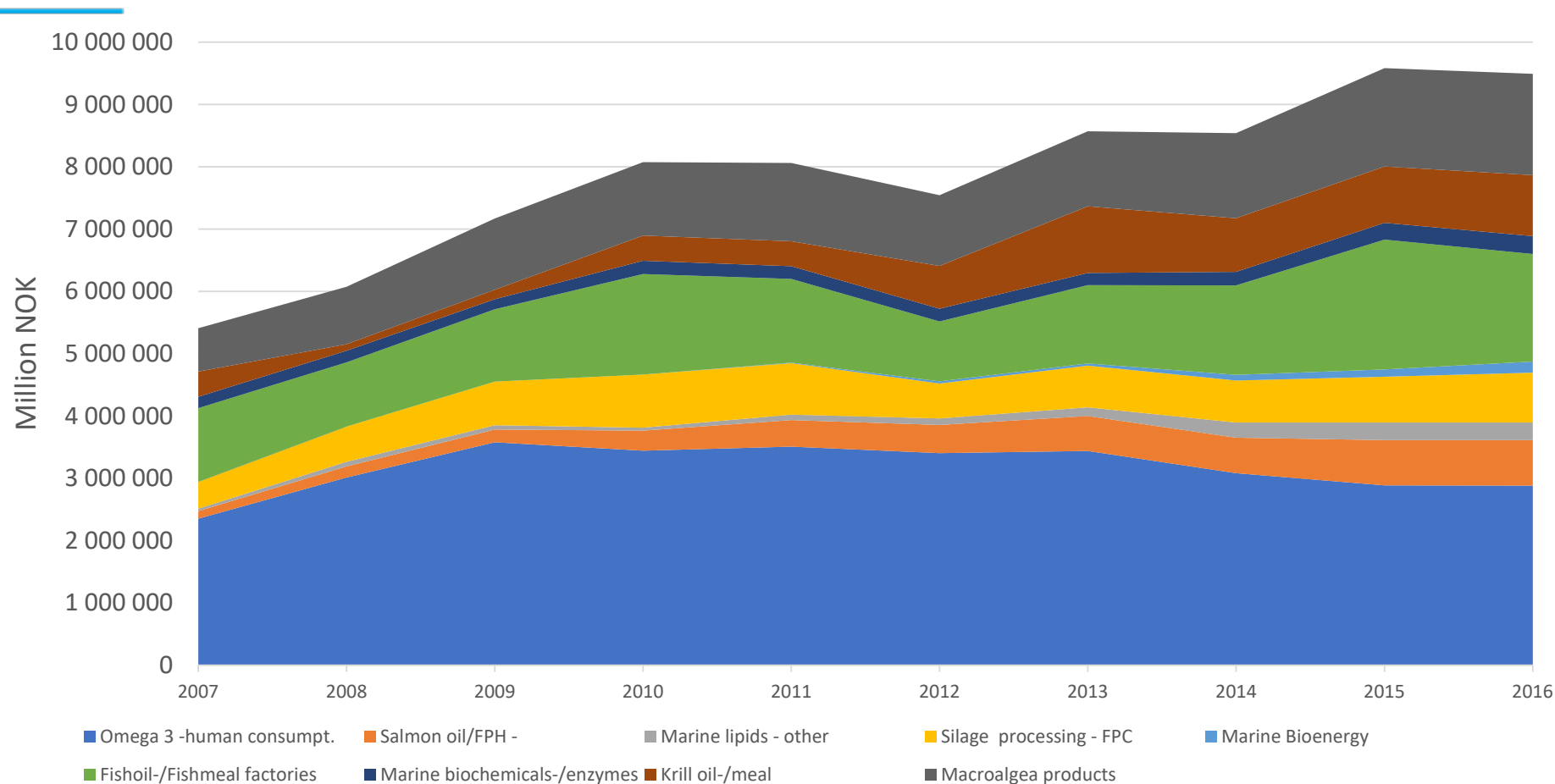


Main Product Categories (2013 – 2017)



Marine ingredients industry

Gross turnover 2007 - 2016





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