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EUROPEAN SALT PRODUCERS' ASSOCIATION

THE EUROPEAN SEA SALT INDUSTRY

Navigating Production, Trends and Prospects

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Summary:

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1. Introduction to the Sea Salt Industry

According to the latest report commissioned by EUsalt and compiled by Salt Market Information and Salt Research + Consulting, over 48 companies in Europe* produce sea salt, with operations ranging from small manual harvesting plants to large-scale industrial facilities.

The total production capacity is nearly 5 million tonnes annually, with 2023 production reaching around 3.4 million tonnes. Sea salt production is highly dependent on weather conditions, leading to significant annual variation. In 2023, consumption matched production at 3.4 million tonnes. While sea salt is used across all major applications, its demand profile differs from other salts, with minimal use in the chemical industry due to location and high volume requirements. Instead, sea salt is more commonly used in food processing and as table salt.

This brochure serves as your guide through the world of sea salt production, offering insights into its current state, methods of operation, and promising future prospects.

Capturing salt by evaporating seawater in natural lagoons or artificially created ponds, salt marshes or marine salt flats is one of the oldest processes. Salt marshes were mainly created near areas inhabited by ancient civilisations and on flat stretches of coastline.

**The regional scope of European salt market study includes all countries where the EUsalt members have production sites. This includes EU27 countries plus the United Kingdom, Norway, Switzerland, Turkey, Albania, Bosnia-Herzegovina, Serbia, Montenegro, and North Macedonia.*

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1.1 Definitions of solar and sea salt

- **'Solar salt'** is the generic term for crystalline salts which are obtained by solar evaporation of seawater, salt lakes, natural brine, mined brine (solution mining) or brine that comes from an above-ground dissolution of rock salt.

- Salt from salt lakes is sometimes called **'Lake salt'**. In this study, solar salt from lake brines is excluded from the "Sea salt" category. A breakdown of European solar salt production capacities by brine source is illustrated in the graph below. Seawater accounts for about 50% of solar salt production capacities.

- **'Sea Salt'** is crystalline salt which is extracted from seawater by solar evaporation. Production of salt by evaporation of seawater in natural lagoons or artificially created ponds, salt marshes or marine salt flats is one of the oldest processes. Salt marshes were mainly created near areas inhabited by ancient civilizations and on flat stretches of coastline. The principle has remained the same over centuries: seawater evaporates up to the saturation point in open basins due to the action of sun and wind. Currently, crystallization occurs in dedicated open basins where the concentrated seawater is pumped. Once the salt crust has formed, surplus salty water can be eliminated before the salt is harvested. The raw salt can be further processed, including washing, drying, and sieving.

Salt obtained from mixtures of seawater and brine from solution mining, seawater desalination, etc. in basins using sun and wind cannot be considered sea salt. Only salt that is extracted from seawater exclusively using sun and wind can be called sea salt. This excludes procedures using artificial heating.

Long dry periods, and warm temperatures are needed to concentrate the salt solution sufficiently for crystallization of the salt. The necessary climatic conditions for the production of solar salt are met in Southern Europe, and the production of sea salt takes place along the Atlantic and Mediterranean coast.

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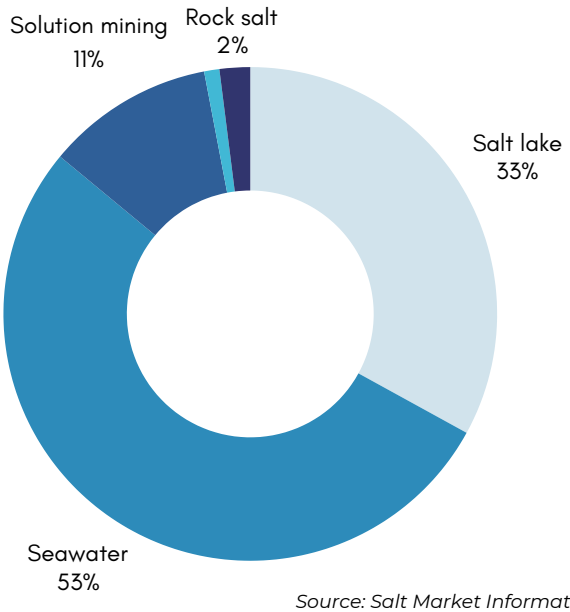
Breakdown of European solar salt capacities by source of salt



Source: Salt Market Information and Salt Research + Consulting

2. Present-Day Landscape: Overview of the European Sea Salt Market

Sea salt accounts for about 10% of the total European salt production capacity.

Sea salt production in Europe occurs on both industrial and small scales, with many producers still harvesting salt manually. 3.4 million tonnes of the overall European salt production of 50 million tonnes were produced in the form of sea salt. In Europe, sea salt is produced in Albania, Bulgaria, Croatia, Cyprus, France, Greece, Italy, Malta, Portugal, Slovenia, Spain, and Turkey.

Counting industrial and small scale sea salt sites, the overall annual production stands at 3.4 million tonnes in 2023.

According to data from Salt Market Information and Salt Research + Consulting, the sector employs around 2418 people. In the EU, 2219 persons are employed by the sea salt sector. The estimated turnover based on the same information is 481 million euros. In the EU, the turnover stands at 432 million euros.

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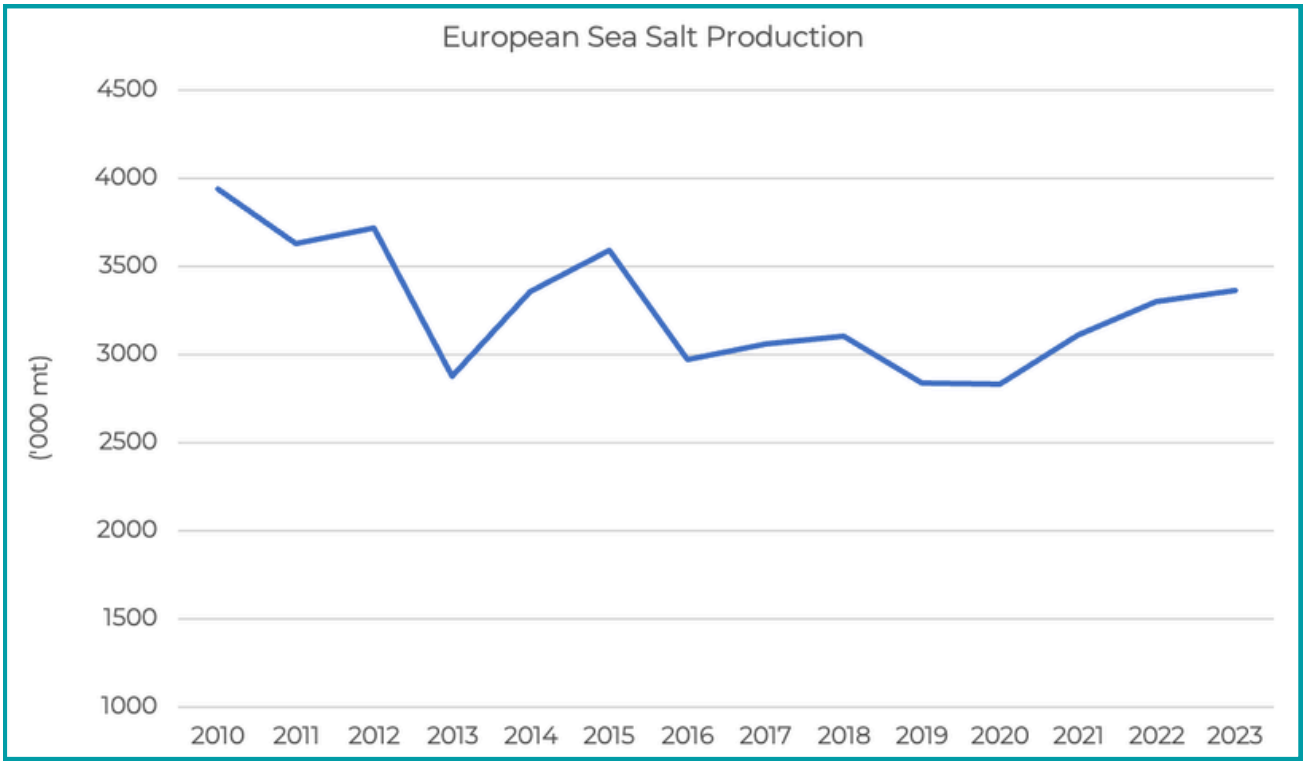
Source: Salt Market Information and Salt Research + Consulting

Production of sea salt fluctuated over the past decade. This is mainly due to differences in weather conditions from one year to another.



Source: Salt Market Information and Salt Research + Consulting

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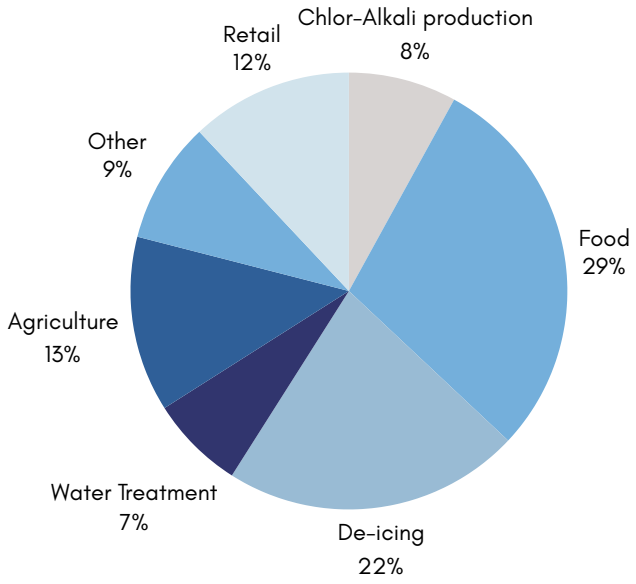
3. Different uses of sea salt and related data

The demand by end-use profile of solar salt differs from that of all salt types. Consumption of sea salt matches production and is estimated at about 3.4 million tonnes as of 2023.

End-uses of sea salt in Europe in 2023 (Source: SRC, SMI)



Source: Salt Market Information and Salt Research + Consulting

European imports and exports of sea salt remain difficult to track accurately due to inconsistent reporting practices. However, it is estimated that Europe imports between 1 and 2 million tonnes of sea salt annually, primarily from Tunisia, Egypt, Australia, and the Caribbean, with the majority used for de-icing.

In recent years, Europe has exported has exported minimal amounts of sea salt with Spain, France, and Italy.

The retail market for sea salt, driven by its natural origin and unique crystal characteristics, has grown over the past decade as salt has become a culinary lifestyle product. While sea salt initially benefited most from this trend, other non-sea salt producers have also entered the market. The demand for sea salt in the specialty food retail market is expected to continue growing slowly.

In other market segments, sea salt is chosen for reasons such as regional availability, price, and its relatively large crystal size, which is particularly suited for the de-icing market. Unlike rock salt, vacuum salt, and brine, where production can be adjusted to meet market demand, sea salt production fluctuates yearly depending on weather conditions.

Adjustments to sea salt production volumes are made over the long term, aligning with broader market trends rather than short-term demands.

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4. Future Trends

Measures to limit climate change via emission reductions has stimulated interest in sea salt production, because the evaporation process leading to crystallization is driven by sun and wind and generates only very low carbon dioxide emissions.

Growth is constrained by several factors. One is the energy that is consumed with the transportation of salt from the sea salt production site to the end-user. Another constraint is the availability of suitable land. The importance of sea salt will therefore be limited to regions in the proximity of its production.

Production of sea salt is the production process with lowest energy consumption, and accordingly its share in the overall production volumes is likely to grow over the next decades.

Photo: Marseille (France) - Salins plant

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5. Conclusions

In conclusion, the European sea salt industry is diverse, encompassing both small-scale, artisanal producers and large industrial operations, with a total annual production capacity nearing 5 million tonnes.

Trade data is challenging to track precisely, but Europe imports significant quantities of sea salt, primarily for de-icing, and exports minimal amounts annually, mainly from Spain, France, and Italy. The unique qualities of sea salt, such as its natural origin and distinct crystal structure, continue to drive its popularity in the culinary sector, although competition is growing.

While production volumes fluctuate due to weather conditions, the demand for sea salt remains steady, particularly in the retail and de-icing markets.

As the market evolves, it is crucial for the industry to adapt to long-term trends, balancing production with demand and capitalizing on sea salt's unique market appeal.

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