

7. Impact of the Marine Spatial Plan 2020-2026 and the new reference surface on sand extraction in Belgium

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ZEEGRA is the Belgian federation of importers and producers of dredged sea aggregates. Its 10 member companies are all active in the extraction, production and marketing of marine aggregates to be used in the construction industry. The marine aggregates are extracted from various licensed areas in the North Sea. All members of ZEEGRA have a license to dredge sea sand on the Belgian Continental Shelf (BCS).

The fleet active in the Belgian part of the North Sea consists of ca. 15 dredgers with an average hopper volume between 2.000 and 3.000 m³

The total yearly extraction volume of marine construction sand from the BCS is at a maximum level of 15,0 million m³ over 5 years or on average 3,0 million m³ per year.

In order to qualify as a suitable sand-source for the construction industry, there are a number of key requirements to be fulfilled in terms of quality, quantity and cost.

1. Quality of the sand has to be good/sufficient and constant. Main quality parameters are grain size distribution, (absence of) organics, (low) shell content and colour.
2. Sufficient volumes have to be available now and in the future.
3. As in any economic activity, cost is an important aspect. Main parameters that drive costs in this case are sailing distances, dredging depth and the ability for in-line separation of oversize (>8mm).

Over the past fifty years, the use of Belgian marine sand in construction has gradually increased thanks to its own merit i.e. good and very constant quality, as a welcome substitute for the diminishing alternative (on shore) resources.

The legally imposed maximum level of 3,0 million m³ per year is now reached. Whether or not to increase this level is a political choice, whereby the balance is considered between current and future availability. Although sand can be extracted in a sustainable way, it is a non-renewable resource.

From the perspective of sustainability, the introduction in 2021 of the new reference surface as the bottom-limit for extraction is a major step forward. Reference is made to the presentation on this subject by the previous speaker, Mr. Koen Degrendele. The new reference surface is based on scientific principles and by respecting it, the following very important boundary conditions are automatically met:

1. The integrity of the seabed is best preserved as sand extraction is limited to the top sediment layer only.
2. The structure of the sandbanks are preserved, thereby ensuring their continued role in the protection of the Belgian coast.
3. The use of the available sand in mobile structures such as sand waves is maximised.
4. The impact on hydrodynamic conditions is limited.

The above boundary conditions are crucial to enable sustainable sand extraction over the long term. Neglecting any of these conditions, can very easily result in unacceptable impact of sand extraction, which in turn would undermine the economic activity.

Sand extraction is just one of the many activities taking place in the Belgian part of the North Sea. Other activities involve (in random order) shipping, green energy, the installation of cables and pipelines, nature conservation, fishing, military activities,... A Marine Spatial Plan (MSP) is an absolute necessity to reconcile these various (economic, ecological and social) interests and to provide every activity with an appropriate place in the rather limited space that is available in the Belgian part of the North Sea. Belgium was a pioneer in Europe and even in the world with its very first MSP for the period 2014-2020. The MSP covers a six year period. For the new cycle (2020-2026), it entered into force on 20th March 2020.

In Belgium, the MSP provides for sand extraction in legally defined areas called 'control zones'. There are currently five control zones where sand extraction is allowed, labelled with a number from 1 to 5. The quality and nature of the sand vary across the control zones as does the cost to extract the sand depending in function of dredging depth and sailing distance.

With the increased activity in the Belgian part of the North Sea, especially the increase of green energy, and the installation of additional cables and pipelines, very large volumes of good quality construction sand have been (temporarily) blocked from immediate access. This is no problem in the short term, but over the long term this definitely has to be a point of attention in marine spatial planning. Good quality construction sand is a vital and non-renewable resource. The extensive studies leading up to the new reference surface have confirmed the availability of very large sand resources outside the currently active control zones. These resources have to be safeguarded as a future reserve. Appropriate legislation is required with regard to the design and installation of offshore infrastructure, to enable the complete removal of all obstacles from the seabed at the end of the technical/economical lifetime of such infrastructure (e.g. foundations, cables, etc.). This will enable future spatial planning to make these reserves available again for sand extraction, whilst the control zones that by then will be extracted down to the defined reference surface, can then be made available for other seabed users. This long term dynamic interaction will have to be introduced more and more in the future spatial planning in order to safeguard and optimally use the scarce but very good quality sand reserves that Belgium possesses on its Continental Shelf.

In conclusion, both the new reference surface and the Marine Spatial Plan are very important for the long term sand extraction in Belgium – to the point that both are a condition sine qua non. Despite their relatively recent coming into existence, both the new reference surface and the MSP have already become part of a solid foundation that can continue to support the future of this economic activity for generations to come.

Keywords: Zeegra, marine aggregates, sand extraction, sand-source, sand quality, dredge, licensed area, availability, reserve, construction, industry, new reference surface, Marine Spatial Plan 2020-2026