

Market Study: Biobased Insulation Material



Europe Report (1st edition)

This brochure provides further information on the study “Biobased Insulation Material - Europe (1st edition)”

Executive Summary

Granulated cork, mats made from hemp, fleeces made from sheep’s wool or even blown-in cellulose flakes: Biobased insulation materials are increasingly competing with mineral wool and plastic foam. Ceresana has been analyzing the market for insulation materials used in the construction industry for 10 years. Now, for the first time, the market research institute is publishing a study specifically on the European market for insulation materials made from renewable raw materials. The new market report expects sales of these “green” building materials to exceed EUR 2.3 billion by 2032.

Building insulation saves money and energy

Well-insulated walls reduce the heating energy requirement or the cooling load of buildings – and therefore reduce not only costs but also carbon dioxide emissions. Renewable raw materials such as flax, straw or reed can further improve the energy balance and the “ecological footprint” of buildings. They are available, for example, with the German “Blauer Engel” or the Austrian “Österreichischen Umweltzeichen” eco-labels. The demand is expected to increase significantly over the coming years. Ceresana expects the highest CAGR of 3.4% in residential construction and slightly less in commercial construction. In many places, the construction of warehouses and logistics centers as well as data centers, is a ray of hope for the struggling construction industry. While new construction is only growing slightly, Ceresana is forecasting growth rates of up to 4% per year in the renovation sector.

The energy-efficient refurbishment of residential and public buildings is subsidized by the state. In the EU, better thermal insulation is one of the focal points of the recovery and resilience plans for the “green transition” until 2026.

Growing demand for biobased insulation

Natural materials are often even more expensive and less known than mineral or synthetic products. In some cases, they have to be specially protected against water, fire and pests. In many places, conservative building regulations and standards still make it difficult to use mushroom mycelium or other innovative insulating materials. Biobased insulating materials, on the other hand, are ideally non-toxic and biodegradable after their usage period, i.e. easily compostable. However, “green” building materials not only score points for sustainability, but also for their physical advantages: Many biobased insulation materials can absorb water vapor from the room air and then gradually release it again. In the event of a fire, wood panels, sawdust and other biobased insulation materials can be more predictable and less dangerous than plastic insulation made of EPS or XPS.

Current Market Study:

Chapter 1 analyzes the European market - including forecasts up to 2032. The development of **demand** (in m³) and **revenues** (in USD and EUR) is detailed. Demand is also split by the individual **applications** and further includes the following **product types**: Wood, cellulose and other insulation materials.

Chapter 2 examines the market for biobased insulation materials in **14 individual countries**. **Consumption** and **sales** are shown in each case. In addition, **demand** is broken down into the **segments** “new construction” and “renovation” as well as “residential construction” and “commercial construction”.

Chapter 3 provides 41 company profiles of the most important manufacturers, such as GUTEX, Hunton, Fibris, Steico, Soprema, and Synthesa.

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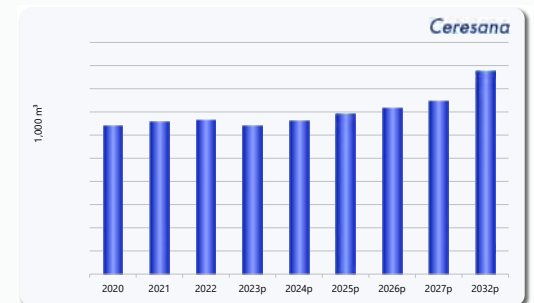
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2.5 Germany

Demand for biobased insulation materials in Germany amounted to X million m³ in 2022. We expect demand to increase by an average of X% p.a. and reach around X million m³ by 2032. Revenues generated with biobased insulation materials amounted to around EUR X million in 2022. We expect an average increase of X% per year until 2032.



Graph: Demand in Germany from 2020 to 2032

Revenues	2020	2021	2022	2023p	2024p	2025p	2026p	2027p	2028p	2029p	2030p	2031p	2022-2032p
million USD	x	x	x	x	x	x	x	x	x	x	x	x	x% p.a.
million EUR	x	x	x	x	x	x	x	x	x	x	x	x	x% p.a.

Table: Revenues in Germany from 2020 to 2032, in million USD and million EUR

1,000 m ³	2020	2021	2022	2023p	2024p	2025p	2026p	2027p	2028p	2029p	2030p	2031p	2022-2032p
New Construction	x	x	x	x	x	x	x	x	x	x	x	x	x% p.a.
Renovation	x	x	x	x	x	x	x	x	x	x	x	x	x% p.a.
Total	x	x	x	x	x	x	x	x	x	x	x	x	x% p.a.

Table: Demand in Germany from 2020 to 2032 – split by new construction and renovation

1,000 m ³	2020	2021	2022	2023p	2024p	2025p	2026p	2027p	2028p	2029p	2030p	2031p	2022-2032p
Wood	x	x	x	x	x	x	x	x	x	x	x	x	x% p.a.
Cellulose	x	x	x	x	x	x	x	x	x	x	x	x	x% p.a.
Other	x	x	x	x	x	x	x	x	x	x	x	x	x% p.a.
Total	x	x	x	x	x	x	x	x	x	x	x	x	x% p.a.

Table: Demand in Germany from 2020 to 2032 – split by material

1,000 m ³	2020	2021	2022	2023p	2024p	2025p	2026p	2027p	2028p	2029p	2030p	2031p	2022-2032p
Residential	x	x	x	x	x	x	x	x	x	x	x	x	x% p.a.
Commercial	x	x	x	x	x	x	x	x	x	x	x	x	x% p.a.
Total	x	x	x	x	x	x	x	x	x	x	x	x	x% p.a.

Table: Demand in Germany from 2020 to 2032 – split by residential and commercial construction

In 2022, the largest share of total demand for biobased insulation materials was accounted for by "insulation materials made of wood". Demand for "other biobased insulation materials" is expected to develop most dynamically over the next ten years, at X%.

In 2020, around 360,000 companies in the construction industry in Germany with 2.6 million employees (6% of the workforce) generated sales of around EUR 360 billion. In 2021, the construction sector's share of total gross value added reached 6% (nominal),

Market Study: “Biobased Insulation Material - Europe (1st edition)”

14 Countries, 41 Producers, 170 Pages, 17 Graphs, 71 Tables, 11/2023

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2 Market Data: Country Profiles

(For each country: Revenues, demand broken down by materials, and demand broken down by „new construction“ and „renovation“ as well as „residential“ and „commercial construction“.)

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or 4.2% (price-adjusted). Of the EUR 475 billion in construction investments in 2022, 61.6% were for residential construction, 19.9% for commercial construction and 4% for public construction; public civil engineering had a share of 7.9%, commercial civil engineering 6.6%. Public construction investments, i.e. by the federal government, federal states and municipalities, amounted to EUR 58.1 billion (a decrease of 2% in real terms compared to 2021 due to inflation). On average public-sector contracts account for almost 30% of sales in the German construction industry.

When it took office at the end of 2021, the current federal government set up a new Federal Ministry of Housing, Urban Development and Building (BMWSB), which initially has a budget of just under EUR 5 billion. The government announced that 400,000 new homes will be built in Germany each year, 100,000 of which will be publicly subsidized. However, this target is not considered feasible until after 2024. German construction output decreased by 1.5% in 2022, following a decline of 1.6% in 2021. A further decline is expected for 2023, mainly due to higher costs for construction materials and poorer financing conditions. To prevent an even greater slump, Chancellor Scholz met with representatives of the construction industry for a "housing summit" at which a package of measures covering 14 aspects was agreed. Among other things, planning and approval processes are to be accelerated, bureaucracy reduced, and digitization and innovative construction methods promoted.

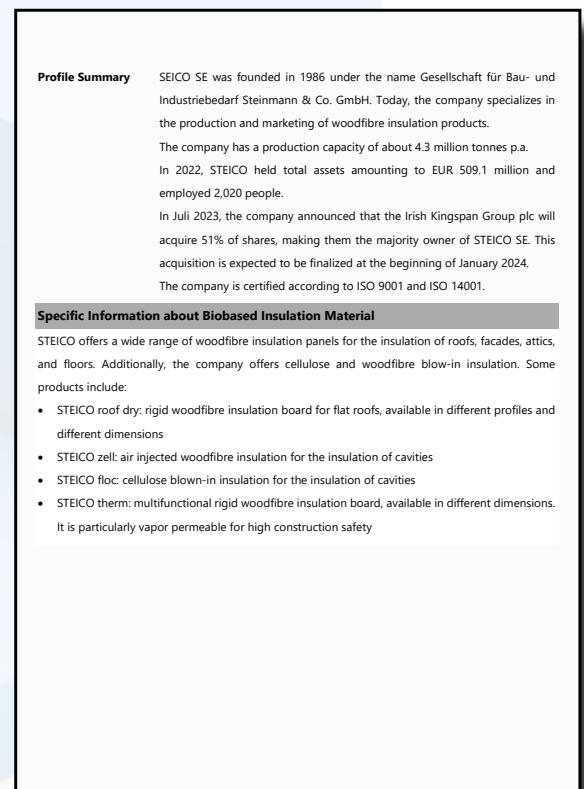
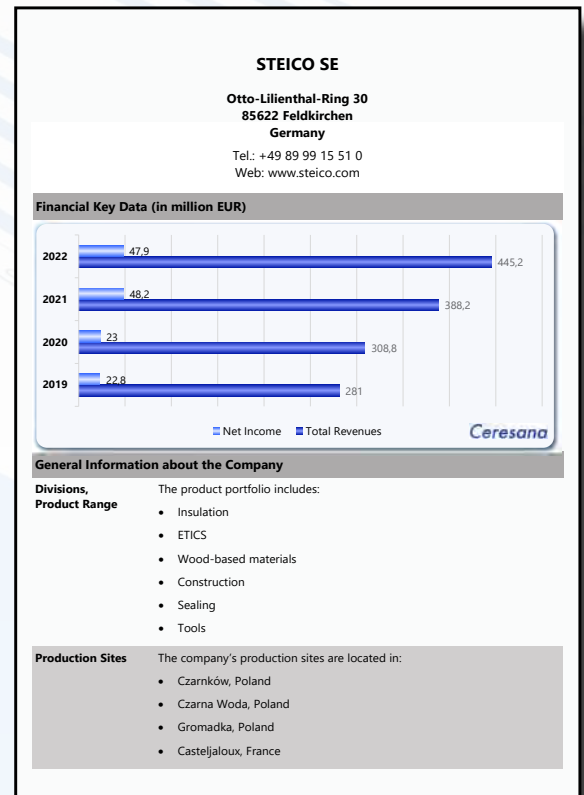
In the first quarter of 2023, the number of building permits for apartments in new or existing buildings decreased by 25.7% compared to the same period last year (new single-family homes down 31.1%, two-family homes down 51.9%, multifamily homes down 25.2%). In 2022, the number of building permits, measured in m² of floor space, decreased by 7% compared to 2021 – 304,600 apartments were approved in new residential buildings to be built. In 2021, 293,393 apartments were completed, down from about 306,000 apartments in 2020. Increasingly, a "construction overhang" is developing in Germany: In 2021, there were more than 846,000 homes that were approved but not started or completed.

Demand for housing remains high in Germany; the home ownership rate is the lowest in the EU (only 50.4% in 2020). In order to increase home ownership rates and make the construction sector more climate-friendly, the German government has launched various subsidy programs to replace the "Baukindergeld", which expired at the beginning of 2023: Since March 2023, the "Climate-friendly new construction" program has provided funding of almost EUR 2 billion for new residential buildings that meet efficiency house and greenhouse gas standards and use renewable energies (excluding biomass or pellets) to generate heat. In June 2023, the "Home Ownership for Families" funding program was launched with EUR 350 million to support families with children and small or medium incomes "in the construction and acquisition of newly built climate-friendly residential property" with low-interest KfW loans.

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- Sweden (1)
- Switzerland (1)
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- United Kingdom (1)

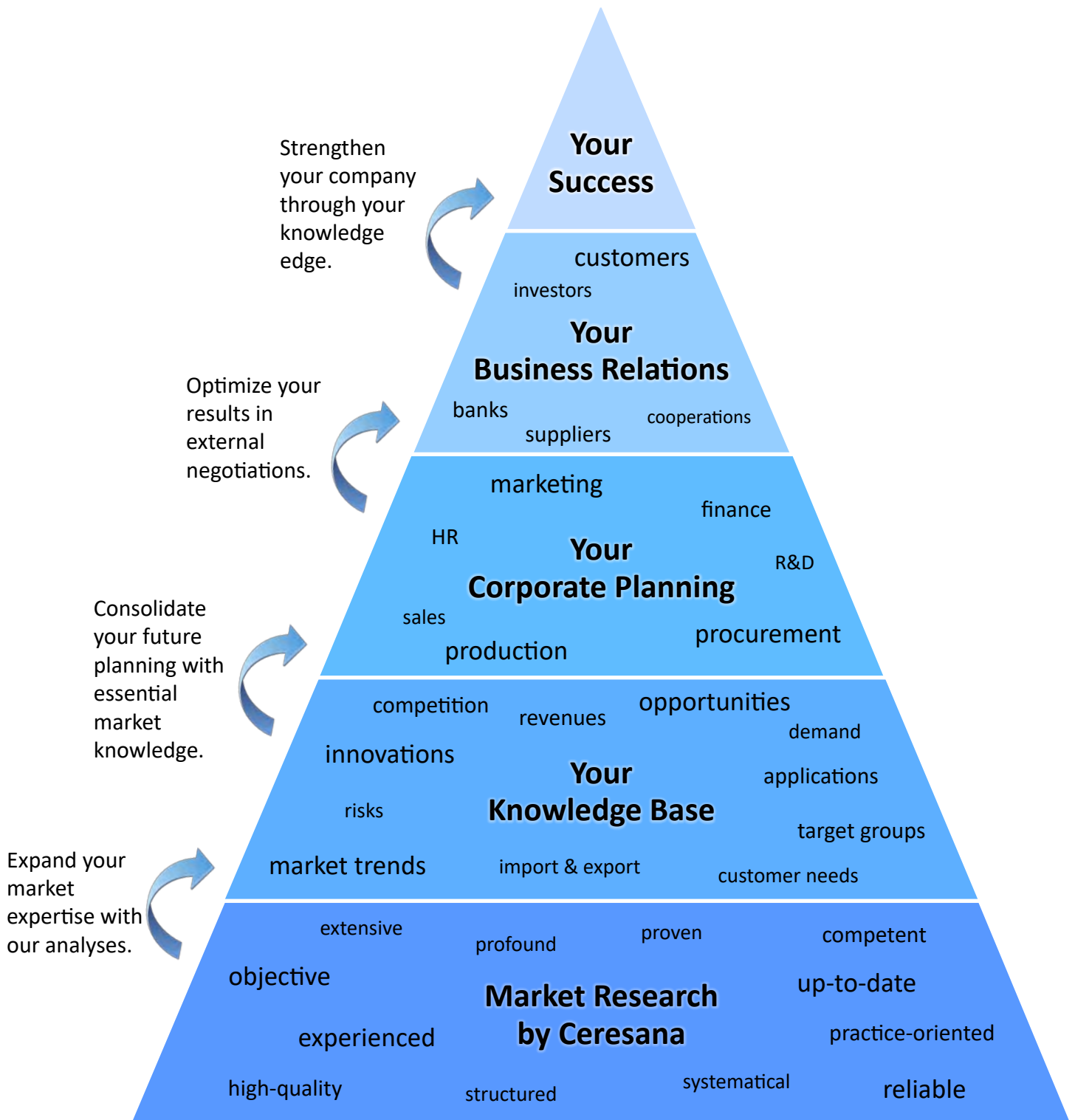


*Note: The profiles are assigned to the country in which the company or holding is headquartered. Profiles also include JVs and subsidiaries.

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