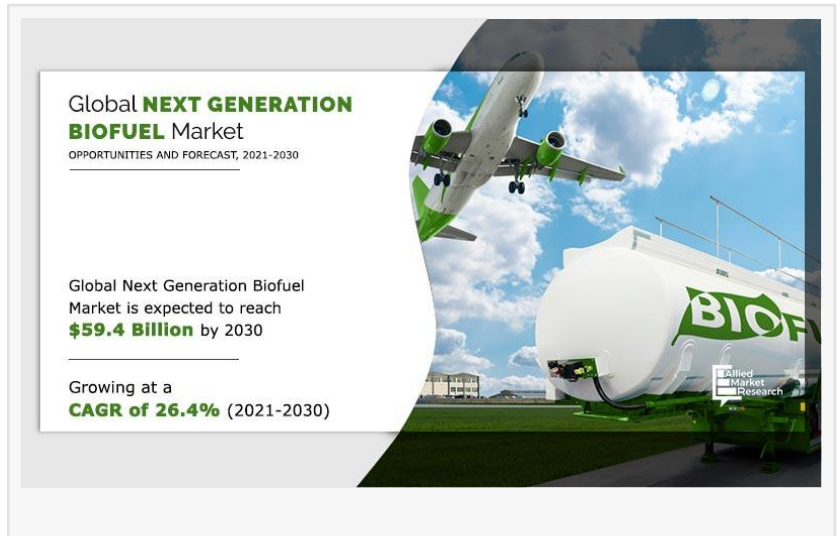


# Next Generation Biofuels Market Poised for Explosive Growth, Set to Reach \$59.4 Billion by 2030

*Sustainable Fuel Future: Next Generation Biofuels Market Set to Grow at 26.4% CAGR Through 2030* □□□

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According to a recent report published by Allied Market Research, the [next generation biofuels market](#) is set for a massive leap, expanding from \$6.0 billion in 2020 to an estimated \$59.4 billion by 2030, representing a remarkable CAGR of 26.4%. This growth is driven by rising demand across transportation and power sectors, growing environmental awareness, and supportive government policies promoting clean alternatives to fossil fuels.



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Next generation biofuels market to hit \$59.4B by 2030, driven by green fuel demand, algae-based tech & power generation uptake □□”

*Allied Market Research*

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What Are Next Generation Biofuels? □□

Next generation biofuels differ from conventional ones by being derived from non-food-based feedstocks, including agricultural residues, algae, and municipal waste. These advanced biofuels are categorized by their production

methods and raw material sources into second-generation (from lignocellulosic biomass and non-edible crops) and third-generation biofuels (primarily from algae). These fuel types are increasingly viewed as essential to meeting carbon reduction targets while addressing rising global energy demand sustainably.

## Key Market Drivers ☐☐

Several macro and industry-level factors are propelling this market forward. The urgent need to reduce carbon emissions, volatile crude oil prices, and growing adoption of renewable alternatives in transportation are key growth enablers. Additionally, government incentives and regulations favoring sustainable fuel development are accelerating innovation in the sector.

In particular, North America, led by the U.S., remains a global leader in both biofuel production and consumption. With abundant corn supplies, established infrastructure, and increasing mandates on renewable fuel blending, the region is expected to remain a stronghold in [biofuel technology](#) advancement.

## Segmentation Analysis: A Deep Dive Into Growth Trends ☐☐

The market is segmented by process, biofuel type, raw material, application, and region, each showing unique trends contributing to the overall expansion.

☐☐ By Process: The thermochemical process dominated the market in 2020 due to its efficiency in converting various biomass types into fuel through gasification and pyrolysis. However, the biochemical process is poised to witness the highest growth (CAGR of 26.7%) as innovations in microbial and enzymatic technologies make biological conversion more commercially viable.

☐☐ By Biofuel Type: [Biodiesel](#) led in 2020 and is expected to maintain its dominance. Derived from algae and other high-yield raw materials, biodiesel offers significant advantages in reducing greenhouse gas emissions. Its compatibility with existing diesel engines and infrastructure further supports widespread adoption, especially in heavy transport.

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☐ By Raw Material: Algae is emerging as a game-changer due to its high oil content, rapid growth cycle, and minimal land usage. It can produce 300 times more oil than conventional crops and can thrive in non-arable land with wastewater, making it a sustainable and scalable source for future biofuel production.

☐ By Application: The transportation sector remains the largest consumer, driven by the shift to low-carbon fuels in road freight, aviation, and maritime transport. Meanwhile, the power generation segment is expected to grow at the fastest pace (CAGR of 26.7%), as biofuels become viable alternatives for thermal power plants seeking to reduce emissions without sacrificing capacity.

☐ Regional Outlook: North America dominated the market in 2020 and is projected to grow at a CAGR of 25.7%, thanks to robust government mandates, biofuel blending requirements, and

R&D investments. The U.S. alone leads in ethanol production, utilizing corn as a readily available raw material. Elsewhere, Asia-Pacific and Europe are also expected to witness strong growth due to renewable energy targets and rising environmental consciousness.

### Leading Market Players and Innovation Strategy □□

Top companies operating in the next generation biofuels market include:

Algenol Biofuels

Abengoa S.A.

Enerkem

Gevo

GranBio

POET-DSM

Solazyme

Sundrop Fuels Inc.

These players are heavily investing in R&D and forming strategic alliances to scale up production and reduce costs. For example, partnerships between biofuel tech firms and oil & gas majors or automotive companies are enabling commercialization and wider adoption.

### Challenges Ahead □□□

Despite the momentum, high production costs, feedstock variability, and technological complexity remain challenges for market penetration. However, with increasing policy support, rising carbon prices, and ongoing innovation, these barriers are expected to diminish over time.

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### Conclusion: A Fuel for the Future □□

The next generation biofuels market is not just an emerging industry—it's a cornerstone of the global energy transition. As demand for sustainable and scalable fuel alternatives intensifies, the sector is poised for rapid growth, offering both environmental benefits and significant economic opportunities.

Governments, investors, and technology leaders all play vital roles in advancing this transformative industry. With the right policy frameworks and innovation ecosystems, next generation biofuels could soon power not just vehicles—but an entirely new, greener economy.

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David Correa

Allied Market Research

+1 800-792-5285

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