BIOGLOBE LTD

Transforming Environmental Remediation

NATURE-BASED SOLUTIONS

Organic Enzyme Solutions for the Modern Remediation Industry

A Comprehensive Guide for Remediation Companies, Environmental Consultants & End-Users

2026

Why Conventional Remediation Falls Short

Traditional chemical and mechanical methods often relocate pollution rather than eliminating it — introducing secondary harms and leaving persistent residues.

Chemical Dispersants

Break pollutants into smaller particles but introduce secondary toxins and fail to eliminate contamination.

Mechanical Excavation

Relocates contamination rather than destroying it — expensive, disruptive, and rarely complete.

Pump-and-Treat

Slow, costly, and often ineffective — may run for decades without achieving clean closure.

Incineration

Consumes large amounts of energy and releases emissions — trading one form of pollution for another.

Why Organic Enzymes?

Enzymes are nature's catalysts — proteins that accelerate chemical reactions with extraordinary specificity, leaving no toxic residue.

Complete Degradation

Breaks pollutants into water, CO_2 and organic acids — not just smaller particles.

Precise Targeting

Targets specific contaminants without affecting surrounding materials or ecosystems.

All Conditions

Operate across diverse temperature, pH and salinity ranges.

Zero Residue

Enzymes biodegrade completely after their work is done — no toxic legacy.

Working With Nature

About Bioglobe LTD

Bioglobe stands at the forefront of organic enzyme-based bioremediation, offering targeted, biodegradable solutions proven in real-world conditions.

Headquarters

Leicester, UK
22 Highfield Street, LE2 1AB

Laboratory

Larnaca, Cyprus
Bioglobe Laboratories, 7021

Mission

Provide organic enzyme solutions as a green alternative to industrial chemicals

Led by Dr. Stavros Kaniklides — world-renowned marine scientist and CMAS board member — Bioglobe's research team has over a decade of R&D in enzyme remediation, with projects across Europe, the Mediterranean, and beyond.

10+
Years R&D

3
Product Lines

Global
Deployment

Core Product Portfolio

Oil Spillage Remediation

Liquid Multi-Enzyme Blend

Targets long-chain hydrocarbons in oceans, marinas and inland waterways at the molecular level.

Land Remediation

Powder Multi-Enzyme Blend

Brownfield sites, agricultural land, industrial contamination under aerobic and anaerobic conditions.

Soil Stabilisation

Enzyme Stabilisation System

Eco-friendly alternative to cement or lime for road construction, embankments and erosion control.

Wastewater Treatment

BOD & COD Reduction

Up to 90% reduction in BOD/COD. Reduces sludge volume and accelerates bacterial oxidation.

Nitrate Remediation

Denitrification Enzyme Blend

Converts nitrates to harmless nitrogen gas — supporting net-zero nitrate policies and planning approvals.

Algae Remediation

Algal Control Blend

Breaks down algal cell walls and biofilms. Non-toxic to fish and aquatic life.

Liquid Multi-Enzyme Blend for Oil Remediation

Oil spills — both major events and chronic road runoff — threaten marine environments globally. Bioglobe eliminates hydrocarbons at the molecular level without dispersants.

12%
of ocean oil from large spills

3×
more oil via roads & rivers

85%
hydrocarbon reduction in 6 weeks

100%
organic — safe for aquatic life

- Multi-enzyme hydrocarbon crude oil elimination at molecular level
- Specific enzyme mix to hydrolyse sea snot and organic build-up
- Controls and suppresses growth of harmful microbes
- Safe for aquatic life — can be applied with fish present
- No dispersants: oil is broken down, not relocated or sunk

CASE STUDY

Mediterranean coastal bay — pipeline rupture. Bioglobe's enzyme solution reduced hydrocarbon concentrations by 85% within six weeks. Coral activity and fish populations showed measurable recovery within three months.

Powder Multi-Enzyme Blend for Soil

Soil contamination requires a targeted approach that eliminates pollutants without introducing new chemicals or requiring costly excavation.

Hydrocarbon Crude Oil Elimination

Breaks down oil-derived pollutants bound to soil particles and sediment.

Aerobic & Anaerobic Compatibility

Effective whether oxygen is present or absent — suitable for a broad range of soil types.

Wide Condition Range

Operates across varying pH, temperature and moisture levels without losing efficacy.

Bespoke Formulations

Custom enzyme blends created for specific contaminants and site conditions.

Works Under Any Condition

Brownfields · Agriculture
Pipelines · Industrial Sites

CASE STUDY · 66% reduction in benzo[a]pyrene within 7 days · £200,000 saved vs excavation

Nitrate Remediation & Algae Control

NITRATE REMEDIATION

Biological Denitrification

Specialised enzymes convert nitrates (NO_3^-) into harmless nitrogen gas (N_2), addressing the root cause of eutrophication without chemical additives.

- Supports UK net-zero nitrate compliance
- Prevents algal blooms & protects drinking water
- Reduces nitrate leaching from fertilised fields
- 35% nitrate reduction achieved within 3 months*

**UK council case study — unlocked £10m in economic activity*

ALGAE REMEDIATION

Algal Cell & Biofilm Breakdown

Enzyme blends target polysaccharides and extracellular polymeric substances (EPS) forming algal mats — accelerating decay and reducing nutrient availability for future blooms.

- Safer than chemical algicides — non-toxic to fish
- Effective in rivers, lakes, marinas and coastal zones
- Reduces bloom persistence and mat formation
- Supports tourism, recreation and local economies

Pilot: Lough Neagh, Northern Ireland — floating enzyme rafts deployed in situ

Wastewater Treatment & Soil Stabilisation

WASTEWATER TREATMENT

BOD & COD Reduction

Enzyme formulations enhance natural microbial processes in wastewater treatment, breaking down complex organics so bacteria can work far more efficiently.

90%	40%	£150k
BOD/COD reduction	sludge volume cut	annual savings*

Applications: municipal sewage, food processing, breweries, pharmaceutical plants

**Municipal sewage treatment plant case study*

SOIL STABILISATION

Eco-Friendly Ground Engineering

Enzymatic alteration of clay and silt particle surface chemistry improves compaction, reduces permeability and increases load-bearing capacity — without cement or lime.

- Cold-process — no heating required
- Significantly reduced carbon footprint vs cement
- Lower material and transport costs
- Suitable for remote and environmentally sensitive sites
- Faster project timelines

How Bioglobe's Enzyme Technology Works

Bioglobe combines multiple enzyme types to address complex contamination profiles, with proprietary immobilisation techniques for sustained field performance.

01

Multi-Enzyme Blends

Laccases, peroxidases and lipases target specific chemical bonds within pollutant molecules with extraordinary specificity.

02

Molecular Breakdown

Hydrocarbons broken into shorter-chain molecules metabolised by indigenous microbes — complete degradation, not dispersion.

03

Immobilisation Tech

Hydrogel matrices and polymer encapsulation protect enzymes from UV, temperature and dilution — 60× higher removal rate vs free enzymes.*

04

Microbial Synergy

Enzymes prime the environment so native bacteria and fungi complete the clean-up — self-sustaining ecological recovery.

**Nature Communications, March 2025 — enzyme-assembled hydrogels vs free enzymes in the presence of inhibitors*

Proven Real-World Results

Major Oil Spill — Mediterranean

85%	6 wks	3 mo
hydrocarbon reduction	to results	coral recovery

Tanker spill in a coastal bay. Liquid multi-enzyme blend deployed via floating platforms. Coral activity resumed and fish populations rebounded — no toxic residues in sediment.

Brownfield Redevelopment — UK

66%	7 days	£200k
PAH reduction	to results	cost saving

Former industrial site contaminated with PAHs. Powder enzyme blend applied — no excavation required. Site approved for residential use ahead of schedule.

Wastewater Plant Optimisation

90%	40%	£150k
BOD/COD cut	sludge volume	annual savings

Municipal sewage plant failing discharge limits. Enzyme formulation integrated into secondary treatment. Full compliance achieved within two months.

Nitrate Remediation — UK Council

35%	3 mo	£10m
nitrate reduction	to results	unlocked

River catchment nitrate reduction required before housing approvals. Enzymatic denitrification applied at run-off points — development approvals granted, algal blooms reduced.

Strategic Advantages for Remediation Companies

Enhanced Outcomes

- Faster project completion through enzyme catalysis
- Complete pollutant degradation — not dispersion
- No toxic residues or off-site disposal risks

Cost Efficiency

- Reduced heavy machinery and chemical inputs
- In-situ application — no facility shutdown
- Immobilised enzymes recoverable and reusable

Regulatory Compliance

- Aligns with EU and UK regulations
- Supports ESG reporting and green commitments
- Clients increasingly demand nature-based options

Competitive Edge

- Positions your company as an innovator
- Enables projects traditional methods cannot tackle
- Public and stakeholder approval built-in

Deployment & Logistics

Product Formats

Liquid Concentrates
Direct dosing into water bodies, treatment tanks or contaminated drainage

Freeze-Dried Powders
Soil application, long-term storage and remote deployment

Hydrogel Capsules
Controlled-release applications in marine or freshwater environments

Application Methods

- Surface spraying — soil, brownfield or agricultural land
- Injection — subsurface contamination or groundwater
- Floating platforms — marine oil spills or algal blooms
- In-line dosing — wastewater plants or industrial effluent

Monitoring & Verification Support

Baseline contamination assessment · Real-time enzyme activity tracking · Post-treatment verification · Regulatory reporting assistance

The Future of Enzyme Remediation

AI-Driven Enzyme Discovery

Platforms like XenoBug use machine learning to predict enzyme efficacy, accelerating the development of tailored solutions for novel contaminants.

Genetically Engineered Enzymes

Enhanced stability, specificity and activity in extreme field conditions — expanding the range of treatable pollutants significantly.

Expanding Applications

Microplastic degradation, pharmaceutical residues (endocrine disruptors, antibiotics), and heavy metal immobilisation are on the horizon.

Circular Economy Integration

Degraded organic matter converted to biogas or compost; enzyme-treated wastewater safely recycled for irrigation or industrial reuse.

Why Partner with Bioglobe?

Proven Expertise

Over a decade of R&D led by Dr. Stavros Kaniklides. Proprietary formulations tested in real-world conditions. Partnerships with universities, regulators and industry leaders.

Customised Solutions

Bespoke enzyme blends tailored to specific contaminants and site conditions. Flexible delivery formats, application methods and ongoing technical support.

Global Reach

UK HQ in Leicester. Laboratories in Larnaca, Cyprus. Active projects across Europe, the Mediterranean and beyond.

Investment Opportunities

Passive investment from €100,000 — enabling ESG-focused investors to support high-impact remediation projects with measurable environmental and financial returns.

The Time for Enzyme Remediation Is Now.

The science is proven. The technology is ready.
The market is demanding it.

Organic.
Sustainable.
Effective.

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