



GEO Certified® Report

Terras da Comporta Dunas Golf Course

Prepared by independent verifier Alexandra Almeida

Certified by GEO Foundation: 2025
Recertification due: 2028

“The Dunas Golf Course has established a solid foundation in environmental management and legal compliance. The integration of renewable energy, advanced irrigation control and nature-positive land management practices demonstrates a credible and forward-looking sustainability approach.

Given the ongoing development phase, several sustainability initiatives are still maturing. Key opportunities for further improvement include the formalization of policies (such as sustainable procurement), enhanced monitoring and data consolidation (including sector-specific metering and waste metrics), and the continued expansion of circular practices, notably composting and the use of alternative water sources.

As operations progress, there is also clear scope to strengthen transparency, communication and community engagement through more structured sustainability reporting, educational initiatives and stakeholder involvement. Overall, the foundations already in place provide a strong platform for continued improvement and the potential for long-term sustainability leadership.”

*Alexandra Almeida
(GEO accredited independent verifier)*



Introduction

GEO Foundation is pleased to confirm that Terras da Comporta Dunas Golf Course has successfully achieved GEO Certified® status for its outstanding work to foster nature, conserve resources and support the community.

GEO Certified® is the most respected certification for golf, based on a credibly and transparently developed modern sustainability Standard of best practice.

Terras da Comporta Dunas Golf Course has:

1. Met the required certification criteria for sustainable golf operations
2. Successfully completed the official third-party verification process
3. Successfully passed the final evaluation by GEO Certification Ltd. (autonomous subsidiary of GEO Foundation)

GEO agreed with the conclusions of the official verification report, that, having achieved all mandatory criteria; and with specific Continual Improvement Points (CIP) set for the future and Critical CIP's (CCIPs) to be reviewed at recertification, Terras da Comporta Dunas Golf Course should be awarded GEO Certified® status.

For the certification period stated above, Terras da Comporta Dunas Golf Course can therefore claim a position as a leader in advancing sustainability in golf – making important contributions in protecting nature, conserving resources and strengthening communities.

The GEO Certified® Report that follows comments on the actions undertaken against the criteria, as observed by the independent verifier during the assurance process.

Certification is nearly always the result of a dedicated team effort resulting in many practical and valuable social and environmental results around the golf course, maintenance facility and clubhouse. These dedication and leadership qualities are an important part of ensuring the resilience of the golf facility and the golf industry into the future and also as part of society's wider effort to pull together for people and planet.

We congratulate all involved.

Jonathan Smith
Founder and Executive Director, GEO Foundation
GEO Certification Ltd. Board Member

Kelli Jerome
Executive Director, GEO Foundation

Carole Kerrey
Director, Certification and Credibility,
GEO Certification Ltd.



Verification and Certification

Verification

The official third-party audit was carried out by an independent verifier, accredited by GEO to undertake verifications of golf facilities applying for certification.

Verification involves reviewing practices and data, using the International Voluntary Standard for Sustainable Golf Operations as the guide to ensure comprehensive and consistent evaluation of performance. A detailed verification report is submitted for evaluation by GEO Certification Ltd, a subsidiary of GEO Foundation.

Certification

GEO Certification Ltd, an autonomous subsidiary of GEO Foundation [both not-for-profit entities], undertook a full review of all content submitted through the OnCourse® online platform and the report submitted by the verifier, ensuring:

- Comprehensiveness – that activities undertaken touched on all elements of the Standard
- Consistency – that the verification approach was balanced, well weighted and with consistent depth of evaluation across each theme
- Accuracy - matching the verification report with evidence submitted by the golf facility to ensure statements and claims were accurate

GEO Foundation is an international not-for-profit founded to advocate, support and reward sustainability in and through golf. Over more than ten years, the group has worked collaboratively with dozens of golf industry associations and government and non-government organisations around the world, to help golf become a sustainability leader, striving for a net positive social and environmental impact. In addition to managing and assuring GEO Certified®, GEO Foundation also provides a suite of credible, practical programmes for golf facility management, new golf developments and golf tournaments called OnCourse®, often delivered in partnership with national golf bodies. Find out more at www.sustainable.golf

Credibility

GEO Certified® is part of the ISEAL Alliance, a group of the world's foremost credible certification systems including Fairtrade, Rainforest Alliance, Forest Stewardship Council, Marine Stewardship Council and many others. GEO Foundation earned and retains full membership of the ISEAL Alliance global association following a rigorous evaluation against the ISEAL Codes of Credibility in Sustainability Standards and Certification. The ISEAL Codes cover standard-setting, assurance, and monitoring and evaluation. Find out more at www.isealliance.org



Verifier's Report

The Sustainability Agenda for golf covers the following themes and action areas:

THEMES	ACTION AREAS
Nature	• Habitats & Biodiversity • Turfgrass management • Pollution prevention
Resources	• Water • Energy • Materials
Community	• Partnerships & Outreach • Golfing & Employment • Advocacy & Communications

Included below are the observations made by the Independent Verifier against each item in the Standard.

NATURE			
N1 Habitats and Biodiversity			
Objectives	Requirements	Mandatory Practices	Verifier Notes
N1.1 Understand the site and surroundings	N1.1.1 Sound understanding of the nature and landscape value of the site	General knowledge of the wildlife and habitats on the site	The Dunas Golf Course, located at Herdade da Comporta, comprises 18 holes over 84 hectares and is partially situated within the Comporta–Galé Site of Community Importance (SCI – PTCON00034), a designated sensitive area. The area includes habitats of high conservation value, namely coastal dune ecosystems with juniper formations (<i>Habitat 2250*</i>), Atlantic decalcified fixed dunes dominated by coastal heath and gorse (<i>Habitat 2150*</i>), and dunes with sclerophyllous shrub vegetation (<i>Habitat 2260</i>). These habitats support endemic and characteristic species and occur in a fragmented and sensitive ecological context, requiring careful management and conservation measures. The site includes elements of conservation interest for mammal fauna, notably the potential presence of <i>Mustela putorius</i> (European polecat) and <i>Felis silvestris</i> (European wildcat). Avifaunal diversity is relatively limited compared to nearby wetlands; however, the presence of <i>Circaetus gallicus</i> (Short-toed Snake Eagle) represents a species of national conservation value. The golf course operates under a Conditioned Favorable Environmental Impact Statement (DIA), issued on 30 August 2010, which establishes specific environmental obligations to ensure compliance with national and EU environmental legislation. Key compliance commitments include: • Environmental Compensation: Ongoing implementation and management of a 254-hectare compensation area dedicated to the conservation and restoration of protected habitats. • Habitat Protection: Preservation of protected habitats (2250*, 2150* and 2260), strict maintenance of designated non-intervention areas and safeguarding of ecological corridors to ensure habitat connectivity.

			• Forest and Phytosanitary Management: Active control of forest health, including measures to prevent and eradicate the pine wood nematode and the pine processionary moth, through selective tree management and monitoring systems. • Landscape Integration: Maintenance of non-turf areas, representing approximately 63% of the golf course, promoting natural regeneration and use of locally native species. • Environmental Monitoring: Implementation of a comprehensive monitoring program covering flora, habitats and fauna, with regular sampling and long-term ecological assessment. • Reporting and Oversight: Submission of mandatory environmental compliance and monitoring reports to the competent authority, the ICNF - Portugal's national authority responsible for nature conservation, biodiversity, protected areas (including Natura 2000) and forest management. in accordance with regulatory requirements. • Awareness and Training: Ongoing environmental training and awareness initiatives for staff and contractors to ensure responsible conduct in sensitive and protected areas. Practices implemented and verified: The Dunas golf course remains fully compliant with the conditions set out in the DIA, with monitoring, reporting and mitigation measures actively implemented and maintained. Invasive species and weed control, together with the management of the entire pine forest within the dune system, is carried out in a careful, criteria-based and continuous manner. This includes the selective removal of dead, invasive and undesirable trees and vegetation throughout the year, with the dual objective of safeguarding ecosystem stability and reducing wildfire risk. The greekeeping team has established and maintains a robust understanding of ecological features, evidenced by systematic surveys, habitat mapping, and structured long-term monitoring programmes. Comprehensive site mapping, baseline ecological surveys, and an established golf course maintenance plan are in place.
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			All stakeholders involved in these activities, whether internal teams or external contractors, are formally briefed and instructed on appropriate conduct within protected and sensitive areas. This ensures that all interventions are undertaken in a manner that avoids negative impacts on habitats, complies with applicable environmental protection legislation, and reflects best practice in nature conservation. Course maintenance documentation and biodiversity-related data were reviewed and verified during the site visit.
	N1.1.2 Knowledge of legal designations for protected areas, habitats and species	Identify rare, protected or endangered species found on the golf course; Understand legal responsibilities for landscape protection and special area designations, if applicable	Practices implemented and verified: The non-turf landscape areas account for approximately 50 hectares (63% of the total golf course area). In full compliance with the Environmental Impact Statement (DIA), natural preservation areas (17 ha) were formally designated, physically fenced and strictly protected during the construction phase to prevent access and crossing by people, machinery and vehicles. These areas were reserved to allow unassisted natural regeneration, alongside designated zones where regeneration is actively supported through propagation, seeding and native plant nursery production. Interventions were systematically avoided in areas where Habitats 2150* and 2250* are best preserved. At present, no routine maintenance operations are carried out within these protected areas, with the sole exception of occasional, targeted fuel-load reduction actions undertaken exclusively for wildfire prevention purposes. All such interventions are limited in scope, carefully controlled and carried out in a manner that avoids disturbance to protected habitats. Natural vegetation corridors are preserved and managed to ensure ecological connectivity between the golf course and the wider ecological structure of the Terras da Comporta development, supporting long-term habitat functionality and ecosystem resilience. An annual programme of locally native species propagation and planting is implemented by the greenkeeping team within the ecological restoration areas across the golf course. Although establishment success rates are currently low, this is recognized and documented, and the greenkeeping team remains fully committed to the continued defense of habitats and long-term biodiversity conservation. The use of native, well-adapted species is a deliberate and evidence-based management decision, reflecting the understanding that long-term

			ecological resilience and biodiversity value can only be achieved through species adapted to local environmental conditions. These programs are maintained as part of an ongoing, adaptive management approach. All habitat protection, disease control, monitoring and landscape management measures are implemented in strict accordance with applicable legislation and permit conditions, ensuring the ongoing environmental compliance of the golf course throughout its operational phase.
	N1.1.3 Sound understanding and respect for cultural heritage	Protect any archaeological, historical or cultural designations on the site, if applicable	Not applicable.
N1.2 Opportunities to naturalise the golf course	N1.2.1 Measures taken to identify and minimise the required area of managed turfgrass	Monitor patterns of play to identify underutilised areas of turfgrass	As part of ongoing resource efficiency and land-use optimization initiatives, the area of managed turfgrass was reduced from 45 hectares in 2021 to 31 hectares in 2024. Practices implemented and verified: This reduction was achieved through re-naturalization practices implemented during the resumption of the golf course construction works. Measures included the re-naturalization the areas between golf course tees to reduce maintenance costs, conserve resources, and enhance biodiversity and the course's aesthetics, reduction of bunkers and the redesign of fairways, particularly across the back nine. These interventions contributed to lower water, energy and input requirements, while enhancing landscape integration and supporting local biodiversity.
N1.3 Actively create and manage habitats for wildlife	N1.3.1 Projects to create and manage habitats in the best way for wildlife and golf	Prioritise native species of varying size and structure when planting Prioritise native trees and shrubs when planting Prioritise native aquatic species of varying size and structure when planting Establish mowing buffer zones next to water bodies and wetlands	Projects and practices have been actively implemented to manage habitats in a manner that simultaneously supports biodiversity conservation and golf operations. Practices implemented and verified: Initiatives include the systematic use of hydroseeding with native species in areas surrounding play zones—particularly between cart paths and designated non-intervention areas—to drive natural regeneration, enhance habitat continuity and strengthen ecological resilience. During 2023–2024, this approach was further reinforced through the targeted direct transplantation of native species, significantly improving establishment success rates and accelerating the ecological integration of restored areas within the managed landscape.

			CIP: Please develop a long-term ecological restoration strategy for areas currently undergoing regeneration, including the definition of clear success indicators, monitoring metrics, and realistic timelines. This approach would enable structured tracking of ecological recovery, support adaptive management, and strengthen accountability and transparency in biodiversity outcomes.
N1.4 Conserve key species	N1.4.1 Practical conservation measures for priority species	Follow local best practice to protect or attract endangered, protected or rare species found on site	Practical conservation measures for priority species associated with Habitats 2150* and 2250* are actively implemented and maintained, in full accordance with the requirements established under the Environmental Impact Statement (DIA) and Order No. 2173/2008. The habitat, flora and fauna monitoring plan defined in the DIA is fully implemented and operational. Practices implemented and verified: Monitoring reports covering the implementation of compensation and mitigation measures, as well as the results of environmental monitoring, have been regularly submitted to ICNB, I.P. These reports were submitted quarterly during the construction phase and are currently submitted annually during the operational phase, in full compliance with regulatory obligations. Systematic monitoring is conducted for Habitats 2250, 2150 and 2260, as well as for priority plant communities used in landscape integration, namely <i>Armeria rouyana</i>, <i>Santolina impressa</i>, <i>Thymus capitellatus</i> and <i>Ruscus aculeatus</i>. Monitoring is conducted through two annual sampling campaigns, carried out during Spring and Autumn, and covering vegetation, avifauna, herpetofauna and mammal fauna. These measures collectively demonstrate effective implementation, regulatory compliance, and long-term commitment to the conservation of priority habitats and species, in line with national environmental legislation.
N2 Turfgrass			
N2.1 Maintain optimum turfgrass and soil health	N2.1.1 Appropriate turfgrass varieties adapted to climatic and other geomorphological factors	Select appropriate grass species for the climate	The golf course is currently established with cool-season turfgrass species across all turfgrass areas. While functional, these species are not optimally adapted to the climatic and water-quality conditions of the Alentejo coastal region, particularly in a context of increasing

			temperatures, extended dry periods and the use of treated wastewater for irrigation. CIP: Please develop and implement a phased transition plan towards warm-season turfgrass varieties, prioritizing areas with higher irrigation demand. Warm-season species are better adapted to Alentejo coastal climates and demonstrate greater tolerance to salinity and nutrient profiles associated with treated effluent reused from the WWTP. A gradual, evidence-based transition will ensure operational continuity while strengthening climate adaptation, water reuse efficiency and ecosystem protection objectives.
	N2.1.2 Practices to maintain good soil structure and condition	No specific international requirement, however, identify course management and agronomic activities and look for continual improvements	Practices implemented and confirmed: The greenkeeping team actively implements a comprehensive and preventive soil and turf management framework designed to maintain good soil structure, biological activity and long-term turf resilience, while minimizing environmental impact. Key practices: • Active management of foot traffic and machinery use to prevent soil compaction and preserve soil porosity. • Efficient irrigation management, supported by decision-support tools and real-time monitoring, ensuring water is applied only when and where necessary. • Balanced fertilization strategies, avoiding over-application and ensuring nutrient inputs are aligned with turf demand and soil condition. • Targeted chemical interventions, applied only when strictly necessary and progressively phased out in favor of biological alternatives. • Regular soil testing to identify nutrient imbalances and guide precise, data-driven agronomic interventions. The IPM program is underpinned by the following core elements: • Biannual soil analyses (every six months) across greens, fairways and tees, complemented by Turf Health Index analyses

			on greens. The results of these analyses directly inform and adjust the annual agronomic program. - Frequent agronomic operations to maintain soil structure and infiltration capacity, including: - core and solid tine aeration, - verticutting, - regular topdressing. - On greens, DryJect aeration is carried out three times per year, significantly enhancing root development, oxygen exchange and water infiltration. - All agronomic operations, including spraying, overseeding and tractor-based works, are conducted using GPS-guided technology, ensuring precision, efficiency and reduced overlap, thereby limiting resource waste. - A structured biological soil and plant health program, including: - Mycorrhizae applications (July–August) to improve nutrient uptake and root symbiosis. - Trichoderma applications (March–May and September–October) to enhance disease suppression and soil microbial balance. - Bio-stimulant programs specifically targeting the control of Dollar Spot, strengthening plant defenses rather than suppressing symptoms chemically.
	N2.1.3 Careful and responsible fertiliser application throughout the year to avoid over-fertilisation	Test and monitor soil pH; Follow legal requirements when timing fertiliser applications Ensure staff are fully qualified to use fertilisers Ensure staff use appropriate protective equipment Regularly calibrate and test applicators	A careful and responsible fertiliser application strategy is implemented throughout the year to avoid over-fertilisation and minimise environmental impacts. Practices implemented and confirmed: The golf course operates under an integrated fertilisation programme, primarily based on organic and organo-mineral fertilisers, delivered through a combination of foliar and soil applications. Organic-based fertilisers are applied across all turf areas, with the exception of greens, where tailored nutrient inputs are used based on performance requirements and detailed soil data. Fertiliser applications are strategically planned and scheduled in response to comprehensive soil analysis results and prevailing environmental conditions, ensuring that nutrients are applied only when and where required. Regular soil testing provides essential, decision-support data to guide: fertiliser type and application rates,

			• topdressing frequency and volumes, • aeration and cultivation requirements, • broader agronomic management decisions. This data-driven approach ensures optimal turf health, efficient use of inputs, and a reduced risk of nutrient leaching or runoff, contributing to long-term soil fertility and minimized environmental impact.
N2.2 Prioritise mechanical maintenance	N2.2.1 Non-chemical pest, disease and weed management	Sharpen mowing blades; Remove surface moisture; Change hole locations frequently	Non-chemical pest, disease and weed management is systematically implemented as the primary control strategy across the golf course, in accordance with the principles of Integrated Pest Management (IPM) and pollution prevention. Practices implemented and confirmed: Key non-chemical measures include: • Preventive agronomic practices to strengthen turf resilience, including appropriate mowing heights, balanced nutrition, regular aeration, verticutting and topdressing, thereby reducing disease pressure. • Optimized irrigation management, avoiding excess moisture and leaf wetness, which are key drivers of fungal disease development. • Extensive use of biological control products, including mycorrhizae, Trichoderma spp., and biostimulants, to enhance the rhizosphere, improve plant defense mechanisms and suppress pathogens naturally. • Mechanical and cultural weed control, including overseeding, turf density management and selective manual removal in sensitive or conservation areas. • Monitoring-based decision-making, supported by regular turf health assessments, soil analyses and early disease detection, ensuring interventions are applied only when strictly necessary. As a result of this approach, approximately 90% of pest and disease control interventions are currently biological, with no fungicides applied for approximately 16 months in biologically managed areas. The strategic objective is to achieve 100% non-chemical pest, disease and weed management across the entire golf course by 2026.
N2.3 Use chemicals responsibly	N2.3.1 Application of chemicals only when necessary to prevent or	Identify and track pest and disease hotspots, including sensitive areas	Chemical plant protection products (pesticides) are applied only when justified by documented turf health assessments and in accordance with Integrated Pest Management (IPM) principles.

	cure defined / identified turf health issues	Scout the course daily for early signs and symptoms Accurately diagnose to determine the cause of weeds, pests and diseases	Practices implemented and confirmed: The Greenkeeper conducts regular monitoring and inspections to determine whether intervention is preventative, curative or combined, based on turf condition, soil and turf health data, weather patterns and historical site performance. Non-chemical and biological control measures are prioritised, with chemical applications used only as a last resort, in a targeted and proportionate manner, ensuring reduced chemical inputs and minimised environmental and public health risk.
	N2.3.2 Application of chemicals with full safety precautions	Use legally registered and approved products; Prefer products for the specific weed, pest or disease; Follow legal requirements; Ensure staff are fully qualified to use pesticides; Ensure staff use appropriate protective equipment; Regularly calibrate and test applicators; Dilute and dispose of leftover product on untreated areas of amenity turfgrass	All relevant health, safety and environmental protection procedures relating to pesticide storage, handling and application are fully implemented and consistently followed. Practices implemented and confirmed: Personal Protective Equipment (PPE) is provided, correctly used and stored in a clean, dry and easily accessible location within the chemical store, ensuring the protection of staff and compliance with occupational health and safety standards. Applicators are licensed and trained, in compliance with current regulatory requirements, and pesticide applications are carried out strictly in accordance with label instructions, under appropriate environmental conditions and using approved methods and equipment. All personnel involved in the preparation and application of plant protection products (pesticides) receive comprehensive training. Application equipment and sprayers are regularly calibrated and tested to ensure accurate and safe operation. The Greenkeeper ensures full compliance with product use instructions, including the triple-rinse procedure for empty containers, in accordance with label requirements. This practice was verified during the site visit. Waste products and empty containers are disposed of in line with legal requirements, and all Health and Safety documentation is up to date and readily accessible.
N3 Pollution Prevention			

N3.1 Prevent pollution across the entire site	N3.1.1 Practical measures to ensure pollution risks are minimised from golf course operations	Document procedures for emergency spill responses ; Retain no-spray/no-spread buffer areas next to water bodies and wetlands; Retain no-spray/no-spread buffer zones in and around ecologically sensitive areas	In May 2023, a Workplace Risk Assessment was carried out in accordance with Article 73-B of Law No. 3/2014 of 28 January, with the objective of ensuring the implementation of the necessary measures to prevent occupational risks and promote workers' health and safety. Practices implemented and confirmed: The Occupational Health and Safety Technical Service conducted a comprehensive analysis of working conditions through direct observation of activities and tasks by job position, as well as consultation with employees and responsible personnel. This assessment aimed to monitor workstations and activities carried out within the company, including production processes, facilities and work organization. Any identified non-conformities were formally recorded, and the technical services are responsible for monitoring the implementation of corrective measures, ensuring their effectiveness and operational adequacy. The Dunas Golfe Course is committed to implementing all corrective measures proposed in the assessment report, in order to continuously improve workplace safety and compliance. Observations during the visit showed that Emergency instructions are currently under development; however, emergency spill response procedures are already in place and operational. The 2026 training and education plan is currently being developed and will include health and safety training, as well as emergency response and spill management training. Mowing and spraying buffer zones around all ecologically sensitive areas are clearly defined, implemented and were verified during the site visit. Their location, management criteria and operational application were discussed with the course management team. Although all agronomic operations are carried out using GPS-guided technology, ensuring precision, operational efficiency and reduced overlap, there is currently no buffer zone map. CCIP: Please develop and maintain a comprehensive buffer zone map. This map should clearly delineate spray and spread buffer zones, as well as all designated no-spray and no-spread areas, in order to strengthen operational clarity, support staff compliance, and enhance environmental risk management.
	N3.1.2 Practical measures to ensure	Formal wastewater discharge agreement, if applicable	The clubhouse currently in operation is a temporary facility supporting activities during the construction of the permanent clubhouse.

	pollution risks are minimised from clubhouse operations		Practices implemented and confirmed: All waste generated is segregated at source and stored in accordance with applicable regulations, using designated containers for each waste stream and ensuring proper containment and pollution prevention. Wastewater is discharged into the local sewerage system connected to a licensed wastewater treatment plant, with all required permits and authorisations valid and up to date, ensuring full compliance with environmental and public health regulations.
	N3.1.3 Practical measures to ensure pollution risks are minimised from maintenance facility operations	Wash machinery over an impermeable, leak-free surface; Mix and load pesticides and fertilisers over an impermeable, leak-free surface; Triple rinse pesticide containers and applicators	The maintenance facility is a newly constructed building designed and operated in full compliance with environmental and occupational safety legislation and the measures established in the Environmental Impact Statement (DIA). Practices implemented and confirmed: It features impermeable flooring, covered work areas and designated zones for equipment maintenance, staff operations and the secure storage of fertilisers, pesticides and hazardous substances. Bulk materials are stored in paved containment areas, and spill prevention and response measures, including spill kits and emergency equipment, are in place. Hazardous substances, including hydraulic and used oils, are securely stored, with spill kits readily available to ensure rapid response to accidental releases. Wash pad and mixing/loading areas are impermeable and equipped with pre-treatment systems.
	N3.2 Safely manage hazardous substances	N3.2.1 Legal compliance in the storage, handling, application and safe disposal of all hazardous substances	Practices implemented and confirmed: Legal compliance is ensured in the storage, handling, application and disposal of all hazardous substances. An up-to-date register of hazardous substances is maintained and made available to authorised staff. All pesticides are approved by DGAV for application on golf courses and are applied strictly in accordance with regulatory requirements and label instructions. Pesticides are stored in a dedicated, ventilated, well-bunded warehouse with impermeable flooring, equipped with an emergency eyewash station,

		Secondary containment e.g., bunds or drip trays; Emergency wash area, as per local requirements (body shower and / or eye wash station); Hazardous substances safely collected by a registered company or body ; Follow any additional legal requirements	chemical spill kits and fire extinguishers compliant with current safety regulations. Products are kept in their original containers with intact labelling, and a hazardous materials register is maintained by the greenkeeping team to ensure traceability and inventory control. Empty pesticide containers are triple-rinsed, with rinse water collected and reused in future spray mixes, and containers are disposed of as hazardous waste in accordance with Portuguese regulation. MSDS's sheets are available.
	N3.2.2 Legal compliance in the storage and handling of fuels and gases	Tank secured to a horizontal, flat, non-combustible surface; Secondary containment of fuel in the event of spills e.g. bunds and drip trays; Inspection of storage tank(s) at least quarterly, if required; Fire extinguisher in the immediate area	Practices implemented and confirmed: The fuel storage and dispensing installation is legally established and compliant, classified as Class B2 – not subject to licensing, and comprises a shared underground storage tank for diesel and petrol with a total capacity of 9.90 m³. The installation was formally notified to the Municipality of Grândola and includes the required installation characterisation and inspection certification issued by a recognised inspection body, in accordance with applicable legislation. The installation includes two underground storage tanks, designed and installed to ensure full containment and environmental protection, incorporating: • Double-walled construction. • Impermeable containment systems to prevent soil and groundwater contamination. • Appropriate safety and protection measures in line with national regulatory requirements. The installation is equipped with all mandatory safety systems, including: • Certified fire extinguishers of adequate type and capacity. • Emergency shut-off mechanisms. • Electrical safety protections, ensuring safe operation and effective emergency response capability. Compliance with the applicable legal, technical and safety requirements was formally confirmed under the Certificate of Inspection of the Installation issued by the Instituto Tecnológico do Gás (ITG), dated 17 July 2021. The inspection verified that the installation meets all relevant regulatory standards and is fit for safe operation.

			Annual fuel tank inspections are carried out by a qualified subcontracted company and were verified through inspection records, confirming ongoing compliance with applicable safety and environmental regulations.
N3.3 Responsibly manage waste / storm water	N3.3.1 Appropriate wastewater usage, treatment and discharge	Impermeable, leak-free surface; Treatment as per local requirements (oil, grease and / or clipping separation; Formal discharge agreement, if applicable	Practices implemented and confirmed: The wash pad is equipped with a pre-treatment system, including filtration, a settling (decantation) basin and an oil separator, ensuring the effective removal of solids and contaminants prior to discharge. All wastewater generated at the maintenance facility is discharged into the local sewerage system, which is connected to a licensed wastewater treatment plant, ensuring full regulatory compliance and protection of water resources. As part of the continuous improvement program, the installation of a closed-loop biological washdown unit is currently under technical assessment and cost estimation. This system will recycle wash water and eliminate direct discharge to the environment, further reducing pollution risk and water consumption.

RESOURCES			
R1 Water			
Objectives	Requirements	Mandatory Practices	Verifier Notes
R1.1 Minimise water demand	R1.1.1 Measures to reduce the need to consume water	Select appropriate grass species for the climate e.g., drought and disease tolerance; Target irrigation to essential playing surfaces; Prioritise native, drought tolerant species for landscaping and planting	Practices implemented and confirmed: The Dunas Golfe Course has made a substantial investment in high-efficiency irrigation technologies, enabling precise, criteria-based management of both water volumes consumed and irrigated areas. A comprehensive water management plan has been implemented to optimize irrigation efficiency and minimize unnecessary water use. Ongoing optimization measures include the progressive conversion to part-circle sprinklers where technically feasible, reducing overspray and water losses, as well as the increased use of wetting agents on fairways and roughs to improve soil moisture retention and irrigation effectiveness.

			In parallel, a turf reduction program has been implemented to minimize high-maintenance areas. This program involves the strategic conversion of selected turf areas into naturalized landscapes, incorporating native, drought-tolerant plant species and optimized irrigation regimes, thereby further reducing water demand and long-term maintenance requirements. As a result of this program, the managed turfgrass area was reduced by approximately 31%, from 45 hectares in 2021 to 31 hectares in 2024, representing a significant and measurable reduction in irrigated area. The irrigation system is supported by covered water storage tanks, which reduce evaporation losses, prevent contamination, and enhance overall water storage efficiency.
R1.2 Maximise water efficiency	R1.2.1 Practical measures to use water more efficiently on the golf course	Schedule irrigation based on informed assessment of soil moisture and weather forecasts; Evaluate new irrigation technologies e.g., central control, precision sprinklers etc.; Provide staff training on efficient irrigation practices; Adjust sprinklers to playing surfaces only	Practices implemented and confirmed: The Dunas Golf Course has implemented a comprehensive set of measures to improve irrigation efficiency, supported by real-time data, advanced monitoring systems and dedicated technical resources. These measures include the use of IrriSAT software, installation of an on-site meteorological station, deployment of the POGO Turf Pro system, and the use of soil sensors to monitor moisture content, conductivity and temperature. Together, these tools enable data-driven irrigation decisions and precise water application. The irrigation infrastructure is supported by high-efficiency Grundfos pumps and automated control systems, which optimize pumping performance, regulate pressure and flow, and reduce energy and water losses during irrigation operations. Irrigation performance is further enhanced through daily monitoring of sprinklers, the installation of targeted spray heads in areas requiring close-range or precision irrigation, and continuous system optimization. The irrigation operation is managed by a dedicated team of two irrigation technicians, with full system control via the Toro Lynx LAC platform. Daily irrigation logs and pump station operational records are maintained and reviewed, ensuring robust oversight of water use, system efficiency and operational performance. The greenkeeping team conducts regular and preventive inspections of the irrigation and drainage systems, leading to the timely identification and repair of leaks and clogged sprayers.

	R1.2.2 Practical measures to use water more efficiently in buildings	Monitor and record water consumption (bills, flow meter etc.); Encourage water conservation practices amongst players and staff	The Dunas Golf Course has implemented a range of practical measures to improve water efficiency within buildings and associated infrastructure. Practices implemented and confirmed: Irrigation water storage tanks are covered to minimize evaporation losses and are equipped to collect and reuse rainwater for irrigation purposes. Within buildings, water-saving fixtures, including low-flow taps with flow restrictors, are installed to reduce potable water consumption. Sectoral water meters have been installed in both the clubhouse and maintenance facility, enabling detailed monitoring and control of water use by area and function. In addition, buildings are routinely inspected for leaks, dampness and inefficiencies in water fixtures, ensuring early detection of losses and timely corrective action. These measures collectively support efficient water use, consumption transparency and continuous improvement in water resource management.
R1.3 Source water responsibly	R1.3.1 Measures towards alternative, lower quality sources of water	Water abstraction permit, if required; Report water consumption to environment agency, if required	Practices implemented and confirmed: No potable mains water is used for golf course irrigation. Irrigation demand is currently supplied exclusively from three licensed boreholes, with abstraction volumes monitored, recorded and reported in full compliance with regulatory requirements. In support of aquifer management, three piezometric monitoring wells have been installed to control and assess groundwater levels. Monitoring data are compiled and formally reported to the Alentejo regional water authority, in accordance with the Environmental Impact Statement (DIA) and the conditions set out in the borehole abstraction licenses. In line with the DIA, the golf course irrigation system is designed to be supplied with treated wastewater from the development's wastewater treatment plant (WWTP) once sufficient production capacity is available. All required permits have been secured, and the corresponding infrastructure has been fully implemented, and the WWTP includes an adequate tertiary treatment system, enabling future reuse of treated effluent for irrigation. Rainwater is not actively harvested through dedicated systems; however, the irrigation water storage tanks are covered and allow for rainwater

			collection and reuse, contributing to reduced reliance on groundwater abstraction. Potable mains water is used only for clubhouse and maintenance operations, where consumption is actively managed through the installation of low-flow fixtures and the promotion of water-efficiency awareness among staff. CIP: Please assess the feasibility of installing rainwater harvesting systems in existing and future buildings, with the objective of reducing reliance on mains water for non-potable uses.
R2 Energy			
R2.1 Reduce energy demand	R2.1.1 Measures to reduce the amount of energy consumed in golf course maintenance	Naturalise non-playing areas to reduce mowing and other energy intensive inputs	Energy consumption associated with golf course maintenance has been reduced through a combination of landscape optimization and operational efficiency measures. Practices implemented and confirmed: Mowing frequencies have been reduced in selected areas through a structured re-naturalization program, involving the conversion of turf to native vegetation. This has resulted in a reduction in managed turf areas, lowering fuel use, machinery operating hours and overall maintenance intensity. In addition, spraying equipment and tractors used for agronomic operations are equipped with GPS technology, enabling precise application, minimizing unnecessary travel, avoiding duplication of operations and improving overall fuel efficiency. The pumping station is equipped with variable speed pumps, enabling real-time adjustment of pump speed to match actual flow and pressure requirements. This ensures optimal system performance under varying operational demands while significantly reducing unnecessary energy consumption and improving overall energy efficiency. The golf course fleet consists exclusively of electric golf carts, eliminating direct fuel consumption and reducing operational emissions. In addition, the maintenance team is testing lighter, energy-efficient equipment, such as robotic mowers and walk-behind mowers, which reduce fuel consumption, lower overall energy demand and minimise soil compaction. These measures contribute directly to reduced energy demand, lower emissions and more efficient use of maintenance resources.

R2.2 Maximise energy efficiency	R2.2.1 Measures to use energy and fuels more efficiently in buildings	Monitor and record energy consumption (bills, meters etc.)	Practices implemented and confirmed: The clubhouse and maintenance facility use natural lighting and motion LEDs to reduce energy draw. Bills are regularly recorded and monitored. CIP: Please install sectoral meters to enable more detailed monitoring, improved control of consumption, and enhanced data accuracy for resource management and reporting.
R2.3 Source energy responsibly	R2.3.1 Measures to source alternative, renewable forms of energy	Understand the energy mix of your electricity supplier; Explore possible greener energy providers	Practices implemented and confirmed: During the summer of 2024, Vanguard Properties implemented a significant renewable energy generation initiative through the installation of photovoltaic solar panels on the rooftops of the Golf Course Maintenance facilities and the irrigation water storage tanks (160 kVA)). This investment directly supports the organization's decarbonization pathway and transition towards low-carbon operations. The adoption of a self-consumption energy model has resulted in a measurable reduction in reliance on external energy sources. Key operational processes, including the filling of irrigation water storage tanks, are now powered exclusively by on-site renewable electricity, strengthening energy resilience and reducing environmental impact. In addition to on-site renewable self-consumption, the organisation purchases electricity from the national grid. In Portugal, grid electricity in 2025 is predominantly generated from renewable sources (68%), with hydropower, wind, solar and biomass representing the majority of national electricity production, complemented by a smaller share of non-renewable generation. This context supports a comparatively low-carbon electricity supply at national level.
R3 Materials			
R3.1 Reduce materials demand	R3.1.1 Products and materials selection based on necessity, including opportunities for recycled, reused and locally sourced alternatives	No specific international requirement, however, identify activities to reduce the demand for materials and look for continual improvements	Practices implemented and confirmed: Products and materials are selected based on operational necessity and environmental performance, with priority given to recycled, reused and locally sourced alternatives where feasible. The Dunas golf course team sources local and FSC-certified timber and low-environmental-impact turf care products.

			Paper products and catering materials are predominantly compostable or recyclable, supporting waste reduction and circular economy principles. In addition, the club provides reusable water bottles to all employees and players, actively reducing the use of single-use plastics and promoting responsible consumption behaviors. This initiative reflects a strong commitment to reducing plastic waste and promoting environmental responsibility throughout the operation.
R3.2 Purchase responsibly	R3.2.1 Commit to sustainable purchasing practices	Favour responsible, lower impact products	A formal sustainable procurement policy has not yet been established; however, responsible purchasing principles are actively applied in practice. Practices implemented and confirmed: The management team prioritizes purchasing from local suppliers, supporting the regional economy while minimizing transportation distances and associated emissions. The restaurant sources most of its ingredients locally, with seafood primarily supplied by local fishermen, reinforcing short supply chains and traceability. Wherever feasible, bulk purchasing is adopted to reduce the frequency of deliveries and further limit transportation-related emissions. These practices demonstrate a practical commitment to responsible procurement principles and provide a solid foundation for the future development and formalization of a sustainable procurement policy. CCIP: Please develop and implement a formal Sustainable Purchasing Policy applicable to all departments, to standardise responsible procurement practices and improve transparency.
R3.3 Reuse and recycle	R3.3.1 Waste stream separation for maximum recycling and re-use opportunity	Put in place a recycling separation system, according to local rules and availability; Clear, simple and visible bin signage; Monitor and record weight of waste for each stream e.g. invoices, bills etc.	The golf facility has established an effective waste separation and recycling program, fully compliant with applicable waste management legislation. Practices implemented and confirmed: All waste generated by the golf facility—including used oils and filters, fertilizer and pesticide containers, paper, cardboard, glass, metal and plastic packaging, used cooking oils and batteries—is properly segregated at source. Hazardous waste is treated, stored and handled in accordance with all regulatory requirements.

			Waste is collected by licensed contractors for off-site recycling or disposal, as appropriate. The off-site transport of waste fully complies with legal requirements, including the use of appropriately licensed vehicles and the completion of all mandatory documentation. These practices ensure responsible waste management, regulatory compliance and the maximization of recycling and re-use opportunities. CIP: Please assess and implement on-site composting of grass clippings and aeration cores, enabling the recovery of organic material for reuse as a soil improver within the golf course, thereby reducing waste disposal and supporting circular economy practices. CIP: Please also develop a food waste composting programme, targeting organic waste generated from clubhouse and catering operations, with the objective of reducing landfill disposal and improving bio-waste valorisation in line with national bio-waste management objectives.
R3.4 Demonstrate legal compliance	R3.4.1 Compliance with all local and regional waste management regulations	Authorised waste collector for general, hazardous, industrial and green waste, if required	Practices implemented and confirmed: Waste management is conducted in accordance with applicable Portuguese legislation, with compliance ensured through on-site segregation, licensed transport, duly completed e-GAR documentation and appropriate final destinations.

COMMUNITY			
<u>C1 Health & Wellbeing</u>			
Objectives	Requirements	Mandatory Practices	Verifier Notes
C1.1 Improve health and wellbeing	C1.1.1 Benefits to human physical and mental health from golf and facility activities	Plans in place to respond to incidents and emergencies	Practices implemented and confirmed: A formal Health and Safety Policy and associated risk assessments are in place and regularly reviewed. Health and safety procedures, including incident reporting and emergency response protocols, are clearly defined, communicated to staff and effectively implemented. The golf course provides a safe playing environment and safe working conditions, which are routinely monitored and observed during operations.

			Employees are covered by a health insurance scheme and are enrolled in occupational health services, including mandatory annual medical examinations in accordance with Portuguese labour legislation. Employees are provided with free access to golf lessons as part of staff benefits and wellbeing initiatives.
C1.2 Be open and inclusive	C1.2.1 Inclusivity and diversity in membership and visitor policies	Membership policies free from discrimination across age, gender, sexual orientation, religion, and ethnic background	Practices implemented and confirmed: The golf course operates under a pay-and-play policy, with no membership requirement, ensuring open and equitable access to the facility. Gender-inclusive facilities and inclusive hiring practices reflect a broader commitment to fairness and equal opportunity. CIP: Please further strengthen accessibility measures, including expanding the availability of golf buggies for players with reduced mobility and enhancing ongoing training for clubhouse staff and golf professionals to ensure appropriate, inclusive and respectful service for people with disabilities.
C1.3 Employ fairly, safely and provide career opportunities	C1.3.1 Ethical and legal employment, working conditions and professional development	Adopt an equal opportunity recruitment and hiring policy; Follow all relevant legislation and best practice for hiring and employment; Follow all relevant legislation and best practice for worker safety	Practices implemented and confirmed: The organisation has adopted an equal opportunity recruitment and hiring policy and complies with all applicable legislation and recognised best practices relating to recruitment and employment. Employment practices fully comply with legal requirements, with formal contracts, fair remuneration, equal opportunity and clear support for staff development and retention. All worker health and safety requirements are met in accordance with relevant legal obligations and established best practice standards. A formal onboarding policy is in place, supported by on-the-job training delivered under the supervision of team leaders, ensuring effective integration, role clarity and compliance with operational and safety procedures.
<u>C2 Outreach & Inclusion</u>			
C2.1 Diversify access and provide multifunctionality	C2.1.1 Social and recreational activities at the facility	No specific international requirement, however, identify	Practices implemented and confirmed:

		multifunctional activities and look for continual improvements	While the Dunas Golf Course does not yet provide social or recreational activities due to the ongoing construction phase, the development incorporates clear future commitments to structured multifunctional use. Management plans for the Terras da Comporta development include the implementation of pedestrian and cycling routes, environmentally sensitive boardwalks providing beach access without impacting dune systems, and a shuttle service to the beach, supporting inclusive and low-impact recreational use.
C2.2 Provide for volunteering and charity	C2.2.1 Opportunities available for volunteering and support of charities and good causes	No specific international requirement, however, identify activities to support volunteering and charity and look for continual improvements	Practices implemented and confirmed: While formal volunteering opportunities and structured support for charities are not yet in place due to the ongoing development phase, future commitments include the creation of opportunities for employee volunteering and engagement with charitable and community initiatives, as outlined in the Terras da Comporta management and sustainability plans.
C2.3 Establish active community partnerships	C2.3.1 Positive and constructive engagement with neighbours, the local community and other groups	No specific international requirement, however, identify partnerships and community activities and look for continual improvements	Practices implemented and confirmed: The organization demonstrates strong and constructive engagement with neighbours and the local community, providing direct and tangible support to local organisations, including the Hóquei Clube de Grândola, the restoration of the Carvalhal football pitch, and continued support for the Bombeiros Voluntários de Grândola and the Bombeiros Voluntários de Alcácer do Sal. CIP: Please develop and implement a clear community engagement plan defining objectives, key contacts and structured opportunities for ongoing collaboration, with particular focus on local schools, environmental organisations and residents.
C3 Communications & Advocacy			
C3.1 Engage staff and golfers	C3.1.1 Communications activities that raise awareness and understanding amongst members and visitors	Involve staff and committees in sustainability efforts; Involve golfers in sustainability efforts; Post sustainability information in the clubhouse and / or on the golf course	To strengthen transparency, education and community engagement related to the sustainability performance of the Dunas Golf Course, the following initiatives are recommended: CIP: Please establish a clearly visible and regularly updated sustainability section on the official website. This page should present environmental initiatives, certifications, key milestones and educational content, reinforcing transparency, leadership in sustainable golf course management and environmental credibility.

			CIP: Please introduce a periodic digital newsletter targeting golfers and the wider community, featuring updates on sustainability projects, seasonal environmental insights, success stories and opportunities for engagement or volunteering. This initiative will support awareness-building and promote a culture of environmental responsibility among stakeholders. CIP: Please implement educational signage at strategic locations, including tee markers, walking paths and the clubhouse, highlighting native species, habitats and sustainability practices. This will provide on-site learning opportunities and strengthen the link between golf, nature and environmental stewardship.
C3.2 Celebrate and promote sustainability	C3.2.1 Activities that raise awareness and engage people in the wider community	Share at least 3 Highlights on sustainable.golf	During the site visit, the following key sustainability practices / highlights were verified: • Renewable energy self-consumption, including photovoltaic installations on maintenance facilities and irrigation water storage tanks, supporting decarbonization and reducing reliance on grid electricity. • Advanced, data-driven water management, using integrated decision-support tools (weather station, POGO, soil moisture probes, Irristat and Turf Rad trials) to optimize irrigation and significantly reduce water consumption. • Nature-positive land and habitat management, including continuous invasive species control, dune pine forest management and wildfire risk reduction, implemented in a controlled and criteria-based manner. • Biodiversity restoration efforts, with annual native species replanting programs in designated conservation and ecological restoration areas, prioritizing locally adapted species. These practices collectively demonstrate a verified, integrated approach to energy efficiency, water stewardship, biodiversity conservation and sustainable land management, aligned with GEO requirements.
C3.3 Follow a journey of continuous improvement	C3.3.1 Measures to help track, review and improve sustainability and climate action	Put measures in place to ensure that OnCourse can be updated annually	The Greenkeeper, João Machado, has implemented structured procedures to ensure that GEO OnCourse® can be updated annually in a consistent, accurate and timely manner. These measures include:

			• Systematic record-keeping of key operational data, including water use, energy consumption, fertilizer and plant protection product applications, waste management and biodiversity actions. • Regular monitoring and documentation of agronomic practices, irrigation performance, soil analysis results and habitat management activities, providing traceable evidence for annual updates. • Use of digital management tools (e.g. irrigation control systems, analytical platforms and monitoring logs) to support data accuracy and continuity. • Ongoing collaboration with the other departments, ensuring that environmental actions, improvements and compliance measures are captured and reflected in the OnCourse platform. • Annual review routines, aligned with operational planning cycles, to validate data, update progress and identify continuous improvement actions. These procedures ensure that OnCourse updates are embedded into routine course management, supporting transparency, consistency and long-term sustainability reporting.
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Golf and Sustainability

Among all sports, golf has a particularly close relationship with the environment and communities, golf facilities can bring many benefits to people and nature - from the protection of greenspace and conservation of biodiversity; healthy recreation for all ages; local supply chains; and jobs, tourism and other forms of economic value.

Adopting a more sustainable approach is also good for golf. It's about presenting a high-quality golf course and providing a memorable experience in natural surroundings. It's about being as efficient as possible. And it's about supporting the community in a range of ways that bring increased recognition, respect and contact.

At a broader level, it's important that golf credibly demonstrates its commitment, and its social and environmental value – strengthening the sport's image and reputation for the long term.

Golf facilities that participate in OnCourse®, an international sustainability initiative assured by the non-profit GEO Foundation, are taking a comprehensive approach and striving to be leaders in the community.

Find out more at www.sustainable.golf