



GEO Certified[®]

GEO Certified[®] Report Leeuwarder Golfclub De Groene Ster

Prepared by independent verifier: Paul van Kan

Certified by GEO Foundation: 2024
Recertification due: 2029



“When you arrive across the Woelwijk, you hardly realise that you are driving straight through a golf course, so well is the golf course fitted into the landscape of recreation area De Groene Ster. The golf course is rich in gradients: different types of (gradual) transitions between water and land, peat and sand, forest and open terrain. A wonderful basis for high biodiversity. The club's ambition is to further strengthen this biodiversity (wealth of different plants and animals) in the coming years, as it is under severe pressure nationwide. Everywhere possible, this is being worked on: additional hay meadows, flower-rich banks, nicely constructed forest edges, marshland areas, peat vegetation. Numerous facilities help animals find a place. Nesting boxes for all kinds of birds, but also bee hotels and hotbeds for the ring snake. Work is carried out on the basis of a clear and practical management plan. In some places, customised management is in the capable hands of the highly skilled head greenkeeper, who is also a naturalist. Volunteers also help make the course better and more beautiful. You can expend your energy in the weeds group or help out on the new botanical garden with Steinzen plants. De Groene Ster is also innovative. For instance, nesting boxes for oystercatchers have been devised and made, the roof is filled to the maximum with solar panels, tests are being carried out with electric mowing robots and there are dry toilets with no connection to water or sewers. And, there are more plans and ideas steered from a passionate GEO committee in good cooperation with the Maintenance Committee and the board. This makes De Groene Ster an inspiring example for the surrounding area and other golf clubs. They are also working on this ‘visibility’ and I have every confidence in the further sustainability of this beautiful, nature-rich course.”

Paul van Kan
(GEO accredited independent verifier)



Introduction

GEO Foundation is pleased to confirm that Leeuwarder Golfclub De Groene Ster 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.

Leeuwarder Golfclub De Groene Ster 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, Leeuwarder Golfclub De Groene Ster should be awarded GEO Certified® status.

For the certification period stated above, Leeuwarder Golfclub De Groene Ster 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
Manager, Data and Reporting, 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.isealalliance.org



Verifier's Report

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

THEMES	ACTION AREAS
Nature	<ul style="list-style-type: none">• Habitats & Biodiversity• Turfgrass management• Pollution prevention
Resources	<ul style="list-style-type: none">• Water• Energy• Materials
Community	<ul style="list-style-type: none">• 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	Map all habitats and vegetation types on the site; Regularly update landscape / biodiversity surveys	Inventories of (nearly) all species groups in cooperation with permanent advisers and volunteers (local bird working group, IVN, mycological society, Frisian birdwatchers, bat working group Netherlands, Frisian Environment Federation, Nature museum, FaunaX, NL advisers); Coordination by GEO committee member, data and advice used to adjust management; Vegetation development is also investigated, peat moss development is special; special: tree falcon, oystercatcher, otter, wax plates, scrub heath (on peat), royal fern.
	N1.1.2 Knowledge of legal designations for protected areas, habitats and species	Understand legal responsibilities for protected landscapes and species; Record and monitor protected, endangered, or rare species found on the site	VTA (once every 3 years) processed into tree work plan; Work with work protocols (in least vulnerable period); Natura2000 area more than 500 m away, golf course surrounded by NNN; Estate under NSW (under review); Nature potential map (=biotope map), riparian map; Ambition to increase biodiversity (club commissioned separate study).
	N1.1.3 Understanding and respect for cultural heritage	Protect any archaeological, historical or cultural designations on the site	The 'Sanding' follows the course of an ancient bog stream; no heritage or archaeological values.
N1.2 Opportunities to naturalise the course	N1.2.1 Measures taken to identify and minimise the required area of managed turfgrass	Observe, track and / or monitor golfer play	Potential map is used to increase area of nature, where game allows; Through hay meadow management, conversion to flowery hay meadow (bank, carry);

			<p>Successful after a few years of shifting, sometimes helped by sowing rattle.</p> <p>CCIP: If feasible, please widen the nature areas, e.g. strips along the water or some carries. Ensure support by explaining the how and why of biodiversity (external speaker, pieces in newsletter, signs at relevant holes etc).</p>
N1.3 Actively manage habitats for wildlife	N1.3.1 Projects to manage habitats in the best way for wildlife and golf	<p>Regularly review and follow a habitat management plan; Prioritise native species when planting and landscaping</p>	<p>Nature management plan (2018), tree management plan and riparian management plan;</p> <p>Nature potential map with annual update to work plan;</p> <p>Mowing policy geared to natural values, e.g. mowing after orchid flowering (July/Aug);</p> <p>Wealth of various riparian and aquatic vegetation including crab;</p> <p>Pond marsh with peat moss and peat moss</p> <p>CIP: The most promising wet sparse grasslands are best mowed with a brushcutter (once a year). This prevents rutting and soil compaction of vulnerable peat soils. Mowing is necessary to counteract overgrowth, reeds and the storage of alder and willow.</p>
N1.4 Conserve key species	N1.4.1 Practical conservation measures for priority species		<p>Numerous species-specific facilities and measures:</p> <p>Kestrel box, stork post, nest boxes for starlings and tits, barn swallows, perennial reeds, bee hotels, sandy patches for bees, branch rills, logs, oystercatcher nesting boxes, ring snake pile;</p> <p>Unique are the successful transplants of marsh marigolds.</p> <p>CIP: There is already a particular focus on species-oriented measures. This can be further expanded by: (1) more natural bunker edges (test bunkers) for bees and digger wasps, among others; (2) stacks of logs (fitted with holes to provide wild bees and wasps with nesting sites) in sunny forest edges; (3) bat pole in collaboration with professionals at a promising location.</p>
N2 Turfgrass			
N2.1 Maintain optimum turf and soil health	N2.1.1 Appropriate turfgrass varieties adapted to climatic and	Select appropriate grass species for climate	Grasses are adapted to soil and low fertilisation, especially agrostis and festuca;

	other geomorphological factors		Agrostis increases, street grass maximum 10%.
	N2.1.2 Practices to maintain good soil structure and condition		Extensive knowledge available among green space managers; 1x per year soil sampling, at varying locations, by external professional.
	N2.1.3 Careful and responsible fertiliser application throughout the year to avoid over-fertilisation	Undertake soil tests and nutrient analysis	Annual variations in manure application partly based on annual sampling quantities limited.
N2.2 Prioritise mechanical maintenance	N2.2.1 Non-chemical pest, disease and weed management	Sharpen mowing blades; Remove surface moisture; Hand weeding	Control of emelt by starling and oystercatcher; Manual removal of plantain on greens by members; Scarifying and whipping fairways; Dow sweeping greens against fungi; Overseeding with resistant grass varieties.
N2.3 Use chemicals responsibly	N2.3.1 Application of chemicals only when necessary to prevent or cure defined / identified turf health issues	Establish patterns and levels of risk for pests and diseases; Scout the course daily for early signs of pests and disease; Accurate pest and disease identification; Map and track pest and disease hotspots; Establish pest and disease thresholds	Almost no chemical plant protection products used since 2018; Annual evaluation and planning within the framework of IPM; In 2023: dicophar on tees and fairway, nothing on greens; No growth regulators, but biostimulants (iron sulphate and melgreen)
	N2.3.2 Application of chemicals with full safety precautions	Use only legally registered and approved products; Ensure staff are fully qualified and licenced to use pesticides; Regularly calibrate and test applicators; Use appropriate protective equipment; Dilute and dispose of leftover product on untreated areas of turf .	Permitted chemicals carefully applied under favourable conditions; Spraying licence present
N3 Pollution Prevention			

<p>N3.1 Prevent pollution across the entire site</p>	<p>N3.1.1 Practical measures to ensure pollution risks are minimised from golf course operations</p>	<p>Document procedures for emergency spill responses; Maintain mowing buffer zones around water and all ecologically sensitive areas; Maintain spraying and spreading buffer zones around water and all ecologically sensitive areas; Create a map / aerial visual reproduction, drawing etc of the course showing buffer zones and no-spray, no-spread areas.</p>	<p>Oil and fuel spill protocols present and visible; Hazardous substances protocol present and visible; Absorbent granules present; Around water buffer zones chemical control and manure at least 10m.</p>
	<p>N3.1.2 Practical measures to ensure pollution risks are minimised from clubhouse operations</p>	<p>Ensure all hazardous materials are safely and securely stored; Ensure compliance with all required standards and systems for hazardous waste and wastewater discharge</p>	<p>Only biological cleaning agents are used.</p>
	<p>N3.1.3 Practical measures to ensure pollution risks are minimised from maintenance facility operations</p>	<p>Ensure wash areas are on impermeable, leak-free surfaces; Mixing and loading of pesticides and fertilisers over an impermeable surface; Triple rinse pesticide containers and applicators</p>	<p>Wash bay inspection in 2023 (external): all in order, valid until 2029; Grass is filtered and disposed of separately; Grass clippings stored in silo, leachate collected.</p> <p>CCIP: Please conduct an annual internal inspection by going through the checklist from your inspection report of the impermeable flooring. Please save the findings in the document's library on OnCourse.</p>
<p>N3.2 Safely manage hazardous substances</p>	<p>N3.2.1 Legal compliance in the storage, handling, application and safe disposal of all hazardous substances</p>	<p>Maintain a register of hazardous materials available to authorised staff; Safe storage in secure and ventilated concrete or metal building; Sufficient storage capacity; Impermeable flooring; Spill containment kits present; Emergency wash area; Fire extinguisher in the immediate area; Secondary containment for fuel, either externally constructed, or integrally manufactured; Regular inspection of storage tanks</p>	<p>Fuel supply was updated in 2018, meeting legal requirements; Diesel tank was inspected and approved in 2022 (next inspection September 2024); Plant protection products in dedicated cabinet; Oil and fuel above drip trays; Administration (register) and safe storage of hazardous substances.</p>
<p>N3.3 Responsibly manage waste / storm water</p>	<p>N3.3.1 Appropriate wastewater usage and discharge licences</p>	<p>Wastewater discharge licence; Appropriate treatment of machinery wash water (impermeable surface, oil / grease / clipping separation)</p>	<p>Clubhouse and greenkeeping wastewater goes to municipal sewer; The golf course has two dry toilets with an air drying system, 'off the grid';</p>

			Rainwater from paved surfaces is discharged separately to surface water
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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	Target irrigation to essential playing surfaces only	6 hectares irrigated (since 2023 also the fairway) with own surface water; Permit up to a maximum of 60 cubic metres (always lower), system self-regulating.
R1.2 Maximise water efficiency	R1.2.1 Practical measures to use water more efficiently on the golf course	Conduct regular irrigation performance checks; Provide staff training on efficient irrigation practices; Ensure effective application of water to target areas; Ensure irrigation schedules are informed by weather patterns and soil moisture analysis	Complete renewal of the sprinkler system in 2023, including 2 new pumps; Irrigation can now also be done at night, reducing evaporation; Moisture meter installed in autumn 2024.
	R1.2.2 Practical measures to use water more efficiently in buildings	Audit water use regularly; Review bills frequently and look for irregularities; Encourage water-saving practices amongst staff and visitors; Categorise and track water consumption	Drinking water consumption clubhouse and greenkeeping (no separate water meter) is remarkably low; Water-saving showers and toilets; Cleaning machines with own surface water.
R1.3 Source water responsibly	R1.3.1 Measures towards alternative, lower quality sources of water	Ensure appropriate water abstraction permit and reporting, as required	Rainwater from roofs and car park flows to surface water after treatment.
R2 Energy			

<p>R2.1 Reduce energy demand</p>	<p>R2.1.1 Measures to reduce the amount of energy consumed in course maintenance</p>	<p>Minimise areas of managed turf to reduce mowing, irrigation, and turf inputs</p>	<p>Playing surface further reduced in favour of nature in recent years (extensive management);</p> <p>Energy consumption fluctuates (lower mowing frequency and less energy in dry years);</p> <p>Diesel and petrol consumption is average;</p> <p>Reduction in diesel consumption through electric robotic mowers and ball mowers.</p>
<p>R2.2 Maximise energy efficiency</p>	<p>R2.2.1 Measures to use energy and fuels more efficiently in buildings</p>	<p>Audit energy use regularly; Regularly review bills; Categorise and track energy consumption</p>	<p>Clubhouse is south-facing, with a lot of glass (utilisation of solar heat);</p> <p>Further efficiency: daylight, insulation glass, roof and walls, natural ventilation;</p> <p>Heating by HR+ boilers on natural gas, very low consumption;</p> <p>Driving range on LED (hardly used);</p> <p>In 2023 an (external) energy audit was carried out, recommendations from this were followed: insulation of pipes, 100% LED, sensors (locker, toilet, changing room).</p> <p>NB: 2023 is the first year in which a good distinction can be made in generated power (solar), used power, returned power and purchased power. Own power generation is such that much power is delivered back.</p> <p>CCIP: Please try to install separate meters for the clubhouse and greenkeeping facilities. This will help to measure, benchmark and adjust electricity accordingly.</p> <p>CIP: Please consider installing motion sensors on lighting.</p>
<p>R2.3 Source energy responsibly</p>	<p>R2.3.1 Measures to source alternative, renewable forms of energy</p>	<p>Determine potential sources of renewable energy in the area and on-site, through renewable energy providers</p>	<p>100% clean electricity (about 50% self-generated and 50% purchased wind power).</p>
<p>R3 Materials</p>			
<p>R3.1 Reduce materials demand</p>	<p>R3.1.1 Products and materials selection based on necessity, including opportunities for recycled,</p>	<p>Undertake a review of materials consumed</p>	<p>Grass clippings and aquatic vegetation is reused by local farmer;</p> <p>Leachate from grass clippings is collected in a tank and used to fertilise the fairways;</p>

	reused and locally sourced alternatives		<p>Deep-frying fat is reused as biofuel;</p> <p>Wood (felling) sold as fireplace wood or used as a bee hotel.</p>
R3.2 Purchase responsibly	R3.2.1 Practical use of an ethical / environmental purchasing policy	Adopt a sustainable, or ethical / environmental purchasing policy to maximise the use of locally sourced goods and goods made from recycled, recyclable and certified materials	<p>30 suppliers, all (very) local;</p> <p>Catering industry has ambitions for local, fair trade and organic;</p> <p>eElectric robotic mowers around clubhouse and ball retriever (experiment)</p> <p>CCIP: Please adopt a sustainable procurement policy, outlining your preference for products and materials that are ethical, recyclable and pose minimal environmental impact. This can be set out in a declaration of intent.</p>
R3.3 Reuse and recycle	R3.3.1 Waste stream separation for maximum recycling and re-use opportunity	Demonstrate waste separation, reuse and recycling; Track how much waste goes to landfill, or is reused / recycled	<p>Waste quantities and disposal are recorded (see waste reporting);</p> <p>In the runway still in 2 places waste bins, for separated waste; glass, metal and paper are separated;</p> <p>VGF waste is too little and separate collection is therefore not efficient;</p> <p>Chemical and hazardous waste separated, collected by certified waste processor;</p> <p>80% of residual waste is incinerated.</p>
R3.4 Demonstrate legal compliance	R3.4.1 Compliance with all local and regional waste management regulations	Use authorised waste and recycling contractor for general, hazardous, industrial and green waste	<p>Disposal of waste by approved waste processor NNRD;</p> <p>Annual waste reporting by waste processor,</p> <p>NB: Separation of waste and quantities depends on the waste processor of the municipality of Leeuwarden, with no improvement possible in the short term. The figures therefore have no impact on the golf club's waste policy. Further disaggregation is therefore not relevant.</p>

COMMUNITY

C1 Outreach

Objectives	Requirements	Mandatory Practices	Verifier Notes
C1.1 Diversify access and provide multi-functionality	C1.1.1 Social and recreational activities at the facility		Clubhouse accessible to all, at crossing welcome signs along road; Golf course intersected by recreational walking and cycling path; Non-members are also invited for surveys.
C1.2 Provide for volunteering and charity	C1.2.1 Opportunities available for volunteering and support of charities and good causes		Deployment of volunteers widely and on all fronts; Volunteers help in e.g. catering, botanical garden and removing weeds on greens.
C1.3 Establish active community partnerships	C1.3.1 Positive and constructive engagement with neighbours, the local community and other groups	Create a 'sustainability working group'	GEO committee since 2011 (with great continuity, assurance, knowledge and enthusiasm); GEO committee activates sustainability projects in consultation with the Maintenance Committee responsible for implementation (in-house or outsourced); Cooperation with knowledge institutions (schools, learning companies, nature and environmental organisations); Neighbouring B&B uses possibility of dinner and/or lunch in clubhouse. CIP: Please make sure your OnCourse document library does not become overcrowded by regularly cleaning up and keeping only the most up-to-date documents on it. Please keep older documents in internal backup.

C2 Golfers & Employees

<p>C2.1 Improve health and wellbeing</p>	<p>C2.1.1 Benefits to human physical and mental health from golf and facility activities</p>		<p>4 shelters with safety measures and regulations ensure safety of players;</p> <p>Idem alarm in case of thunderstorms and other dangerous situations;</p> <p>AED in marshall buggy and clubhouse;</p> <p>Emergency plan, with instructions and approach routes, incident registration.</p>
<p>C2.2 Be open and inclusive</p>	<p>C2.2.1 Inclusivity and diversity in membership and visitor policies</p>	<p>Demonstrate inclusive policies for members and visitors</p>	<p>Open and inclusive club;</p> <p>10 golf tournaments organised annually;</p> <p>Youth emphatically motivated, youth committee: monthly youngster competition, group lessons for youth by youngest golf pro, free golf lessons.</p>
<p>C2.3 Employ fairly and safely, and provide career opportunities</p>	<p>C2.3.1 Ethical and legal employment, working conditions and professional development</p>	<p>Follow all relevant national legislation and best practice for employment, health & safety etc</p>	<p>Greenkeeping is outsourced to a recognised contractor who himself continuously works to increase sustainability, safety and commitment to well-trained employees;</p> <p>Golf club employs 20 people (full time and part time);</p> <p>Complies with Health & Safety, collective agreement, works with CPD, training on all fronts;</p> <p>Collaborates with local training, work experience places for clubhouse and greenkeeping.</p>
<p>C3 Communications</p>			
<p>C3.1 Engage golfers and members</p>	<p>C3.1.1 Communications activities that raise awareness and understanding amongst members and visitors</p>	<p>Provide information on the facility's sustainability commitments, actions, or achievements</p>	<p>Nice big info board on biodiversity, inventory and GEO at starting point golfers;</p> <p>Members invited to participate in inventories;</p> <p>Weeds club regularly stabbing greens (plantain);</p> <p>Regular column in newsletter on nature and environment.</p> <p>CCIP: Please investigate the possibility of expanding the botanical garden with stinzenflora with a stacked wall for flora and fauna. This fits in with the ambition of increasing biodiversity. Please try to make</p>

			this visible, also to passers-by, and provide information on the importance of biodiversity. This will increase awareness and support.
C3.2 Celebrate and promote sustainability	C3.2.1 Activities that raise awareness and engage people in the wider community	Provide evidence of external communications and community engagement	<p>Website with information about GEO and interpretation by the club;</p> <p>Art route participant, open to the public;</p> <p>Guided nature walks on the golf course, open to everyone;</p> <p>Botanical garden in front of the clubhouse.</p> <p>CCIP: Please try to provide information on specific themes of nature and landscape at the entrance, clearly visible for passers-by and visitors. This will support the aim of raising awareness and support (e.g. how many hectares of nature, special species and facilities, adapted management, monitoring, nature walks, GEO etc).</p> <p>CIP: Please ensure that the website provides information on GEO topics to all interested parties in a more illustrative way. Please provide examples of successes and plans.</p> <p>CIP: Please try to organise a special event e.g. on the renewal your GEO certification. Please invite alderman and other government officials, as well as members of nature clubs.</p>

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