



GEO Certified[®]

GEO Certified[®] Report Lochemse Golfclub

Prepared by Independent Verifier, Paul van Kan

Certified by GEO Foundation: February 2020

Valid until: February 2025

GEO Certified[®]

 **GEO
Foundation**
Sustainability in and through golf

“The way in which the improvement of quality and the enlargement of the area of heathland is dealt with is particularly worthy of praise, but the approach to the water system, together with the water board, is also an example for other golf clubs. Ensuring and improving communication are the most important issues for the coming years.”

Paul van Kan

GEO accredited Independent Verifier



Introduction

GEO Foundation is pleased to confirm that Lochemse Golfclub 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.

Lochemse Golfclub 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 set for the future, Lochemse Golfclub should be awarded GEO Certified® status.

For the certification period stated above, Lochemse Golfclub 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

Richard Allison
Manager, GEO Certified Facilities



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	2018 and 2019 extensive inventories (plants, birds, butterflies and dragonflies) by professionals, local bird working group and volunteers; This shows high biodiversity, thanks to gradual transitions from

			<p>open forest to heathland with many host plants such as heath, buckthorn and various grass species; In 2020, the ecological protocol will be developed in combination with the habitat map.</p> <p>CIP Work towards consistent registration of species so that this expertise (biodiversity, indicator species, trends) can be applied in management and organisation.</p>
	N1.1.2 Knowledge of legal designations for protected areas, habitats and species	<p>Understand legal responsibilities for protected landscapes and species; Record and monitor protected, endangered, or rare species found on the site</p>	<p>Golf course enclosed by NNN (nature network), without any restrictions; Many rare, (strictly) protected species such as Northern bog clubmoss, grass snake and badger; Solid overview of tree stock (GIS-system) as base for VTA, carried out by greenkeeper; Larch in bad health due to drought; gradually replaced by native species (pine, juniper, gorse and birch); Plant material supplied by Staatsbosbeheer; Replacing Northern red oaks in beautiful avenue is a delicate subject.</p> <p>CIP Develop an integrated habitat mapping which also includes the most promising and vulnerable areas; Ensure that the habitat mapping is linked to an ecological work protocol.</p>
	N1.1.3 Understanding and respect for cultural heritage	<p>Protect any archaeological, historical or cultural designations on the site</p>	<p>The extensive golf course (74 ha) is part of a forest complex on former heath ('Groote Veld'), which is referred to with a lot of knowhow and respect through the return of heath, sheep pasture and nice shelters that looks like old sheep stables; The course was laid out on two estates: Hameland and 't Rad; Former farmhouse Hameland and surroundings respectfully restored; Intensively used paths strengthened with 'graustabiel' with excellent results and in a natural way landscaped; Avenues, ditches and also the 'Sluitdijk' are facing north-west, the direction of the cultivation of t Groote Veld at the end of the 19th century; Remains of 'rabat' forest are made visible again (rabats indicate that the area used to be much wetter).</p>

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	Wherever possible heathland is restored, such as the areas immediately after the tee (marked with cords to prevent entry), by opening the forest, laying out sods, heather mowing deposits, mowing and in the end grazing to preserve heathland; Also ponds (on natural foundation) are promising habitats; Vulnerable areas are protected from buggies by means of GPS. CIP Identify promising and vulnerable locations in the habitat map (see: N1.1.2)
N1.3 Actively manage habitats for wildlife	N1.3.1 Projects to manage habitats in the best way for wildlife and golf	Regularly review and follow a habitat management plan; Prioritise native species when planting and landscaping	Mowing heather and particularly increasing grazing by own sheep, carefully and with great skill, which allows impoverishment and everywhere wonderful wide gradients from open forest to heathland and nature rough; Rough grass covered area is sodded; Annual forest check with consultant on the basis of a forest management plan in a rotation system of 7 sections; Professional forest management by greenkeeping with own machines and with the help of practical work-plansheets CIP Develop an integrated management plan in which nature conservation is explicitly anchored and is linked to the habitat map, including promising and vulnerable locations (see: N1.1.2)
N1.4 Conserve key species	N1.4.1 Practical conservation measures for priority species		Many rare and highly indicative species; Badger forages from nearby castle, turfgrass damage is limited; Numerous similar facilities: insect hotel, wood piles, dead wood, nest boxes (brown owl, barn owl, interior, starling, great tit) and bat boxes (common pipistrelle). CIP Add facilities to management plan (GIS)
N2 Turfgrass			
N2.1 Maintain optimum turf and	N2.1.1 Appropriate turfgrass varieties	Select appropriate grass species for climate	Festuca rubra is the most common grass on greens, tees and fairways, but also on roughs; as well as lolium on tees and

soil health	adapted to climatic and other geomorphological factors		fairways; Apparent decrease in poa annua due to improved water distribution at greens in 2017-2018 (see also: R.1.1.1); Pilot with different grass species at pars3
	N2.1.2 Practices to maintain good soil structure and condition		Sandy soils with loamy layers have their limitations, of which there is a strong awareness in the pursuit of a more steady water system; Ample know-how of soil management is available
	N2.1.3 Careful and responsible fertiliser application throughout the year to avoid over-fertilisation	Undertake soil tests and nutrient analysis	Quality Scan Prograss (2018); Liquid inorganic manure has the advantage of gradual absorption; Relatively high N values due to nutrient-poor sandy soil; Extremely high phosphate application tees in 2018 in connection with root regeneration.
N2.2 Prioritise cultural management	N2.2.1 Non-chemical pest, disease and weed management	Sharpen mowing blades; Remove surface moisture; Hand weeding	Solid strips sown with wild carrot attracts wasps parasitizing on cockchafer larva; Nematodes are used, taking into account the weather conditions; Starling nesting boxes (foraging for cockchafer); Nesting boxes for great tit and nuthatch (oak processionary); Weeding greens manually maintains the condition of the turf. The club is well prepared for chemistry-free management
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	Prompt detection of pests and fungi and accurate action through close communication with regional greenkeepers; Ambition to stop using pesticides from 2022.
	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	In compliance with legislation
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; 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.	No environmental action plan, but all actions are in compliance with the law; Buffer zones are determined in working agreements with greenkeepers; Work on water sections is not carried out mechanically at 10 metres from the banks CIP Provide a permanent location for the storage of clippings without impact on the soil by means of leachate CIP Switch to biodegradable lubricant CIP It would be wise to develop an environmental action plan in order to safeguard and clarify responsibilities
	N3.1.2 Practical measures to ensure pollution risks are minimised from clubhouse operations	Ensure all hazardous materials are safely and securely stored; Ensure compliance with all required standards and systems for hazardous waste and wastewater discharge	Biodegradable detergents; Wastewater restaurant via oil/grease separator to sewer (separator is emptied 2x/year, certified); Communication largely digital to reduce paper consumption
	N3.1.3 Practical measures to ensure pollution risks are minimised from maintenance facility operations	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	Seams of the wash pad were cut out and repaired in 2018; Impervious flooring meets compliance; Hazardous materials safely stored and disposed of in compliance with the law.
N3.2 Safely manage hazardous substances	N3.2.1 Legal compliance in the storage, handling, application and safe disposal of all hazardous substances	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;	Chemical storage is safe, closed and provided with a register with stock and user data/quantities, kept by the main greenkeeper; Fuel tank delivered on 12-01-2006, Kiwa approval

		Regular inspection of storage tanks	
N3.3 Responsibly manage waste / storm water	N3.3.1 Appropriate waste water usage and discharge licences	Wastewater discharge licence; Appropriate treatment of machinery wash water (impermeable surface, oil / grease / clipping separation)	New water system will be operational in 2020, so that rainwater is retained longer by means of attachments in divers; Benefits: (1) supplementary supply of moisture for grass vegetation, (2) ponds contains water during a longer period; All wastewater disposal restaurant and workshop in public sewer system; Rainwater from roofs and pavements not in sewer system but returned to the soil; Oil/grease separator wash pad 4x/year emptied, certified; Toilet on the course is studied (considering septic tanks with overflow and helophyte filter);

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	Groundwater pumped up for irrigation (notification requirement); 16 ha irrigated (greens, tees and last 100 m fairway in front of greens); two pumps: one for pressure, one on demand (elf-directional); The amount of groundwater pumped up varies greatly, explained by the soil structure with loamy layers in combination with the season; In years with major national tournaments, much more water is used;

			Greens consist of 20% heather compost and are sensitive to drought; The dry year 2018 was used as an apprenticeship year, which was immediately earned back in the even drier year 2019 (less consumption of irrigation water due to prompt intervention in the case of drought, e.g. by efficient water distribution on greens (wetting agents))
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	Soil moisture and weather conditions daily measured; Cluster irrigation at night in 'time blocks' to allow water to penetrate; Keeping the soil humid is an effective measure, which is also required in using nematodes to combat cockchafer; Gradual change from circular sprinklers to sector sprinklers (2017-2020); circular sprinklers enable very precise irrigation; Drought-sensitive fairway areas are manually irrigated.
	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	Scan public water (2014) following the diagnosis of legionella; Removed dead pipes to reduce water consumption and to safeguard water quality; Machines are cleaned with groundwater instead of tap 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	Buffering own rainwater used for irrigation is not to be considered as a realistic option due to soil composition, therefore priority is to restore the natural water system (2020, see N3.3.1).
R2 Energy			
R2.1 Reduce energy demand	R2.1.1 Measures to reduce the amount of energy consumed in course maintenance	Minimise areas of managed turf to reduce mowing, irrigation, and turf inputs	Irrigation pumps only run on demand; driving range recently lighting (LED); Reduction in fuel consumption by 2017/2018 due to the use of grass growth regulators on fairways, resulting in lower cutting frequency (however, from mid-2018 no longer in use in the context of phasing out the use of chemicals in course maintenance); Greens are rolled twice a week, which saves fuel; Leaf blowers and chainsaws run on (environmentally friendly) aspen; Bunker rake machine, aeration machine and hand mowers run on euro gasoline;

			<p>New machines that are used are more efficient in terms of fuel consumption; Due to the large surface area and long distances, hybrid machines are not (yet) efficient.</p>
R2.2 Maximise energy efficiency	R2.2.1 Measures to use energy and fuels more efficiently in buildings	<p>Audit energy use regularly; Regularly review bills; Categorise and track energy consumption</p>	<p>Lighting, workshop illuminated with energy-efficient fluorescent tubes, sensors in changing rooms, lockers and driving range, timer on driving range); Terrace heating based on need (groups); Given the large building volume energy consumption is relatively low; Boilers (2008 and 2015) checked annually (service contact); Warming controlled by thermostatic valves, room thermostat and timers.</p> <p>CIP When renewing the central heating system, take a critical look at the system and install the most efficient option</p> <p>CIP Provide measuring points on important groups so that more control is possible (e.g. the use of terrace heaters and pumps)</p> <p>CIP Continue to implement the recommendations of the energy audit, especially with regard to cooling devices (large consumers)</p>
R2.3 Source energy responsibly	R2.3.1 Measures to source alternative, renewable forms of energy	<p>Determine potential sources of renewable energy in the area and on-site, through renewable energy providers</p>	<p>In 2018, 288 solar panels were installed on the roof of the maintenance building, reducing purchasing by 40%.</p> <p>CIP Switch to purchasing renewable energy</p>
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	<p>Undertake a review of materials consumed</p>	<p>Club is aware of consumption and origin of materials (see also: R 3.2.1)</p>
R3.2 Purchase	R3.2.1 Practical use of an	<p>Adopt a sustainable, or ethical /</p>	<p>Sustainability is given sufficient attention in purchasing almost</p>

responsibly	ethical / environmental purchasing policy	environmental purchasing policy to maximise the use of locally sourced goods and goods made from recycled, recyclable and certified materials	entirely local suppliers; Greenkeeping under own supervision; Sustainability agreements are set out in a declaration of intent with the hotel and catering industry entrepreneur; CIP Formulate a purchasing statement with criteria of sustainability and ethics CIP Make agreements with the catering company about organic / fairtrade products, starting with coffee, tea and dairy products
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	In 2020, the focus will be on separating waste on the course, members will be instructed; In addition to paper and glass, from 2020 plastic will also be collected separately and disposed of by waste processors; Wood chippings are disposed to members, the surplus to adjacent fields; Clippings and leaves to the corn field of neighbouring farmer; Most of the prunings are recycled on site e.g. in wood piles
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	Storage in three underground containers (glass, paper, residual waste); Waste regularly and waste oils collected by certified companies; CIP Avoid percolation of leachate from clipping storage to the soil (see: N3.1.1)

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		Sluitdijk (recreation path) cuts across the golf course, hiking trail surrounding the course; Anybody is welcome in the restaurant; Public moths counting night
C1.2 Provide for volunteering and charity	C1.2.1 Opportunities available for volunteering and support of charities and good causes		Large number of volunteers (120) active in maintaining nest boxes and in inventory flora and fauna, board honours them with annual volunteer day; Help with forestry has been stopped because of safety and inefficiency; Five charities are supported.
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 integrated via CTB committee, which has sustainability in its portfolio; Vision and work plan GEO 2019-2024 with board approval; Sustainability working group (7 members including greenkeeper who has known the area for a long time and knows it very well; all fields of expertise are represented); Greenkeeper is member of regional and national consultation networks; Neighbours are welcome at the annual 'naoberdag'.
C2 Golfers & Employees			
C2.1 Improve health and wellbeing	C2.1.1 Benefits to human physical and mental health from golf and facility activities		For the elderly and less mobile players, the GPS is switched off so that they can move around anywhere; Sponsorship of 'muscle for muscle'; FAFS plan in which an emergency plan is included; Incidents reported, control and responsibility to club manager; marshalls annually follow FAFS and AED training; 4 shelters equipped with lightning protection; Licence application for heightened fence for swings
C2.2 Be open and inclusive	C2.2.1 Inclusivity and diversity in membership and visitor policies	Demonstrate inclusive policies for members and visitors	Students from local schools were invited to get introduced; Golf course since 1987 with about 1000 members, club accessible for anybody; The club is open to everyone; annual open day
C2.3 Employ fairly and safely, and provide career opportunities	C2.3.1 Ethical and legal employment, working conditions and professional	Follow all relevant national legislation and best practice for employment, health & safety etc	Employment for disabled people and trainees (small demand); protection gear available for greenkeepers; Periodic safety training for staff.

	development		(see also: C2.1.1)
C3 Communications			
C3.1 Engage golfers and members	C3.1.1 Communications activities that raise awareness and understanding amongst members and visitors	Provide information on the facility's sustainability commitments, actions, or achievements	<p>Ample information on management, flora, fauna and the environment in the weekly newsletter and quarterly magazine; Members help with inventory of butterflies (including other insects) and to maintain nest boxes; Members observations are passed on to the hotline, special observations are published in the newsletter;</p> <p>CIP Start communication on waste: reduction, collection and recycling</p>
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>External communication is practically restricted to the website; Important illustrative role as a guest court for major national tournaments;</p> <p>CIP Create a simple communication plan that defines target groups, actions, resources and responsibilities</p> <p>CIP More attention to GEO on the website, working out with inspiring facts about nature and the environment</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