



TOPGRASS

COLLECTOR FIELD

EXERCISING ON AN ENERGY SOURCE





TOPGRASS B.V.

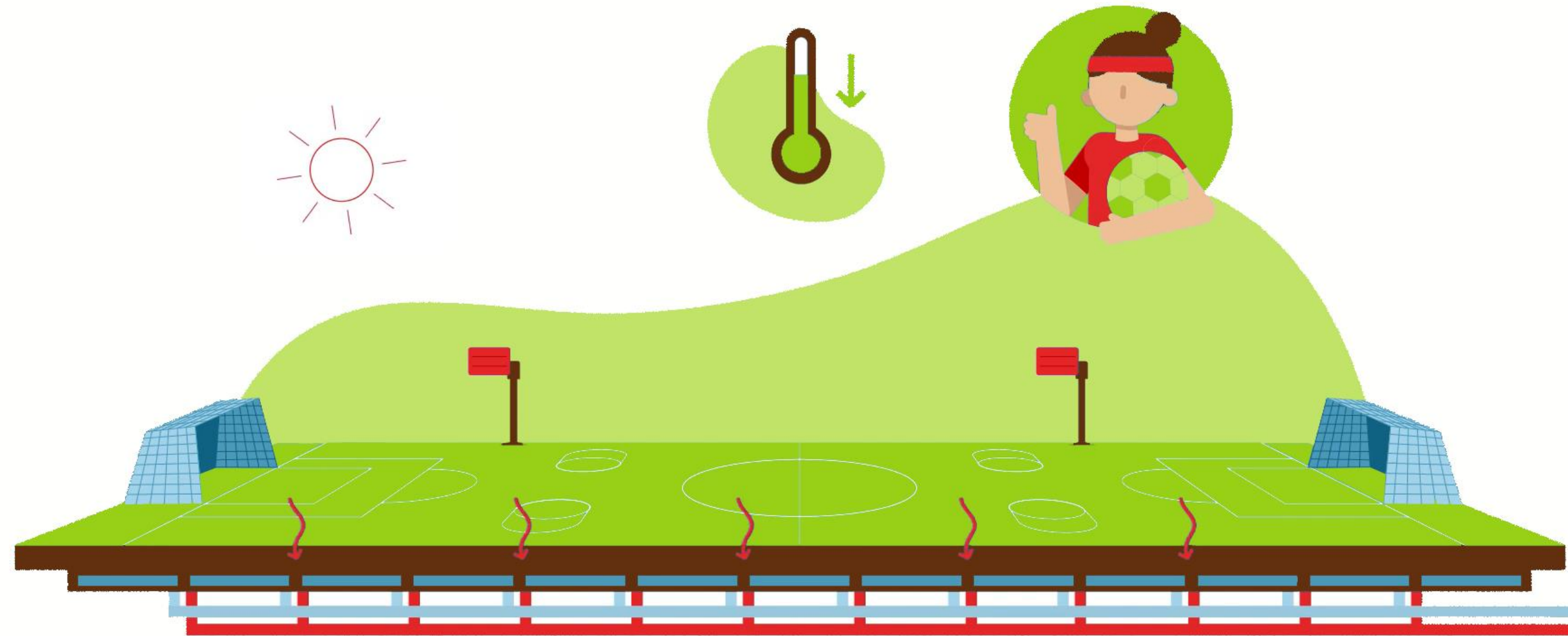
COMPANY INFO

- Year of incorporation: 2013
- Number of employees: 26 – 50
- Turnover: €21 million in 2022
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TopGrass Collector Field

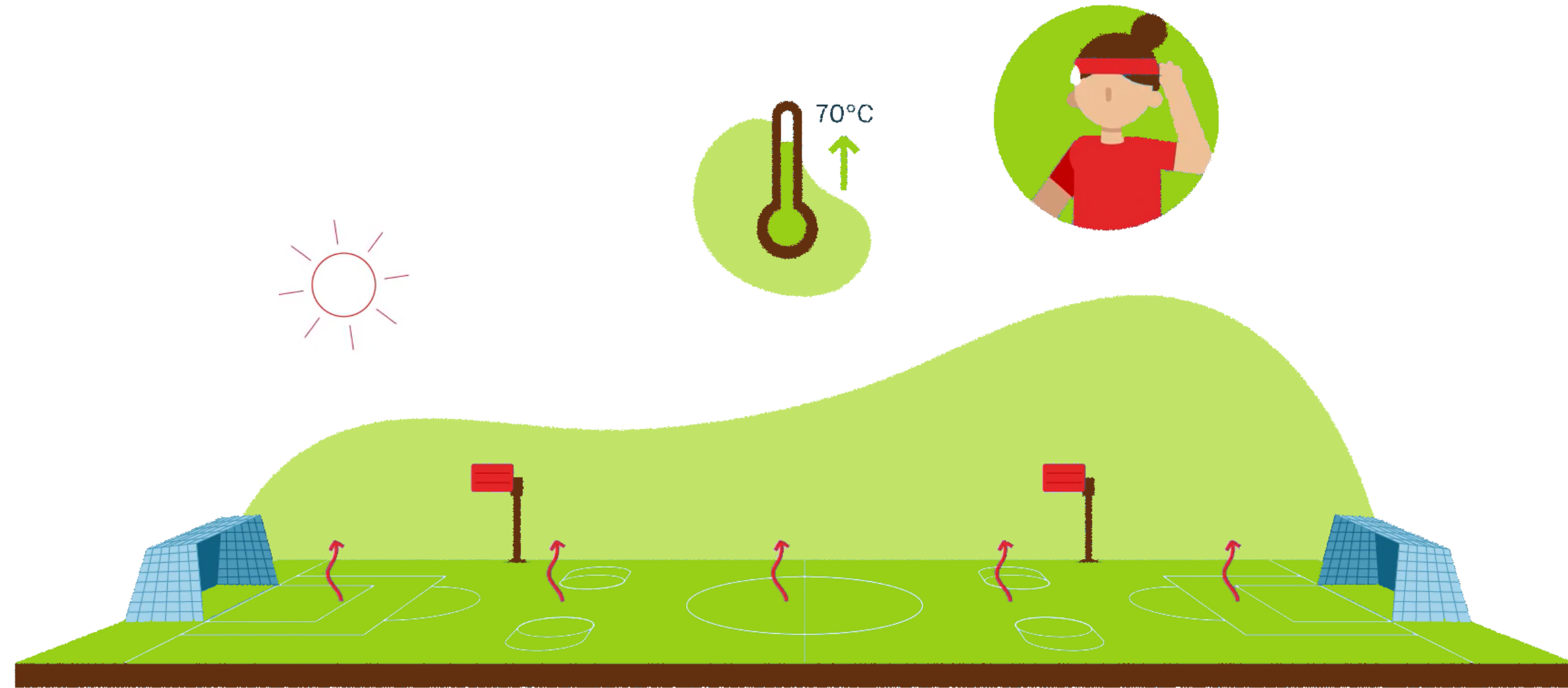
The TopGrass Collector Field is a system from The Netherlands that generates heat from sports pitches from synthetic turf. In summertime the temperature of these pitches can rise to temperatures of 70 degrees Celsius in The Netherlands, and even warmer in Spain!

This free solar-generated heat is collected by a system that is integrated under the artificial turf. This system exists of special tiles and a maze of tubes filled with a special fluid. The fluid extracts heat and transports it to a storage buffer. From there it can pass a heat exchanger to heat tap water for e.g. the LaLiga soccer accommodation and stadium. Due to the amount of heat that is harvested, it will also be enough for surrounding areas and their demand like citizens with residential homes, governmental and educational buildings, and industrial users. Applications are for example to heat or preheat tap water, HVAC usage, and to assist in industrial processes that require heat. The involvement of these surrounding users and potential stakeholders can lead to quadruple helix model of cooperation and 'Heat as a Service' (HaaS) for the involved LaLiga club.



TopGrass Collector Field

Synthetic turf pitches get very hot in summer. For example, a synthetic turf sports pitch in The Netherlands rises to as high as 70 degrees Celsius in the summer, and in Spain even warmer. There is a lot of potential in harvesting heat. With the TopGrass Collector Field, we capture this heat with our collector system under the field.

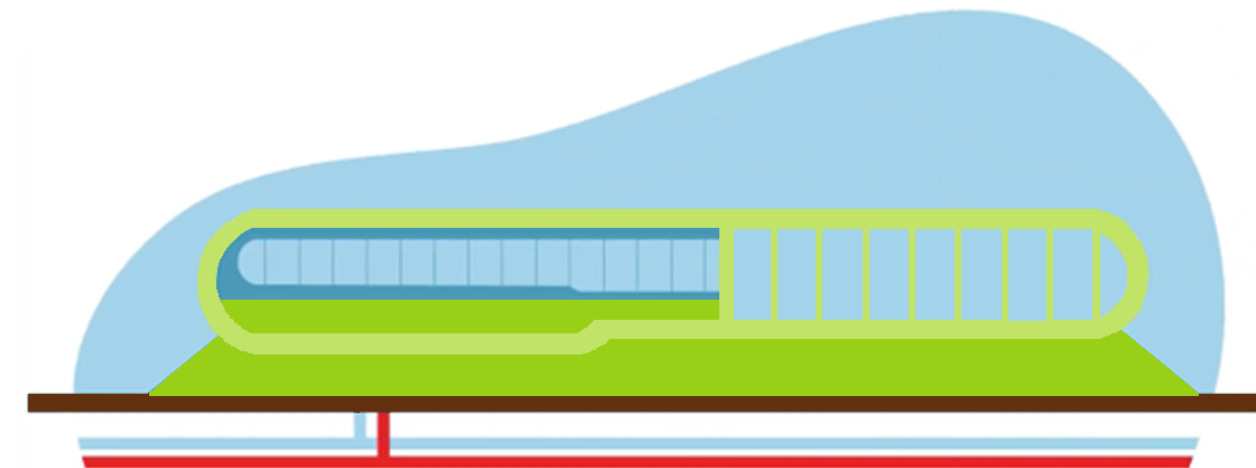
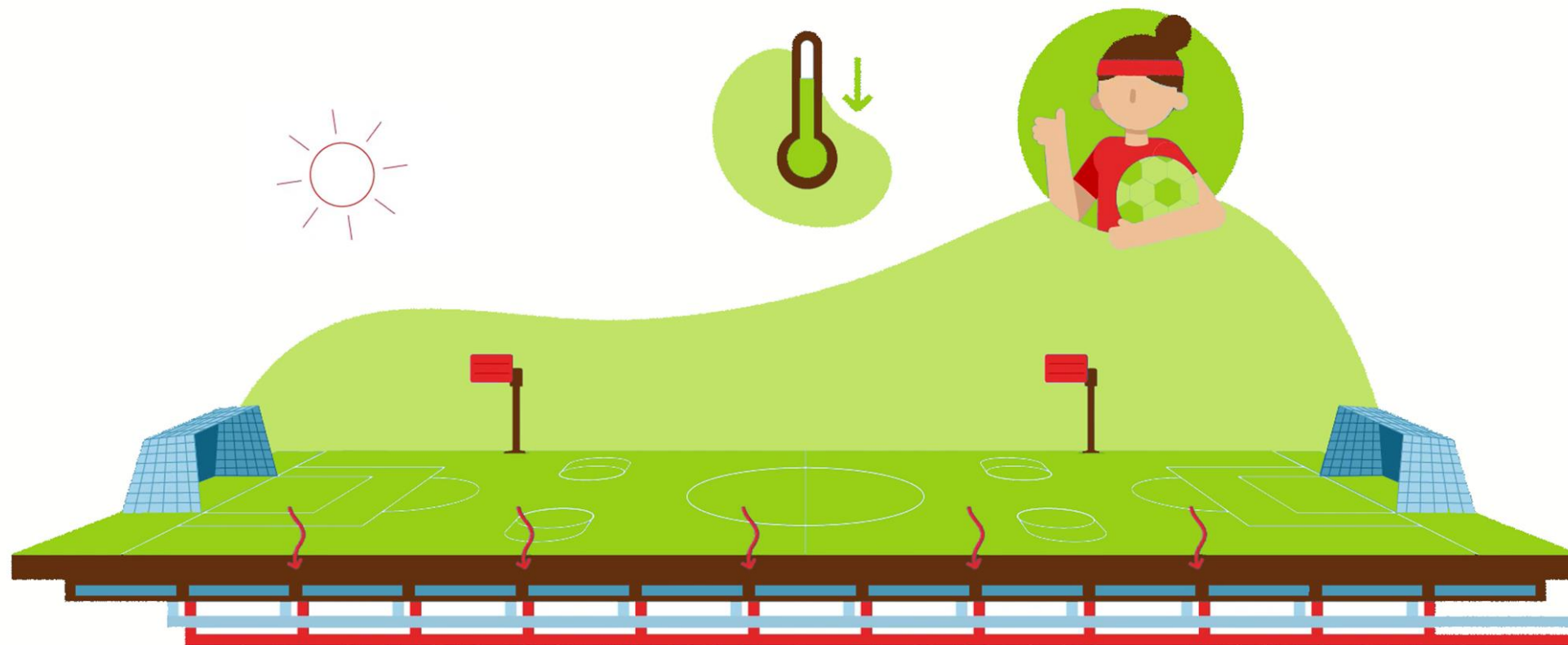


TopGrass Collector Field

With the TopGrass Collector Field, we capture this heat with our collector system under the field and use it to heat the canteen, school buildings, sports halls, swimming pools, and surrounding residential areas. The system is tested at the highest-regarded research lab from The Netherlands TNO (<https://www.tno.nl>) and the outcome is that one sports pitch can heat 210 houses.

Synthetic turf pitches have more playing capacity and require less maintenance than natural grass pitches. The Collector Field converts old pitches into sustainable new ones. The heat generated from the Collector Field replaces natural gas (energy) for heating the facilities (SCOPE 1 – UEFA). The heat also replaces purchased electricity used for heating (SCOPE 2 – UEFA). Making the facilities greener and savings costs.

In the case of the Collector Field, you have users and customers for different parts, the field, and the heat. The users of the field are the LaLiga clubs, with mainly their youth teams (due to artificial grass). The users of the heat can be the LaLiga clubs, but also industry, government, academia, and civil society. Customers, in this case, can also come from the quadruple helix, separately or together.

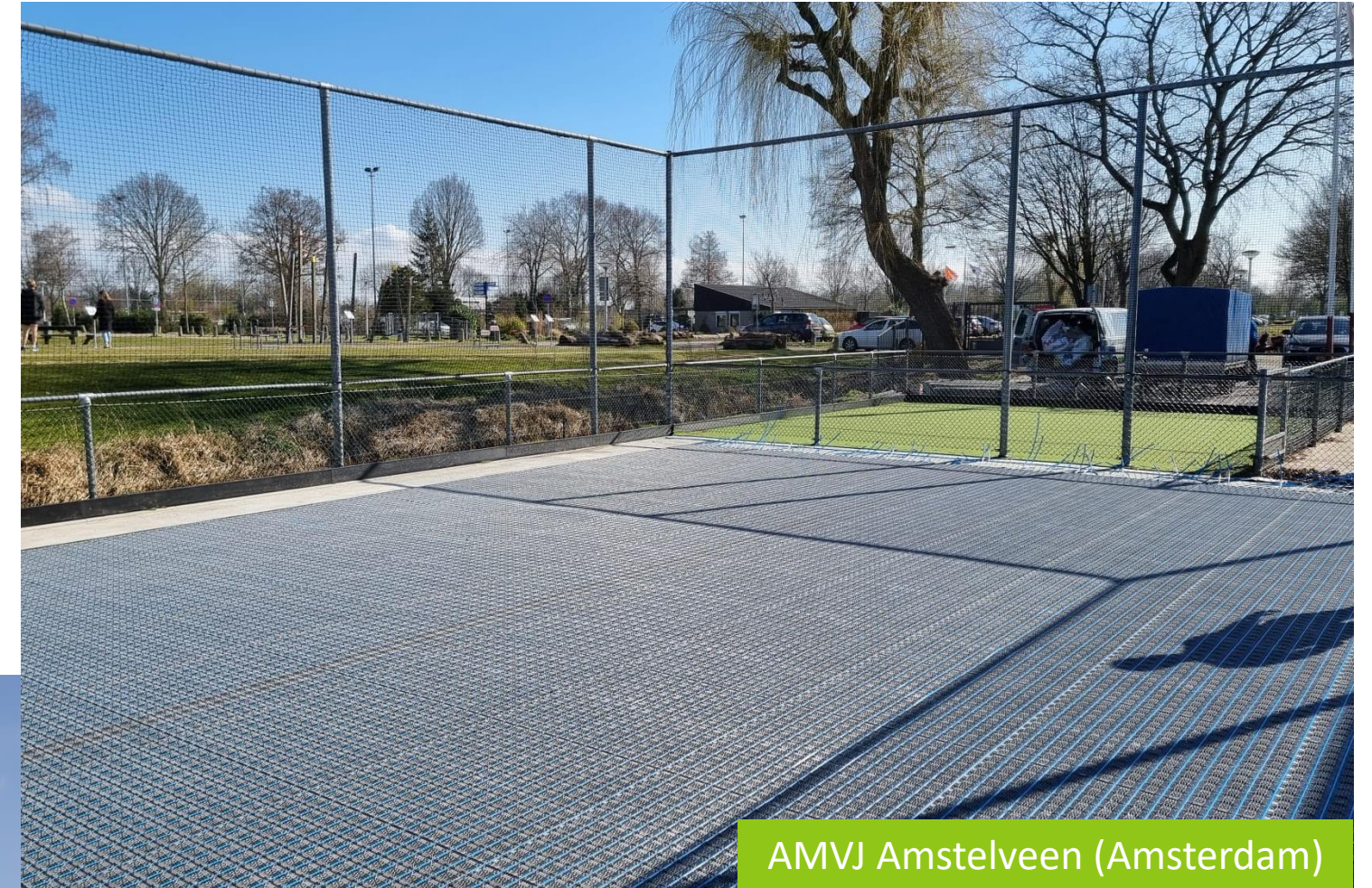


TopGrass Collector Field

The main advantages of the Collector Field are:

- Generates heat to supply surrounding environment (buildings) with heat;
- Contributes to a better climate by using a natural resource (sunlight) to lower CO2 and to target towards 100% climate neutral;
- Heat 210 houses;
- 100% reusable materials;
- Reduce of 1.500 tons CO2 each year;
- Reduces heat of the pitch, enhancing the playing experience, making the pitch cooler and therefore better for health and reducing injuries.

After testing at two different locations in Amsterdam and Zwolle in The Netherlands to generate data, the first operational TopGrass Collector Field is built in Eindhoven in the South of The Netherlands. Here, the system will heat the nearby school building, sports hall, and surrounding houses. This case study in Eindhoven also concerns quadruple helix cooperation, as city government, industry, education (academia), and residents (civil society) are all involved. Although more providers are entering the market, TopGrass is the first to have an operational pitch and we are very proud of that!



AMVJ Amstelveen (Amsterdam)



CKV Rust Roest (Eindhoven)

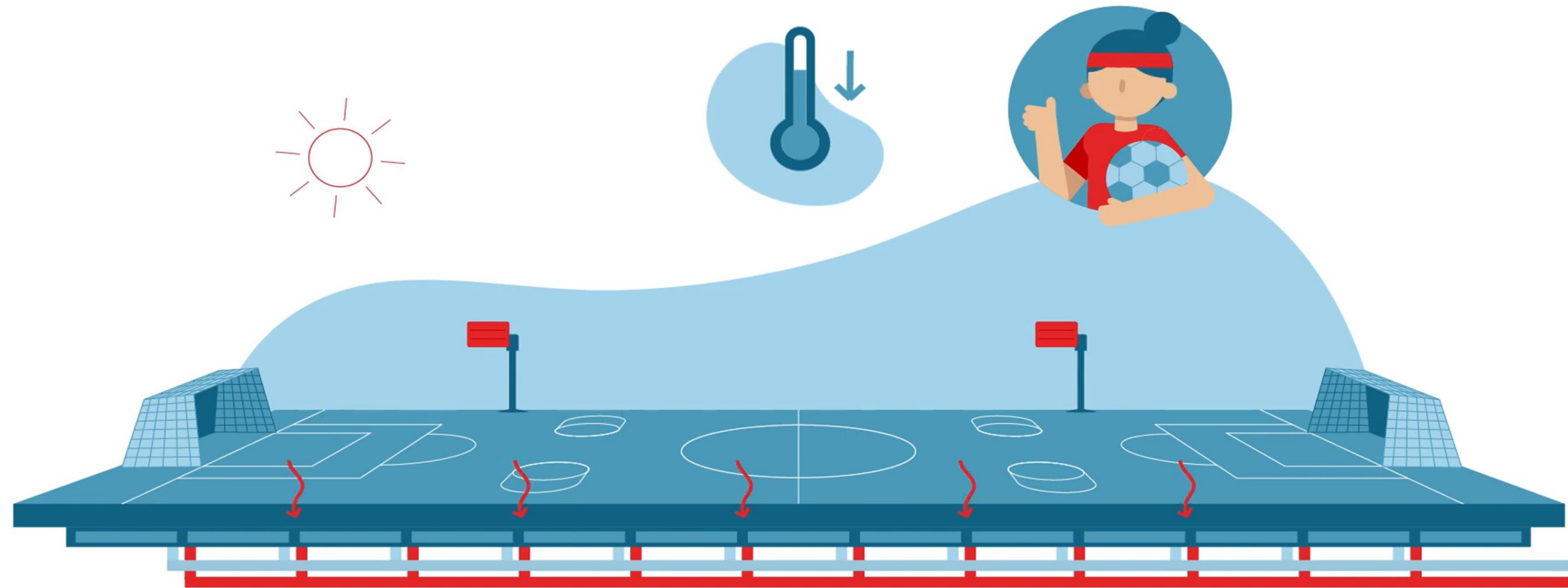


TopGrass Collector Field

From a financial point of view, the investment costs of the TopGrass Collector Field can be recovered as revenue by sharing and selling heat that is generated. Based on the current measuring results and parameters, the ROI (Return on Investment) of the Top Grass Collector Field is approximately 9 years.

We expect a shorter ROI in the nearby future and good to implement this as soon as possible in (a pilot project) in Spain to come to comparison figures and probably better results.

Continuing the growth of the Collector Field, we want to expand in the Netherlands and move towards southern Europe and Scandinavia. In southern Europe, we see opportunities in the countries where it is warmer than in the Netherlands. There is a higher return to be achieved here. In Scandinavia, the Collector Field could also serve as field heating so that playing can continue for longer and at colder temperatures. Depending on geographic location, climate, and local infrastructure, a dialogue and brainstorm between stakeholders will probably lead to new ideas, new applications and useful insights.



TopGrass Collector Field



Website:
www.top-grass.nl/collectorveld/
(in [English](#))



Collector Field in Eindhoven:
<https://www.eindhovenduurzaam.nl/aardgasvrij/t-ven>
(in [English](#))



Video about Collector Field in Eindhoven:
<https://youtu.be/RST47VSRLrY> (in Dutch)

