



Design Dialogue Centre, Wageningen Campus, ©Broekbakema Architects

2020-2022 Multi-Year Environmental Plan

The 2020-2022 Multi-Year Environmental Plan of Wageningen University & Research (WUR) sets out the environmental and sustainability topics that will receive attention at WUR over the coming years. It outlines how WUR is meeting its legal environmental obligations. WUR aspires to lead the way in sustainable operations. The Multi-Year Environmental Plan also outlines the measures being taken by WUR to turn this ambition into a reality.

The Multi-Year Environmental Plan presents the environmental and sustainability plans at organisation level. The different organisational components at WUR are formulating their own plans for the environment and sustainability, and this plan provides a broad outline of the priorities of those plans. WUR reports annually on the environment and Corporate Social Responsibility (CSR) in the Annual Report on Sustainability. The Multi-Year Environmental Plan and the Annual Report on Sustainability can be viewed on the website of Wageningen University & Research.

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Ambitions, policy and objectives

Sustainability objectives

Sustainability is an important component in research, education and value creation. WUR's mission expresses this as follows: 'To explore the potential of nature to improve the quality of life'. The emphasis is primarily on global challenges, such as the depletion of nature and natural resources, the global food problem and climate change.

WUR is a forerunner in sustainable operations, and is keen to maintain and expand this position. In view of this, it is important to continue to stay ahead in Corporate Social Responsibility (CSR). WUR prioritises the promotion of vitality in employees and students, a selection of healthier food in canteens that is produced more sustainably and a reduction in food waste. 'As part of increasing the sustainability of our organisation, we are using a Living lab concept – an approach that presents opportunities for research and educational experiments. In our purchasing policy, we are pressuring chains to work transparently, sustainably, in a circular manner and free from modern slavery (2019-2022 Strategic Plan).'

A new CSR agenda was formulated in 2019 consisting of seventeen topics. This agenda features environmental topics of sustainable energy, waste and circularity, the climate-adaptive environment and sustainable mobility. We report on the progress that we are making using key performance indicators or KPIs. The Multi-Year Environmental Plan outlines the KPIs for the aforementioned topics.

In order to enhance the engagement of employees and students in sustainability, we are currently implementing the Green Impact (GI) programme, in which teams of employees and students draw up plans for accomplishing sustainable initiatives on the ground. As support, the GI organises workshops to discuss different sustainability topics and translate them into concrete actions. Team activities are registered through an online tool kit.

Sustainability objectives

The ambitions for CSR and sustainability are further developed within the topics of waste, waste water,

asbestos, soil, construction, energy, biodiversity, noise, air, purchasing and mobility (see Table 1). This environmental policy plan incorporates the plans and intended results for the 2020-2022 period. Annual reports on the progress of these plans are provided in the annual environmental report and the CSR report.

Environmental policy

WUR complies with applicable legislation and works hard to be demonstrably compliant. Compliance starts by providing insight into frameworks, up-to-date permits, meeting permit regulations and conducting audits. For this we apply the 'Deming circle'.

WUR comprises different organisational components distributed across 26 different locations (see Appendix 1) and clustered in complexes for which environmental permits have been issued (see Appendix 2). The environmental permits for WUR are issued on a complex-by-complex basis by the competent authorities, including provinces and local authorities.

Environmental permits have been issued for:

- Wageningen Campus and De Dreijen
- WUR complex Lelystad
- WBVR, Lelystad
- Wageningen other and other locations

Climate-adaptive environment

In compiling the CSR agenda, it was determined which topics are of importance to our stakeholders (employees, students and external stakeholders). Unsurprisingly, the climate-adaptive environment features on the CSR agenda, and students in particular consider it to be a very important topic. In 2020, WUR will be carrying out a risk analysis (stress test) to map the potential effects of climate change on our buildings and environment. This stress test will enable WUR to determine where its focus should lie, such as on water collection, to minimise the risks. The risk analysis will be carried out in collaboration with research associates and students and will form the basis for a KPI for the topic of the climate-adaptive environment.



An artist's impression of the third education building, construction of which commenced at the beginning of 2020

Table 1: Objectives by topic

Topic	Objective
Energy	<ul style="list-style-type: none"> ▪ To be energy-neutral by 2030 ▪ A 2% energy saving year on year until 2030 ▪ To formulate the Energy Transition Vision: ambition to minimise natural gas consumption
Waste	<ul style="list-style-type: none"> ▪ To implement the vision for the circular economy ▪ A 50% reduction in recycled waste and residual waste and a 50% reduction in materials use by 2030
Water	<ul style="list-style-type: none"> ▪ An annual reduction in water consumption
Waste water	<ul style="list-style-type: none"> ▪ No chemical contamination of the waste water
Biodiversity	<ul style="list-style-type: none"> ▪ To implement the Green Vision for Wageningen Campus ▪ To update the biodiversity policy
Soil	<ul style="list-style-type: none"> ▪ Insight into the soil quality at all locations
Construction	<ul style="list-style-type: none"> ▪ The 3rd education building must satisfy the requirements for BENG (almost energy-neutral buildings)
Asbestos	<ul style="list-style-type: none"> ▪ All roofs containing asbestos will be cleansed by the end of 2021
Noise	<ul style="list-style-type: none"> ▪ To test all changes to facilities and infrastructure against the noise frameworks of the environmental permit and, if applicable, the zoning plan.
Air	<ul style="list-style-type: none"> ▪ To shape the NeR minimisation obligation
Purchasing	<ul style="list-style-type: none"> ▪ To enhance insight into the sustainability of chains and to stimulate chains to work transparently, sustainably, in a circular manner and free from modern slavery. ▪ For purchasing to be carried out in accordance with ISO 20400 (Socially Responsible Purchasing)
Mobility	<ul style="list-style-type: none"> ▪ To reduce mobility-related emissions by 2% year on year until 2030



WUR central results and plans

Tenders as a flywheel

Tenders are a key moment for change in operations. WUR uses tenders to spur on developments within a sustainability topic and to stimulate sustainability. The preparatory phase in advance of a tender is also an ideal moment at which to introduce knowledge from education and research into operations.

material processed into the product should be equal to the quantity of material that can be recovered for new purposes after disposal. Other circular options are available when a new contract is concluded with a supplier. Examples include shared cars, use of multi-functional products or complete abandonment of product use (such as *Bring your own device* instead of permanent computers in practical areas).

The circularity strategies serve as a basic principle for new contracts with suppliers. WUR will replace current waste contracts with 'raw materials contracts'. As experts in the field of circularity in the markets where they are active, contractors will assist WUR in the quest for solutions to specifically shape the circular economy policy. Collaboration in coalitions forms a key element in WUR's vision for circularity.

Waste and the circular economy

In 2019, WUR compiled a vision for circularity in preparation of the waste tender in 2020, which was linked to an implementation programme. This vision marks the transition from a waste policy to a circular economy policy.

In accordance with the Dutch government's circular economy policy, WUR wishes to halve use of (abiotic) raw materials by 2030 when compared to 2014 by abandoning products, becoming smarter in the use of products and using or reusing products at WUR or elsewhere for longer. This will help to reduce WUR's raw materials use, but also reduce the quantity of waste. To be able to monitor progress, raw materials use will be monitored alongside the existing waste monitoring programme.

Various strategies are available to achieve circularity. A strategy that is particularly important for products that are already present within WUR is to use products for longer, or to reuse them for a new purpose. In order to close the circle for new products, the quantity of

The cycle of paper products

On 9 January 2020, WUR signed the Circular Collaboration Agreement for the use of recycled paper. WUR's used paper products will now be used as raw material for new sanitary paper products. This is not yet a 100% circular approach, but is still an important step towards circularity.

Like confidential paper documents and old office paperwork, used paper cups and hand towels will be collected by Veolia Paper & Plastics Recycling B.V. and transported to the WEPA Nederland B.V. plant, where the paper fibres will be reused as a raw material for hand towels and toilet paper. The new paper products will be returned to WUR through our supplier, Asito.



WUR scores highly in CSR benchmarks such as SustainaBul and Greenmetric

Water and waste water

We strive to reduce the quantity of drinking water that we use year on year by reusing water and making use of groundwater. In new buildings, water-saving equipment is being implemented in installations such as cooling systems, toilets and showers. To ensure that our waste water is clean, we undertake periodic checks of the water discharged into the sewer.

Asbestos

The use of asbestos in buildings has been prohibited since 1994. WUR still has a number of older buildings in service, some of which may contain asbestos. Use of asbestos has been mapped over recent years, and a number of buildings have been cleansed; management plans have been put together to minimise the risks to health.

An asbestos policy was formulated in 2019 to outline the approach:

- *Buildings with asbestos roofs:* Although the law prohibiting asbestos roofs was rejected by parliament on 4 June 2019, WUR intends to continue the cleansing of roofs containing asbestos. This phase is expected to be complete by 2021.
- *Buildings containing asbestos (not roofs) currently in service:* Management plans have been formulated for these buildings and there are no current plans or intentions to renovate or demolish these buildings (on a large scale).

Management plans are monitored once every three years and adjusted as necessary.

- *Buildings containing asbestos that are superfluous and/or earmarked for demolition:* These include 13-15 Edelhertweg in Lelystad and the chemistry buildings, Computechion, Agrotechion, De Valk, Wiskundegebouw and Transitorium op De Dreijen in Wageningen. Demolition plans are currently being prepared for these buildings. Supplementary destructive research will also be carried out as the work progresses.

Soil

This topic largely concerns the prevention of soil contamination by taking preventive measures and providing support during demolition and sale (end-situation investigation) and new construction (zero-situation investigation). Two soil investigations are being planned. A zero-situation investigation will be carried out for the Dialogue Centre. An end-situation investigation will be carried after the demolition of 15 Edelhertweg in Lelystad.

Sustainable construction

In 2020, WUR will be formulating a new policy for sustainable construction which will include the choice of a new measure for sustainability. Our choice will be partly based on the requirements for BENG, which will apply from 2021 onwards.

Two major construction projects will be carried out at Wageningen Campus between 2020 and 2022:

- The Dialogue Centre
 - The building will satisfy the requirements for BENG, including high insulation values and connection to the thermal energy storage system at Wageningen Campus.
 - Sustainability is a key consideration when it comes to the choice of materials.
 - The natural garden, located nearby, will be extended around the building to

International Student Challenge

A special initiative has been running since 2019 involving students from five universities (China Agricultural University, Cornell University, University of California Davis, University of Sao Paulo and WUR) who are collaborating on the design of a university campus in Hainan, a tropical island in China. Around 60 students spread over ten teams of four or five students are competing to create the best sustainable design.

The design needs to satisfy a number of requirements, including those relating to nature and sustainability. One of the requirements is to harmonise the campus with the ecological environment, with the design based on nature-friendly concepts, such as

- energy efficiency, which could include the use of daylight or solar heat.
- the use of sustainable construction materials, whether second-hand materials or renewable materials, such as bamboo or wheat straw.
- environmentally-friendly waste management, such as grey-water systems, waste composting or compost toilets on the campus.

further enhance existing natural values. This will involve creating a garden design that is consistent with both the landscape and ecology of Wageningen Campus.

- The building will be given a green roof.
- The 3rd Education Building
 - The building will satisfy the requirements for BENG.
 - Construction will follow the requirements of QS BREEAM 'excellent'.
 - Energy consumption will be minimised through good insulation and air-treatment cabinets with high return.
 - The building will be connected to the thermal energy storage system at Wageningen Campus.
 - Solar panels will be installed (approx. 1,100 m²).

Platform for biodiversity

Green forms part of WUR's core business. Wageningen Campus is not only a business card for knowledge in Wageningen, but a living lab for the sharing and continued development of knowledge.

Information about biodiversity on the campus is currently fragmented. A platform will be made available in 2020 in the form of a site or app to bundle information. Employees and students will be invited to help map biodiversity. The platform will offer the option of recording observations and will provide information about aspects such as the determination of flora and fauna and the management of diverse green elements. The project seeks to boost the involvement of employees and students, but also to use their knowledge and expertise.

Green management can use insight into the values of nature to optimise measures; estate and green development can use the same values when creating plans for nature-inclusive construction and the design of new green elements.

Research associates at Wageningen Environmental Research (WENR) are undertaking the project at the request of Facilities and Services.

Energy

WUR has committed itself to the third Multi-Year Agreement for Energy (MYA-3). At the end of 2020, this will be superseded by legislation from the European Energy Directive (EED) and its transposition into Dutch law. The EED includes an obligation to report to the competent authority the measures that WUR has implemented and will implement over the coming years to realise energy saving and generate sustainable energy. The ambitions in the WUR EnergyVision 2030 guide the measures, supplemented by the Energy Transition Plan formulated in 2020 to minimise consumption of natural gas. The plan presents concrete packages of measures for WUR buildings.

At the same time, energy saving in the user-related section is also given added attention. All organisational components have formulated plans for energy saving and are currently working on their implementation, plus there are dedicated E-teams throughout the organisation. These teams comprise location managers, technical building managers and occupational health and safety and environmental coordinators, who are advised by the central energy coordinator. There is also a central E-team that initiates measures that are beneficial to all organisational components, such as tenders for the installation of LED lighting and communication, and ensures mutual exchange of knowledge and experience.

The most important measures in the area of energy are:

- Installing a thermal energy storage circuit to which buildings at Wageningen Campus can be connected for sustainable cooling and heating.
- The structural inclusion of energy-saving opportunities in new construction, renovation and (major) maintenance.
- The more economical use of and, where necessary, replacement of lighting and user equipment and the economically-efficient adjustment of climate systems.
- Energy incentive: the organisational components will be made responsible for their own budgets, in order to give insight into their energy consumption and further stimulate energy saving.

The laws and agreements affect the WUR energy policy:

- For all new construction such as residential construction and non-residential construction, all applications for the environmental permit must satisfy the requirements for BENG with effect from 1 January 2021.
- In the context of VSNU (see [Climate action](#)) and through the Municipality of Wageningen (see [Wageningen climate-neutral](#)), WUR is building on the national and regional climate challenges such as eliminating the consumption of natural gas and reducing CO₂. There will also be regional investigations into the possibilities of using residual heat and geothermal energy in collaboration with paper plant Parenco.

Solar farms on WUR premises

WUR is making land available in a number of locations for the development of solar farms. This will enable WUR to contribute to the generation of sustainable energy.

In conjunction with WUR researcher associates, solar farms can be used to develop and test new concepts. In the Nergena solar farm in the Binnenveld, which is yet to be developed, the emphasis will be on enhancing biodiversity in a solar farm. The areas between the panels will be sown with native plants. WUR is collaborating with seed companies involved in Het Levend Archief project, which aims to safeguard the genetic diversity of wild plants by collecting seeds of native varieties.

The plan is also to turn the solar farm into a testing ground for new technologies. The height of the panels will be variable, as will the spaces between panels and the setup, which will include systems to rotate the panels to track the position of the sun.



Biodiversity

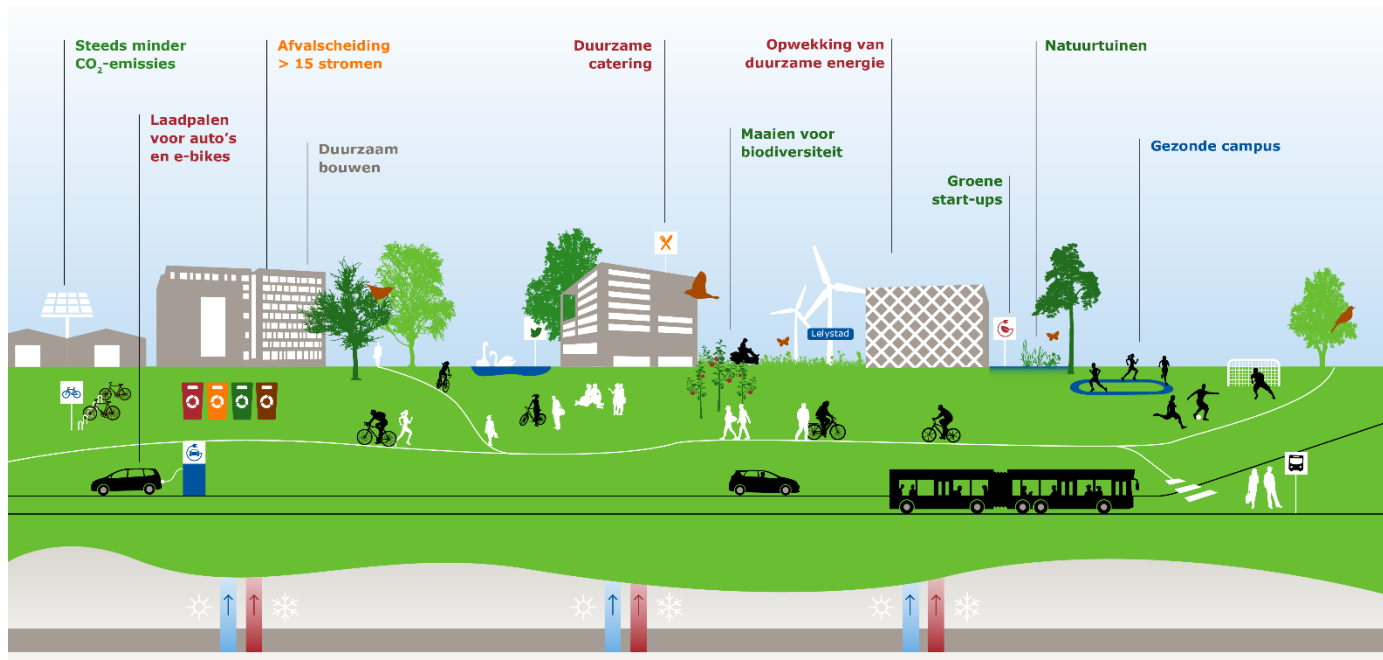
In 2019, the green management plan for Wageningen Campus was updated to emphasise landscape and natural values. Every year, experts, including those from the ESG garden committee, look at how the mixtures of flower meadows on the campus have responded to their green location. On the basis of this information, they determine the most appropriate data and sowing method to support flower-rich grassland. Measures are also taken at test farms at different locations around the country in order to enhance biodiversity (see further under Organisational component priorities, PSG).

The Green Vision Wageningen Campus was established in 2019. WUR wishes to turn Wageningen Campus into a showcase and living lab for a resilient, climate-resistant, liveable and healthy public space based on the functions and mission of the campus ecosystem – collaborating, working and studying in the domain 'healthy food and living environment' and all associated facilities and services. The green component of this campus ecosystem is representative of the expertise at WUR. The development and management of green is brought about in liaison with 'residents' and stakeholders in the campus ecosystem and the involvement of WUR experts in education, research and operations.

To supplement the Green Vision, WUR's Biodiversity Policy will also be established in 2020.

In order to satisfy legislation relating to nature, the following also applies:

- A quick scan of the flora and fauna is carried out for proposed building demolition or extensive renovation work. A habitat-suitability evaluation is carried out in the immediate vicinity. On the basis of this evaluation, an exemption procedure may follow combined with mitigating measures.
- Where tree cutting is proposed, a tree inspection is carried out beforehand (year-round) in order to avoid disturbing protected nests of birds, bats and squirrels. In the case of solitary trees, WUR looks to see if there are suitable hollows for protected animal or bird species. The necessary measures will then be taken if there are.
- A flora and fauna legislation exemption procedure was commenced in 2019 for 15 Edelhertweg in Lelystad due to the presence of bats and house sparrows in the complex earmarked for demolition. One of the mitigating measures is the construction of freestanding bat and house sparrow towers on the complex.
- A new planting plan is being developed for the Leeuwenborch location to support biodiversity on the site and further develop opportunities for biodiversity.
- A number of trees have been cut from the hedgerow behind Gaia as part of the new construction of the greenhouse complex at Unifarm. WUR is taking the work as an opportunity to boost biodiversity in the area, especially on and around the surrounding dyke.



Noise

New construction, maintenance replacement and changes to research setups could impact noise sources and, therefore, the noise that is produced. Each change is evaluated to see whether it falls within the noise frameworks of the environmental permit and, in the case of Wageningen Campus, of zoning plan. The acoustic model for Wageningen Campus and De Dreijen is regularly updated. The Sustainability Report (previously the Annual Environmental Report) provides yearly insight into the changes, measures and results relating to noise.

WUR is contributing to revision of the zoning plan 'Soundscape distribution Wageningen Campus e.o.

Air

The air policy states how WUR will shape the obligations that arise from the NeR regulations (Activities Decree Wm), including the minimisation obligation and periodic testing of emissions to the air by means of calculations.

Socially Responsible Procurement (SRP)

Suppliers and their sub-suppliers must satisfy the sustainability requirements and codes of conduct on human rights, working conditions and business ethics. The UPI-SRP model is being used. Ideas from research and education are used in purchasing processes on topics relating to food, green and vitality. Concrete objectives and actions are:

- To strengthen SRP by using an expert who can advise on tenders and other relevant projects.
- Active use of circularity in tenders.
- All company vehicles to be emission-free by 1 January 2022.
- More attention to Social Return on Investment (SROI) by providing employment to more employees with labour market challenges via framework contracts.
- Established policy in WUR Strategic Plan: WUR would like to stimulate supply chains to work transparently, sustainably, in a circular manner and free from modern slavery. The working group for fighting modern slavery is committed to work on this.
- Purchasing in accordance with ISO 20400 (Sustainable Procurement) and International Social Conditions (ISC).

Mobility

The WUR mobility policy is designed to ensure fewer transport movements and to stimulate sustainable transport. It is the core of the 2030 Mobility Vision in which reducing CO₂ emissions is a central component. WUR's ambition is to reduce CO₂ emissions from mobility by 2% every year. By 2030, this will mean at least a 25% reduction in emissions from mobility.

The measures that will be required over the coming years to achieve this are elaborated in the [2018-2022 WUR Implementation Agenda for Mobility](#). The measures focus on:

- Stimulating (electric) cycling: cycle routes and storage are being improved, there are more company/shared bikes, use of the (electric) bike for commuting is being promoted.
- Stimulating public transport: NS business cards are provided for business travel. The use of public transport for business travel and commuting is encouraged.
- Discouraging the use of cars for commuting and business travel: introduction of a Mobility as a Service platform which includes

alternatives for the car, options for business travel and stimulating carpooling.

- Facilitating alternatives for air travel and other business travel.
- Limiting air travel. WUR applies a limit for air travel to destinations for which public transport is the standard option. The destinations to which this applies can be seen in a list of European cities that can reasonably be reached by public transport. The combination of travel distance and duration is a determining factor in this regard.
- Making it easier to opt for the train instead of air travel (expanding booking options, bridging price differences). Stimulating tele/video conferencing.
- Stimulating sustainable transport options: promoting the option of electric rental/shared cars and improving and expanding the charging infrastructure.

Hello e-conference, bye bye frequent flyer points?

In February, the Sustainable Agriculture & Food Systems (SAFS) group organised its fourth conference to be conducted completely online: an e-conference. WUR is gathering experience with the e-conference as an alternative to the traditional international conference in which scientists come together from different locations around the world.

In addition to reducing the emission of greenhouse gases, e-conferences have other benefits, such as the ability to save time. For some potential participants, practical issues such as costs and obtaining visas can be an impediment to travel. E-conferences offer participation to a new group of participants. This is good for diversity and can be a valuable addition to a conference. Improved software is constantly being launched to support e-conferences. The experiences of SAFS are shared in the Green impact Programme to help propagate the idea within WUR.

New policy to discourage air travel

Train travel must become the standard for shorter distances with a travel time of six hours or fewer. For slightly longer journeys, between six and eight hours, the train is the preferred option but air travel is the next best option.

The adjustment to the travel policy is consistent with the sustainability objectives of WUR, and is also a desire of many employees. Flying is still possible for shorter distances, but only with a 'very good reason' and following approval by the superior.

WUR employees take some 10,000 flights a year for work, more than half of which are within Europe (figures from 2017). If we take the train instead of flying by air, this will save 200 tonnes of CO₂ every year, equivalent to flying to Paris 1,400 times. It's not much when you consider the totality of CO₂ emissions, but every little helps and it seeks to raise awareness surrounding business travel. The latter is just as important



Bee hotel in Lelystad

Priorities for WUR organisational components

In addition to the central WUR policy, the organisational components each have their own sustainability priorities:

Topic	AFSG	ASG	CS+	ESG	FB	PSG	SSG	WFSR
Waste	X	X		X	X	X	X	X
Water and waste water				X		X		X
Asbestos						X	X	
Soil						X		
Construction						X	X	X
Energy	X	X	X	X	X	X	X	X
Biodiversity						X		
Noise						X		X
Purchasing (SRP)				X	X	X		
Air						X		
Mobility	X			X	X	X	X	
Miscellaneous		X		X	X	X	X	X

Agrotechnology & Food Sciences Group (AFSG)

Energy

- Formulating a lighting plan and replacing current lights with LEDs in offices and laboratories.
- Replacing the TL lighting in the plant cultivation rooms with LED lighting. In addition to energy saving through lighting, this also delivers a considerable saving insofar as LED lighting in plant cultivation rooms reduces the need for room cooling.
- A subsidy application has been submitted for installation of 970 solar panels.
- Installing central extraction in the Axis Z laboratories with heat recovery.
- Researching the replacement of refrigerators and freezers that are older than ten years or where the age is not known.
- Researching the use of a heat pump in AXIS Z and separation of air treatment in laboratories and offices.

- Relaunching a 'shut the hood' campaign. This will involve a number of actions, including communication and awareness, carrying out final rounds and holding a competition.
- Monthly reporting on and monitoring of the 'basic energy load' (standby power) in each building. Making monthly adjustments in each building based on the results.

Mobility

- Encouraging train travel instead of car use and air travel. This will involve distributing NS travel cards for travel within the Netherlands and surrounding countries.

Waste

- Focussing on food waste reduction and improving waste separation. Target: 75% of waste separated by 2022.

Animal Sciences Group (ASG)

Energy

At Wageningen Campus:

- Solar panels on Carus and Zodiac.
- Exploring and realising refrigeration/freezer islands for Carus and Zodiac.
- Adjusting fume cupboard ventilation with high/low regulation and replacement of fans.
- Formulating a lighting plan for Zodiac and switching over to LED lighting.
- Replacing high-power equipment with more energy-efficient models.
- Investigating leakage current losses and options for savings (cos phi).
- Exploring heat recovery from manure with installation of a manure basement in the existing shed.
- Research is being carried out in collaboration with WFSR into the potential realisation of central refrigeration/freezer storage (including -80°C storage).

At Wageningen Bioveterinary Research in Lelystad:

- Installing a 0.4 MW PV solar energy system at the Houtribweg location.
- Installing a solar boiler at the Houtribweg location (via shower water).
- Investing in Nordic (refrigeration/freezer island).
- Switching from outdoor lighting to LEDs at the Houtribweg location.

At Wageningen Marine Research:

- Formulating a plan for energy-saving measures for the Den Helder location in and operations in general.

Waste

At Wageningen Campus: improving waste separation by introducing waste separation by Ecosmart in locations where this does not yet take place and improving waste separation by employees.

Miscellaneous

- Communicating environmental performance in order to promote environmental awareness amongst employees at Wageningen Campus and Wageningen Marine Research locations.
- Explaining and instructing on the handling of hazardous substances at Wageningen Livestock Research.
- Formulating an overview for permits for Wageningen Marine Research.
- Improving awareness for occupational health and safety and the environment at Wageningen Marine Research: ensuring expertise, environmental awareness, directly addressing environmental issues including those arising from the action plan of the RIE, in-depth research by labs and working with hazardous substances.
- The initial steps for Wageningen Marine Research are an exchange of knowledge and ideas with WUR central and exploratory research into measures to promote sustainability. There will be a future plan for accommodation at the IJmuiden location, with particular attention paid to sustainability. Sustainability will be incorporated as a key point into the exploratory investigation, with special attention paid to energy saving

Environmental Sciences Group (ESG)

In making policy decisions, ESG pays constant attention to sustainability aspects (People, Planet & Profit). The self-assessment of Corporate Social Responsibility (ISO 26000) serves as a guide in this regard.

CSR objectives include:

- Raising awareness of ESG employees with regard to the involvement of stakeholders, ethical conduct, human rights and role towards government.
- When preparing international projects, CSR aspects are taken into account.
- Participating in Green Impact to further enhance the sustainability of the workplace/building.
- Increasing awareness amongst employees, promoting own initiatives (including actions of the Green impact team **GREEN-ESG**).

Result and actions

- Activities relating to sustainability are included in the annual plans and budgets of ESG (teams, chair groups and supporting departments).
- Successful internal and external evaluations of the ISO 9001 and ISO 14001 certified assurance systems.
- Evaluation by the ESG Management Council of whether the sustainability policy is having the intended effect by means of a management review conducted in annually (in January). Policy and goals will be adjusted as needed.
- Action plans are implemented so as to comply with the ISO 26000 guidance on corporate social responsibility.

Water

Objectives: Water consumption at least remaining the same compared to the average over the past five years (given equivalent conditions)

Result and actions: Monthly monitoring of water consumption so that measures can be taken in case of deviations. Quarterly analysis during energy consultation.

Energy

- Reducing the consumption of electricity and gas (by m²) by 2% annually.
- Connecting Lumen to the thermal energy storage system.
- Solar panels on the roofs of Gaia and the company building and expanding the solar panels at Sinderhoeve.
- Monthly monitoring of energy consumption so that measures can be taken in case of deviations.
- Energy saving through installation of LED lighting.
- Fume cupboard monitoring and limiting unnecessary ventilation (ventilation status).
- Replacing refrigerators and freezers with more energy-efficient models.
- Investigating (energy) improvements at the rear entrance to Gaia-Lumen.
- Increasing awareness amongst employees; stimulating own initiatives.

Waste

The goal is a reduction of 5% compared to the average over the past five years (given equivalent conditions). Optimising separation of own waste flows from waste flows of organic materials, paper, cardboard, plastic, tea/coffee cups, IT materials, glass, batteries and hazardous waste. Reducing the number of prints per FTE by 5% compared to the previous year. Promoting digitisation.

Mobility

Dovetailing with the 2030 Mobility Vision and the 2018-2022 WUR Implementation Agenda for Mobility. Promoting environmental awareness with regard to business travel in the Netherlands and abroad.

Purchasing

Socially Responsible Purchasing (SRP) for both operations and projects by chair groups, teams and supporting departments. The criteria for sustainable purchasing are applied to purchases.



2019 Green Impact Award ceremony

Facilities and Services (FB)

In the 2019-2022 Facilities and Services Operational Plan, the integration of CSR into all processes and further enhancement of sustainability of the service provision is one of the objectives. The basic principle is as follows: 'In operations, the emphasis is on minimising the ecological footprint of the organisation and creating a healthy, safe and inclusive working environment. Facilities and Services shall continue to enhance the sustainability of operations in terms of inclusivity, sustainable employability and vitality, safety, energy, sustainable mobility, catering, waste and food waste management and procurement. Within this, we want to improve the link with research and education in order to better utilise the knowledge that the organisation possesses and make CSR more visible and perceptible on the campus.'

Facilities and Services' role in WUR's environmental and sustainability policy is different to the other organisational components. Facilities and Services facilitates many aspects that relate to WUR's operations and therefore contributes to all of the environmental topics and sustainability ambitions specified in this Multi-Year Environmental Plan, all in liaison with the organisational components.

Priorities for CSR and sustainability are:

- Waste: working on the WUR-wide vision for waste and the circular economy.
- Energy: working on the WUR-wide vision for the energy transition, in addition, projects relating to sustainable energy and energy saving will be progressed.
- Mobility: realising facilities for sustainable mobility including facilities for cyclists, charging points, enhancing the sustainability of the vehicle fleet.
- Contributing to programmes to encourage vitality, health and safety amongst employees and students including via Vital@work and the e-learning series Safety@WUR.
- Working with students and employees to identify creative solutions to ensure that everyone who comes onto the campus sees and feels that we are acting in a sustainable and socially responsible way.
- Green Office Wageningen will continue to support initiatives to encourage, inform and mobilise the WUR and local population to contribute to sustainability projects.
- Facilitating the Green Impact programme; Facilities and Services is participating with its own team.

Plant Sciences Group (PSG)

Waste and reuse

Waste is separated to the fullest extent possible at all PSG locations. PSG wishes to prevent the production of waste by reusing materials. Examples:

- Test locations compost virtually all green waste from fields and greenhouses (approx. 1,500 tonnes). At Field Crops Lelystad, pruning waste is processed into pellets for the dedicated pellet stove.
- Wiring for expanding the Field Crops Lelystad electricity network is largely made from reused cables from a neighbouring company. A 5,000 m² canopy has been constructed using materials from demolition of a neighbouring company.

Water and waste water

For outdoor cultivation, Unifarm uses groundwater instead of tap water wherever possible. The greenhouses in Bleiswijk do have a closed water system: the industrial waste water is treated for use as irrigation water.

PSG strives for circular water consumption in outdoor and greenhouse cultivation:

- Field Crops Lelystad: plan to expand the water basin to 15,000 m³. As soon as the asbestos roofs at this location have been removed, the (rain) water from these roofs can be used for cultivation.
- Greenhouse Bleiswijk: Bio purification of rinsing water for spray barrels.

Construction

Field Crops Lelystad have opted for sustainable renovation rather than new construction.

Energy

PSG has reduced its energy consumption by 30% since the establishment of the WUR energy incentive in 2011. Over the coming years, PSG wishes to fully eliminate gas consumption through stable electricity use:

- The PSG buildings at Wageningen Campus will become *all electric* over the coming decades, using thermal energy storage heat pumps.
- The new climate building will become more energy efficient than the current climate cells through use of LED lighting, better cooling technology and connection to the thermal energy storage system.
- The new no-gas greenhouses in Bleiswijk and Wageningen are heated and cooled by heat pumps and thermal energy storage.
- Field Crops Lelystad is installing a Smart Grid in order to coordinate own production and consumption to the fullest extent possible.
- Fume cupboards in Radix Oost will be equipped with hood switches during renovation. An information campaign will ensure that hoods are closed.

- Location Bleiswijk is investigating whether or not connection to the Overbuurtsche polder heat grid is possible.
- Solar panels: Plan for installation of 1,000 panels at Unifarm and 630 at Field Crops Lelystad. This will bring PSG up to 1.5 Megawatts (5,000 panels). Solar panels are also being installed at the Randwijk site (in 2020) and Bleiswijk location (on the water basin).

Biodiversity

PSG is increasing flexibility for biodiversity where possible and responsible. The following measures have been taken or proposed for the pilot operations in this regard:

- Wageningen (Unifarm): working in conjunction with the bird working group; ploughing shallow to support soil life; nest boxes for owls and falcons and a bee hotel are in place.
- Vredepeel: hedgerows; field edges with grass; ditches with rough vegetation; level management and delayed mowing; there is a falcon box and a bee hotel.
- Lelystad: nest boxes; bee-friendly and insect-friendly planting with flower boxes and water features; bee, butterfly and insect hotels; owl box and falcon boxes; shrub strip; non-turning tillage; preventive management of lapwings; permanent grass strips distributed throughout the company; bird-friendly site; poles for birds of prey during the winter period; organic cultivation area has doubled in recent years; wetting two hectares for meadow birds (project in collaboration with Flevolandschap).
- Valthermond: green fertilisers and (wintering) strips; flower-rich field edges; mowing policy for ditches and areas.
- Westmaas: laying of hedgerows as a shelter for wildlife; tree planting for bats; making ditch sides less steep; creation of grass and flower edges along all plots; overnight accommodation for owls; miscanthus field as a shelter for larger wildlife.

Noise

In newly constructed buildings, PSG is striving for less cooling power and cooling machines that are quieter in operation in order to reduce noise.

Air

PSG wishes to reduce evaporation of waste in fume cupboards through use of valved funnels.

Miscellaneous

Further expansion of emergency power facilities due to the risk of gas release, quarantine material and genetically modified organisms release to the environment in the event of power failure of limiting equipment.

Social Sciences Group (SSG)

SSG is a tenant of the De Leeuwenborch building, a floor in Radix, a floor in Atlas, two floors in WTC Den Haag, office space in Forum and small office spaces in nine office premises spread around the Netherlands. SSG's environmental plan relates primarily to De Leeuwenborch. In terms of encouraging sustainable behaviour, SSG focuses on all employees at SSG.

SSG maintains a two-track policy:

- A. Adjustments to operations, building, machinery, equipment, resources, if they contribute to energy saving or the promotion of sustainability, provided that the investment is economically feasible.
- B. Promoting the sustainable behaviour of employees through different campaigns focussed on mobility, the use of water, heating, light and paper. This can go hand in hand with behaviour that promotes health. All employees at SSG have a job that involves sitting. More exercise including cycling to work or taking the stairs reduces CO₂ emissions or the use of electricity.

Waste

Waste is separated by Ecosmart. SSG monitors both the quantities of waste and the quality of waste separation.

Asbestos

There is an asbestos management plan in place. There is encapsulated asbestos in a number of locations (basement/pipes) that is not hazardous to users of the building.

Construction

De Leeuwenborch has been constructed, extended and renovated. Insulation has been installed where possible and useful. Installations such as those for cooling and heating have been modified or replaced. De Leeuwenborch is an office building and must therefore achieve energy label C by 2023. It currently has energy label G.

Energy

The E-team, comprising the location manager, technical building manager, occupational health and safety and environmental coordinator for safety and environment

coordinate regularly on energy care. The director of operations joins the consultation once a year.

Investigations into the options for installing solar panels have suggested that it would not be worth doing so on the low roofs as there is too much shade from higher building sections. The high roofs are white in colour in order to keep heat out of the building. Furthermore, the roof structure is not strong enough for solar panels. Investing in a new roof would not produce a sufficient economic return.

Modifications are being made to the lighting in the corridors in order to save electricity. This includes the installation of LED lights and sensors.

Mobility

Beginning in 2017, the priority of the Sustainable Leeuwenborch Consultation Group has been mobility (business travel and commuting). The objective has been to lower CO₂ emissions from mobility, promote sustainable behaviour and the health of employees by encouraging the use of electric bikes for employees commuting between seven and fifteen kilometres and facilitating the use of electric cars by installing charging points at De Leeuwenborch.

Miscellaneous

Two multidisciplinary working groups are looking at the topic of sustainability: the energy care consultation and the sustainable Leeuwenborch consultation. The objective is to contribute to enhancing sustainability by generating ideas and influencing policy, operations and individual user behaviour (primarily employees). Topics from previous years have been waste, purchasing, water and energy consumption. A successful action was to install water-saving equipment in toilets at De Leeuwenborch, primarily stickers that explain the consumption of water in numbers of litres.

SSG wishes to utilise the knowledge of its own lecturers, students and research associates. SSG employees and students are conducting research into the environment and behaviour. In order to support projects and consultations, SSG will link research by students with the sustainable objectives of the organisation to the fullest extent possible.

Wageningen Food Safety Research (WFSR)

Since 1 June 2019, RIKILT-WUR and the Food Safety Laboratory of the NVWA have formed a new institute: Wageningen Food Safety Research (WFSR). The environmental aspects of the operational management of the Food Safety Laboratory of the NVWA must be consistent with the applicable WUR policy. WFSR is contributing to the environmental topics in the 2019-2021 MYP with the following priorities:

Waste

There is continuous monitoring within WFSR to see if waste separation can be optimised. Waste separation is carried out via Ecosmart. Investigations are currently ongoing to determine whether or not waste from the slurry pit can be reused.

Water and waste water

The Vitae building contains a large quantity of advanced equipment. Some equipment needs to be cooled by water. Reuse of cooling water has been improved over the past year. This has led to water consumption being reduced by around half. When purchasing new equipment, the options for reuse of cooling water will be included.

Construction

A start has been made on construction of an energy-efficient central refrigeration/freezer building (including -80°C storage). The roof will be equipped with solar panels.

Energy

Priorities for the coming year are:

- Improving the control of air treatment.
- Continuing the replacement of lighting (including in corridors) with LED lighting.
- Investigating the expansion of thermal energy storage.
- Investigating the options for solar panels on the roofs of Vitae.
- Investigating the options for more energy-efficient vacuum pumps LC-MS.

Noise

Noise damping has been installed to minimise the transmission of noise from the building to the residential area. The need for more measures will be looked at. The replacement of standalone freezer containers with a central refrigeration/freezer storage building will help to reduce noise.

Miscellaneous

There is an active CSR working group at WFSR that regularly consults with the E-team. One of the activities of this working group is to raise awareness of energy and chemicals consumption within the organisation. A clean-up operation is organised every year in order to clean up freezers and refrigerators. This ensures that refrigeration/freezer storage capacity for sample materials is lower, which will have a positive effect on energy consumption.

A new activity of the CSR working group is to make employees aware of the major benefits of miniaturising reprocessing methods. The options for miniaturisation must be investigated in detail during the development phase of a method.



Assurance

To ensure environmental care and quality, a central environmental logbook must be established and different quality systems used at the locations (see also Appendix 2).

Permits

Permits are not static and must be supplemented or updated at periodic intervals. WUR will be working on the following environmental permits over the coming years:

- Revision of permits for the Bleiswijk location and WUR complex in Lelystad.
- Extension of the permit for Unifarm for renewal of the glass research facility.

The Environment Act is due to enter into effect on 1 January 2022. WUR will be preparing for this system change in 2020. This includes participation in environmental plans and comparing existing and new standard regulations to see if customised regulations are required.

Complaints and incidents

Complaints and incidents are registered centrally. A WUR-wide project is in place ('Learning from incidents') in which the way of working for analysing and the approach to incidents is laid down and tested. This will allow WUR to formulate actions to prevent recurrence. WUR reports environmental incidents to the competent authority and reports them in the Sustainability Report (previously the Annual Environmental Report) every year.

Organisation and priorities

Compliance remains a priority at WUR. It has been an important topic for many years within the KAM column, comprising employees from Safety & Environment (part of the Facilities and Services department Estate and Accommodation) and KAM employees (Quality Care, Occupational Health and Safety and Environment) from other organisational components.

There is an ongoing KAM-wide project in which all organisational components are participants. This project works with the Pharius tool, which is the successor to Tool Compliance.

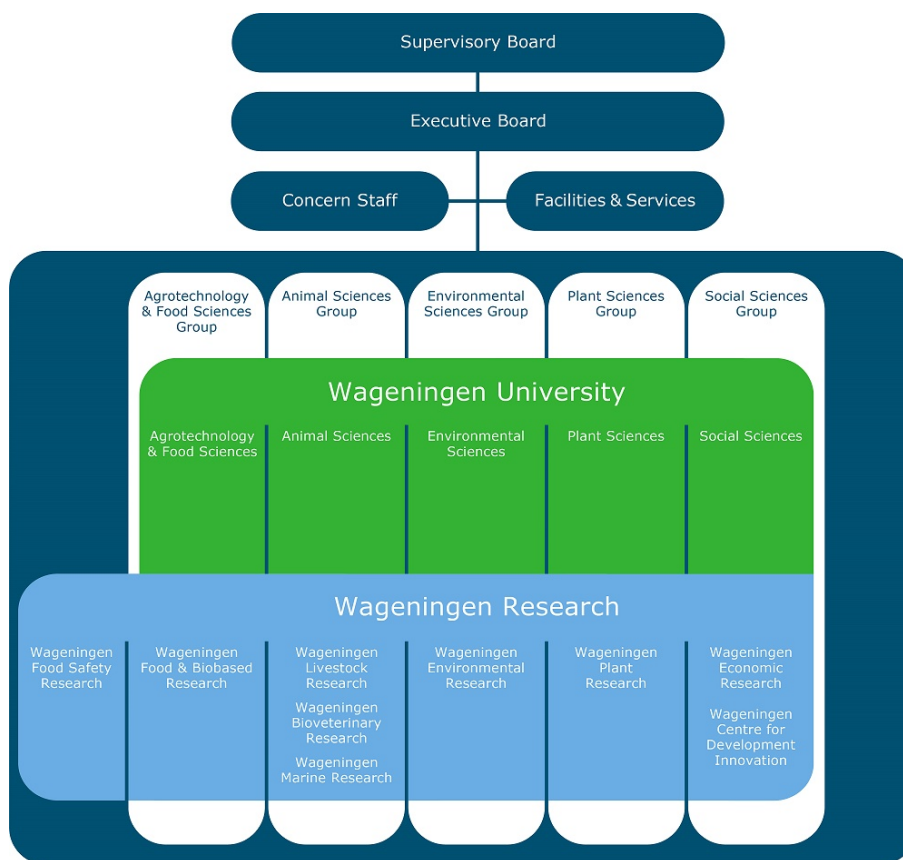
The first stage was to draw up an occupational health and safety and environmental register in Pharius. This register is regularly updated in the event of legislative changes so that WUR always has the most topical legal framework. Now that this register has been firmly defined, the KAM column has begun to compile the assurance documents. The KAM column is also receiving training in Pharius. Once complete, the first assurance documents can be used.

The Permits Centre (in Dutch: Vergunningenloket) provides a point of contact for employees and students of WUR and for various competent authorities. The Permits Centre monitors all permits at WUR. This ensures insight into the permit regulations and risks, including potential risks, at corporate level. Various mandates within WUR specify that the organisational components are themselves responsible for keeping the permits up to date and for compliance with the regulations. As environmental permits are issued at complex level, the organisational components are dependent on one another and must be able to rely on one another.

In addition to the aforementioned, WUR is also working on the following priorities:

- Preparations began in 2020 for the tender for the registration system for hazardous substances. This is required as the current system (GROS) is obsolete.
- In addition to Pharius, specifically intended for occupational health and safety and environmental legislation, WUR is also setting up a Safety Register for inspection and maintenance reports for installations.

Appendix 1. Organisational chart and WUR sites



WUR-locations in the Netherlands

Wageningen University Wageningen, 1	Wageningen Food Safety Research Wageningen, 1
Wageningen Academy Wageningen, 1	Social Sciences Group
Agrotechnology & Food Sciences Group Wageningen, 1	Alkmaar, 17
Animal Sciences Group	Drachten, 18
Den Helder, 8	Dalfsen, 19
Hengelo (Gld.), 2	Den Haag, 9
IJmuiden, 6	Goes, 20
Leeuwarden, 5	Haaksbergen, 21
Lelystad, 3	Lelystad, 3
Sterksel, 4	Meijel, 25
Wageningen, 1	Oosterwijk, 23
Yerseke, 7	Wageningen, 1
Dairy Campus Leeuwarden, 5	
Environmental Sciences Group	
Renkum, 24	
Wageningen, 1	
Plant Sciences Group	
Bleiswijk, 10	
Lelystad, 3	
Marwijksoord, 11	
Nagele, 12	
Randwijk, 13	
Valthermond, 14	
Vredepeel, 15	
Wageningen, 1	
Westmaas, 16	
Wijnandsrade, 26	



Appendix 2. Environmental permits, environmental logbook and quality systems

Environmental permits

	Wageningen Campus	De Dreijen Wageningen	WUR complex Lelystad	WUR Houtribweg Lelystad	Other Wageningen	Other Locations
Agrotechnology & Food Sciences Group (AFSG)	X					
Animal Sciences Group (ASG)	X		X	X		X ^{1,5}
Environmental Sciences Groep (ESG)	X					X ²
Plant Sciences Group (PSG)	X		X			X ¹
Social Sciences Group (SSG)					X ³	X ⁴
Wageningen Food Safety Research (WFSR)	X					
Facilities and Services (FB)	X	X	X		X ⁷	X ⁸
Corporate Staff+ (CS+) ⁹	X				X ¹⁰	

1. Dairy Campus, De Marke and VIC Sterksel
2. Sinderhoeve (Renkum)
3. De Leeuwenborch
4. Wageningen Economic Research: The Hague and other locations
5. IJmuiden, Yerseke, Den Helder (2 locations)
6. Since 1 June 2019, RIKILT-WUR and the Food Safety Laboratory of the NVWA have formed a new institute: Wageningen Food Safety Research (WFSR). Both ISO quality systems remain applicable.
7. Sports Centre De Bongerd
8. Schoutenhoef (Bennekom)
9. The Corporate Staff (CS), Wageningen International (WI) and Wageningen Academy (WA) together make up CS+.
10. Auditorium (De Aula and Achter de Aula), student accommodation in Wageningen (Haarweg and Stadsbrink)

Environmental logbook

Parts of the environmental logbook per organisational component:

	Environmental logbook (1)	Registration of chemicals (2)	Registration of energy and water (3)	Emergency plan (4)	Maintenance, inspections, checks (5)
AFSG	X	X	X	X	X
ASG	X	X	X	X	X
ESG	X	X	X	X	X
PSG	X	X	X	X	X
SSG			X	X	X
WFSR	X	X	X	X	X
FB	X	X	X	X	X
CS+	X		X	X	X

The environmental logbook (1) contains information about maintenance, measurements, tests, inspections and environmental studies. In recording this information, the existing information sources are used as much as possible, such as the Gevaarlijke stoffen Registratie- en Opsporingssysteem GROS¹ (2), the Energie, registratie, beheer en informatiesysteem² (3) and drawings in Planon. Each year, the emergency plans (4) of the buildings are assessed and adapted to the current situation where required. Periodic checks and tests of the systems (5), such as fume hoods, are carried out in order to guarantee safe operation and to limit environmental emissions. Examples include waste water checks, checks for odour emissions, air emissions checks (formerly: Dutch Emission Guidelines for Air [NeR]). Inspection reports are recorded in the environmental logbook.

Quality systems

All organisational components work according to the statutory guidelines. Tasks which are part of environmental-related processes can be established and safeguarded by a certified quality system. The organisational components are nevertheless free to determine whether and to what extent they work with such a system. The specific culture, wishes or expectations of the organisational component's staff, local residents or clients may be decisive in choosing whether to introduce a (certified) quality system. The table gives an overview of the systems used by different WUR organisational components.

Organisational component	Systems	Explanation
ASG	ISO 9001 ISO 17025 ISO 17043 AAALAC GMP	For WMR, WBVR and WLR; WOT ³ s CGN and CVO For WBVR, accredited (diagnostic) tests For WBVR, accreditation interlaboratory comparison studies For WBVR, animal welfare (DB) For WBVR Batchcontrole
AFSG	ISO 17025	In creation (accreditation testing) for testing services of WFBR (to be established).
ESG	ISO 9001 ISO 14001 ISO 26000 ISO 31000 ISO 17043	For WENR and WOT ³ N&M ESG-wide (environmental care) ESG-wide (social responsibility) ESG-wide For WEPAL (WU), accreditation interlaboratory comparison studies
PSG	ISO 9001 HACCP GLOBAL-GAP SKAL VVAK	For test locations Unifarm and Bleiswijk and WOT ³ CGN-PGR. For test location Lelystad For test locations Field Crops (Open Teelten) For Unifarm; organic part For Unifarm; starch potatoes, sugar beets, cereals, seeds and legumes
SSG	ISO 9001	For WECR, WCDI and WOT ³ CEI
WFSR	ISO 17025 ISO 17043	Accreditation (diagnostic) tests Accreditation interlaboratory comparison studies

¹ GROS: Hazardous substances registration and investigation system

² Erbis: Energy, registration, control and information system

³ WOT: Statutory Research Tasks (Wettelijke onderzoekstaken):

- CGN: Centre for Genetic Resources; PGR: Plant Genetic Resources
- CVO: Center for Fisheries Research (Centrum voor Visserij Onderzoek)
- N&M: Nature and Environment (Natuur & Milieu)
- CEI: Center for Economic Information Provision (Centrum voor Economische Informatievoorziening)