



Working to deliver the ecological transition

NGE is responding to the environmental emergency by mobilising its teams to accelerate the ecological transition.

Our challenges and contribution to achieving the SDGs

Climate change mitigation and adaptation, prudent management of natural resources and biodiversity conservation are key factors for ensuring a sustainable future for the world. So in addition to reducing its direct environmental impacts, NGE's involvement in facilitating the ecological transition alongside local authorities and businesses is fully consistent with its entrepreneurial identity.



OUR CHALLENGES & VISION

Our sense of responsibility encourages us to improve our environmental performance and contribute to the creation of a more resilient society. As a Group closely involved in the development of cities, public infrastructures and regions, we are fully committed to developing solutions for combatting - and adapting to - the disruptive effects of climate change and the need to protect and conserve natural resources and environments.



Against a background of increasing urbanisation, we make our expertise and skills available to our customers to help them develop low-carbon mobility, renewables and the circular economy, protect and conserve water resources and restore natural environments. Our commitments respond directly to the increasing expectations of existing employees, potential future employees and customers, and all provide us with opportunities to grow through the emergence of new business sectors, including decontamination and landscaping.

OUR WORK IS FOCUSED ON...

- Reducing greenhouse gas emissions
- Protecting and conserving water and biodiversity
- Protecting and conserving natural resources and promoting the circular economy

Reducing greenhouse gas emissions

To achieve alignment with the targets of the Paris Agreement and make its contribution to limiting global warming to 1.5/2°C, NGE is stepping up its commitment to reducing the greenhouse gas (GHG) emissions generated by its business activities. The Group is also taking action to decarbonise construction and use infrastructures as a lever for climate change adaptation.



POLICY / RESOURCES

For NGE, climate action (one of the 4 priorities of the Group Environment Plan) means changing its practices, developing low-carbon solutions, devoting more than 50% of its R&D budget to environmental challenges and increasing new business from environmental improvement projects. Commitments already made include reducing emissions from construction plant and machinery, vehicles, buildings, production centres and travel. Our operations teams are taking positive action with expert support from the CSR, Environment, Plant & Machinery, Scientific & Technical and Innovation Departments to decarbonise our business activities and help regions adapt to climate change.

OUR TARGETS

- To reduce (Scope 1 & 2) GHG emissions by 4% year on year
- To reduce energy consumption by 10% in 2023 (compared with 2022)

FLAGSHIP INITIATIVES

Basing our actions on accurate measurements

In 2022, our measurement of GHG emissions was extended to include Scope 3 as part of our ongoing commitment to take action alongside our suppliers, partners and customers at every link in the value chain. As a result, the direct emissions generated by our consumption of energy, our use of materials and services upstream and downstream of construction worksites, and travel by users of motorways managed under concession contracts are now all measured. This degree of accuracy gives us the information we need to refine our action plans and respond more effectively to the needs of customers seeking low-carbon solutions. The plant and machinery fleet fuel consumption and emission figures received in real-time from the smart telemetry system provided by our partner Hiboo have already enabled us to take action on eco-driving, engine idling rates, tyre wear, and other important issues.



165,456
tCO₂e
(scopes 1 and 2)



58
tCO₂e/€m AR



28%
production plant and machinery engine idling rate*, compared with **32%** in 2019



*The idling rate is defined as the length of time that the engine spends running at low rpm while stationary and not performing any productive task. It is calculated only for operations in France.

Replacement of equipment, vehicles, plant and machinery

NGE is continuing the process of updating its fleet of vehicles, plant, machinery and tools. Currently, 63% of the French fleet is equipped with the latest generation of technology to control fine particulate and nitrogen oxide emissions (stages 4 and 5). 68% of trucks meet the latest Euro 6 standard. The use of alternative fuels and electric vehicles is reducing GHG emissions, vibration and noise.

233,216 litres of biofuels were consumed during the year, reducing emissions by 590 tCO₂e, compared with the same volume of standard B7 diesel fuel. The Lunel branch of EHTP is now using an electric mini-excavator, for example. NGE Foundations, TSO Catenaires, the Plant & Machinery Department and R&D are working together to explore hybrid solutions for drilling rigs, elevating work platforms and even generator sets powered by low-carbon energy.

The energy transition

In addition to taking action on its own sites and its own plant and machinery, the Group is also engaged in building decarbonised, local and/or renewable energy generation infrastructures for its customers.

NGE has already begun construction work on Normand'HY, Air Liquide's first large-scale carbon-free hydrogen production plant which will effectively prevent atmospheric emissions of 250,000 tCO₂e per year.

NGE has also delivered the geothermal power plant for the future Paris 2024[®] Olympic Village. The new plant will supply the energy needed to heat and cool the athletes' accommodation, as well as the homes of the future permanent



community of 12,000 residents. In Cameroon, a hydropower dam will meet 30% of national demand for electricity.

Innovation in plant and machinery

The Group invests in R&D projects to reduce the carbon footprint of the plant and machinery used on its worksites. It has also developed the BIOSTAR B25[®] surfacing asphalt binder in which 25% of the raw materials used come from renewable wood-derived sources.

Fully substitutable for conventional road surfacing bitumen, it reduces the requirement to use oil derivatives and sequesters carbon at the rate of between 50 and 100 tCO₂e per kilometre of road.

AGILIS has developed its Climat'ROAD[®] paint in response to the problem of urban heat islands; this new product can lower surface temperatures by as much as 10°C during heatwaves.

Development work also continues on low-carbon concrete, with particular focus on specified property engineering concretes in which at least 50% of the cement content is replaced by steel industry residues.

Protecting and conserving water and biodiversity

In 2022, the UN Biodiversity Conference (COP15) and Water Summit on Groundwater both confirmed the need to mobilise all stakeholders around the major social and ecological challenges to the provision of these common goods. NGE intends to perpetuate and accelerate its commitment to the protection and restoration of natural ecosystems.



29,147 m³
of water consumed
in 2022
(48% down on 2021,
largely as a result
of the lower use
made of tunnel
boring machines)

➤ POLICY / RESOURCES

Environmental requirements provide us with opportunities for further progress and the adoption of new business sectors. As a result, landscaping and decontamination are two of the new services now offered by the Group. NGE is a contributor to achieving the Zero Net Artificialisation target by decontaminating and remediating brownfield sites to avoid the need to use agricultural land or greenfield sites. NGE Paysages promotes the renaturation of urban spaces with particular focus on reversing soil sealing, creating urban cooling islands and reintroducing nature into city centres. The range of services offered by this subsidiary company integrates seamlessly into construction, remediation and infrastructure maintenance projects. Water is an increasingly precious commodity. NGE is involved in upgrading and replacing drinking water supply networks to reduce losses and conserve

natural water resources. Responding to water stress and pollution, our teams take action to ensure the efficient use and supply of water and maintain the quality of water supplied.

➤ OUR TARGETS

- To reduce our consumption of drinking water by 10% in 2023 (compared with 2022)

➤ FLAGSHIP INITIATIVES

Reducing our consumption

NGE has implemented an action plan to reduce the consumption of drinking water in all its entities. The plan covers leak detection, the introduction of rainwater harvesting systems for all washing areas, a ban on the use of drinking water for damping down dust on worksite roads, introducing semi-closed circuits into our



€118m
of investment in plant
and machinery



€3.83m
of the 2022 research
budget allocated
to environmental issues



33
environment-focused
innovation projects
run in 2022



9.45
litres /
€1,000 of AR
(53% less than
in 2021)

processes, and replacing drinking water wherever possible. We already use composting toilets, rainwater harvesting systems and concrete water cleanup stations.

FNTP Biodiversity Award

Working in close collaboration with a number of scientific bodies, NGE has developed a digital app that calculates an appropriate mix of seeds for a given local environment. Carefully targeted seeding at the end of a project can help to control invasive non-native species. Natural, eco-friendly and pesticide free, this solution received an FNTP (French National Federation of Public Works Contractors) Biodiversity Award at the TP 2022 Forum.

Helping nature through eco-engineering

In addition to traditional landscaping operations, such as planting, fencing and plant control, NGE PAYSAGES is also developing a range of plant engineering services, including using planting for erosion control, and plant-based water filtration and/or purification. Development and maintenance operations like these can help to restore natural habitats and protect, conserve or even increase biodiversity.

Watercourse remediation

Near Clermont-Ferrand in central France, NGE teams have worked to return the La Bédard river to its natural course. Improving its flow directly benefits diversification of the indigenous plants and wildlife that inhabit this area. This renaturation project also involved the creation of a riverside footpath serving the centre of the town of Chappes.

Improving water quality

The new stormwater treatment plant in Champigny-sur-Marne will encourage greater biodiversity and ensure safe swimming conditions in the River Marne in time for the Paris 2024® Olympics. Three structures are now under construction to collect, transport, store and treat stormwater. In the Grand Port Maritime de Marseille,



NGE is upgrading the systems used to treat effluents from ship maintenance and repair work. The new system separates contaminated water from clean water, isolates the effluent content, and treats it to a standard compatible with discharge into the natural marine environment.

New wastewater solutions for Morocco

In Marrakech, NGE has brought a number of its expert skills together to build the main structure of a mega wastewater treatment plant capable of treating 150,000 m³ of wastewater. The plant will also eventually generate 14 GWh of energy from the methanisation of sewage sludge. The Tadla Azilal region of the country is subject to significant levels of water stress. The Office Chérifienne des Phosphates (OCP) and JESA S.A. have awarded NGE the contract to build a new wastewater treatment plant to increase the use of recycled water in the phosphate production process.

Conserving natural resources and promoting the circular economy

As part of its contribution to the development of a circular economy, NGE is reducing its carbon footprint and helping regions become more resilient. This local economic model helps protect and conserve natural resources, reduce dependency on external flows, and limit emissions that would otherwise have been generated by transporting materials over greater distances.



➤ POLICY / RESOURCES

NGE shares the vision and ambitions set out in the French Ecological Transition for Green Growth legislation. In addition to recycling its non-hazardous waste and surplus worksite materials, NGE also wants to become a major force in materials recycling across France by offering this service wherever and whenever possible. For several years now, the Group has been creating a network of centres across the country and investing in innovative projects that promote the development of new business sectors with the ability to contribute to natural resource protection and conservation.



44,732
tonnes of waste produced



15 g
of waste produced per € of AR (58% less than in 2021)

➤ OUR TARGETS

- To recover 80% of our waste for recycling and reuse
- To have 18 operational REVAMA® centres by the end of 2023

➤ FLAGSHIP INITIATIVES

Recovery, recycling and regional roots

Our national construction worksite waste recovery network now includes 22 in-house centres and 6 Revama® centres.

We recycle non-hazardous and surplus worksite waste (concrete, ballast, asphalt, excavated earth and spoil). Our Revama® centres are profit centres in their own right, limit the need for any further extraction of natural resources and reduce transport emissions. They also provide their services to other construction industry companies.

REVAM'APP

The rollout of our Revam'app continued throughout 2022. Developed in-house, this digital solution makes it easier for our operations centres to ensure full traceability of waste materials, excavated soil and sediment, and submit the statutory monthly returns to the appropriate public authorities.

Recycled concrete taxiways

NGE has resurfaced three taxiways at Paris Charles de Gaulle airport with a project committed to delivering a high level of environmental performance. Two of the taxiways were surfaced using aggregate containing 20% recycled concrete. A recycling centre was installed on the project worksite to crush concrete removed from the old taxiway surface to produce concrete aggregate. The third taxiway was surfaced using an asphalt/concrete composite, which reduces the amount of new natural resources used by 30%. A total of 16,000 tonnes of material were recycled, 6,000 tonnes of it on site.

Reusing excavated soil

No fewer than 6 NGE companies are working to build the Capitaine Gèze stormwater holding tank in Marseille. The finished structure will manage stormwater run-off to prevent flooding, protect the environment and improve the quality of water discharged into the sea. NGE is promoting the use of circular economy techniques on this worksite, and will store all the earth excavated with the aim of reusing it in the future project to redevelop the surrounding community.

Poured earth concrete

The Group wants to add more value to excavated soil and use materials readily available on worksites in the construction process. Its R&D teams are working on the development and implementation of poured earth concretes for a range of different applications. Excavated earth is a traditional low-carbon material that deserves to be scaled up and used in more substantial structures using efficient construction techniques.



22
non-REVAMA®
materials recovery
centres



6
REVAMA®
centres



In summary

↘ RISKS & risk prevention measures

FAILURE TO ANTICIPATE AND ADAPT TO CLIMATE CHANGE

Decarbonisation strategy
Ongoing development of decontamination, deconstruction, remediation, recovery/recycling, natural environment restoration and landscaping
R&D and investment in low-carbon solutions
Project eco-design and production process adaptation and optimisation

DEPENDENCE ON ENERGY FROM FOSSIL FUELS

Consumption of self-generated energy and photovoltaic solar farms
Security of supply and responsible purchasing
Project eco-design
Biobased, geobased and recycled materials

ENVIRONMENTAL DAMAGE AS A RESULT OF OUR ACTIVITIES

Environment Plan
Employee awareness and training
Contextualised risk analysis

↘ TARGETS

• To reduce our GHG emissions by 4% year on year

• To reduce energy consumption by 10% in 2023

• To reduce drinking water consumption by 10% in 2023

• To recover 80% of our waste for reuse

• To have 18 operational REVAMA® centres in 2023

↘ PERFORMANCE INDICATORS

-0.9%

Scope 1&2 GHG emissions (compared with 2021)

-6%

electricity consumption (compared with 2021)

-48%

drinking water consumption (compared with 2021, largely as a result of the lower use made of tunnel boring machines)

90%

of surplus worksite materials recycled for reuse

6

REVAMA® centres

↘ OUTLOOK

The NGE Environment Plan for 2023 continues the efforts underway by the Group to reduce its GHG emissions. This will involve increasing the level of expertise available locally and supporting its employees in every region and subsidiary company by appointing expert advisers and raising environmental awareness as broadly as possible. Energy audits will be conducted for the most energy-intensive sites, and an energy conservation plan implemented throughout the Group. Our Scope 3 emissions are currently being calculated, and for this purpose we have identified the 4 major priority families of concrete, timber, plant & machinery rental and fuels, and will also be working closely with suppliers. NGE will continue to develop new business sectors, including decontamination, the use of topsoil and subsoil, the circular economy (via our worksite waste recovery and recycling centres), ecological engineering, river meander restoration, renaturation and plant-based wastewater treatment.