Sustainable digitalization and digital for sustainability

In our digital transformation, we aim to use digital solutions as tools for the development of a sustainable future, and to develop them on the basis of sustainability criteria.
The main actions taken in 2022 concerned:

- decarbonization and reduction of emissions linked to digital solutions;
- circularity of the digital devices and materials comprising the digital assets of the Group;
- promotion of social inclusion through the development of assistive technologies and solutions that ensure accessibility and generate value by meeting local needs;
- promotion of best environmental performance and adoption of human rights principles with the suppliers of digital products and solutions. For more information, see the chapters on "Managing human rights" and "Sustainable supply chain".

Several challenges have been launched on the openinnovability.com platform with a view to incorporating environmental considerations in their resolution (see chapter on "Innovation").

Furthermore, in line with the 2030 decarbonization targets, a number of criteria based on Global Warming Potential were included in tenders for digital professional services in 2022, which allow participants with lower greenhouse gas emissions in terms of CO_{2eq} to gain a higher technical score.

In 2022, we drafted and published our **Digital Sustainability Policy**, which establishes the sustainability orientation of the Group's initiatives and considers digital to be a key factor. With this Policy, we are committed to ensuring that the Company's digital solutions comply with sustainability criteria, as well as promoting the sustainable use of technology in all business processes, at all stages of the initiatives and in the different countries of the Group.
We also launched a project in 2022 to create a **corporate framework in which to assess and mitigate the ethical risk related to the use of artificial intelligence** and ensure its safe and efficient use, in line with legislative changes at European level.

PLATFORMS: ensuring a rapid and effective response to continuous change

Roberto Bianchessi

Head of Platformization Services – Global Digital Solutions

The new Company strategy that transforms complexities into opportunities

"Platforms play a key role in the Company in that they build trust for all our colleagues. They make it possible to share knowledge, enabling new operational and business models."

The digital platforms are one of the pillars of Enel's strategy, since they are, together with the ecosystems, tools based on maximum information sharing and mutual trust.
Being platform-oriented allows us to create a competitive advantage as digital platforms enable new operational and business models (e.g., sharing economy).
The Enel Digital Platform is the final step in realizing Enel's full digital potential: it allows easy access to all Company databases, breaking down silos and information barriers, and fostering collaboration and digital sustainability.
The reuse of data and conscious software development have a direct impact on the reduction of carbon emissions.

This Enel Platform will be an ecosystem of technologies, methodologies, services and skills deeply embedded in the corporate culture. The goal is to foster participative and strongly data-driven digital development ecosystems, based on an agile approach to operations and the use of cloud technology.
For this reason, in 2022 Enel decided to launch the Platform School initiative to spread the potential of Platformization among all Enel people through a "train the trainer" educational model: in-house trainers, skilled in sharing strategic concepts, guide the transmission of knowledge through video and bitesize information materials.

Key drivers of the digital transformation

Cloud computing

The cloud represents a fundamental strategic enabler which allows us to use IT resources (both in terms of infrastructure and applications) and which, by making full use of the access possibilities provided by the network, allows to reduce waste tied to the consumption of unused resources. The migration of applications to the cloud made it possible to significantly reduce the demand for energy and consequently the consumption of resources. From 2019 to date, while data storage and processing capacity have increased considerably, there has been a 52% reduction in CO_2 emissions.

Unified Communications and Collaboration (UCC)

Services such as instant messaging (chat), IP telephony, audio and video conferencing take full advantage of the sharing model which, through the internet, allows content to be shared and enjoyed from personal computers, smartphones or tablets, thereby reducing the need to travel and, in turn, lowering carbon dioxide emissions.

Data sharing and Enel Application Programming Interface (e-API)

The e-API ecosystem is the digital environment where all Group companies can share quickly and in real time – through standard interfaces and data paths – information that would normally remain confined to specific vertical applications (information silos). This ecosystem has helped speed up the adoption of digital solutions, reduce data redundancies within the Group and, more generally, reduce the amount of time and resources spent on exchanging information flows. A total of 63 new e-API interconnections were implemented in 2022.

Machine learning and predictive maintenance

We adopt machine learning technologies to conduct predictive analysis in relation to the maintenance of electricity distribution networks and generation plants, identifying possible errors in advance and acting before faults occur on the main components. Reducing the risk of malfunctions has a significant impact not only in economic terms, but also in relation to the environment and personal safety. Therefore, using these technologies improves the quality of service provided, making it more sustainable over time, while ensuring an optimized use of internal resources and inspections focusing on the equipment most exposed to the risk of failure.

Circularity of digital devices

The decommissioning of Company equipment generates waste, the disposal of which merits special attention. For this reason, the circular management of digital assets in the Group's various countries is achieved by safeguarding both the extension of the devices' service life, by selling them to employees or third parties (13,427 devices sold in 2022), and disposing of these devices in line with recycling principles, amounting to a total of 33 tons of equipment in 2022; devices categorized as electronic waste are disposed of at certain suppliers, who will then recycle the devices themselves.

Digital Carbon Footprint

In 2022, we launched several initiatives to monitor and reduce digital-related emissions, mainly aimed at optimizing and consolidating the use of cloud infrastructure, promoting circular and sustainable management of digital assets, and encouraging the conscious and responsible development and use of software and hardware.

In this context, we developed a Digital Carbon Footprint Framework, which confirmed that with a 200% increase in the computational capacity of our systems and a 107% increase in data storage capacity, we were able to achieve a 26% reduction in CO_2 emissions from digital sources between 2018 and 2022.

Digital for people

"Digital Sustainability" school

In 2022, we made available to our people a training course on "Digital Sustainability", consisting of 10 videos, to better understand how digital technology guides us towards achieving the UN 2030 Agenda's Sustainable Development Goals. This training course, delivered in collaboration with the Digital Sustainability Foundation, also aims to raise awareness of behaviors related to the use of digital technologies, enabling us to understand the contribution we can make in our daily lives to sustainability. The videos are now available in five languages and have over 50 thousand views among Enel people around the world.

Accessibility and inclusiveness in digital systems

The use of data and platform logic, coupled with the accessibility and inclusiveness of digital systems, allows access to new joint business models and the offer of new services and products, including to vulnerable customers.

The accessibility of digital solutions must be provided for at the design stage, which is why the Digital Accessibility organizational unit was created in 2022 in order to act as a point of contact for the Group and support the management of related initiatives and the development of digital products and services that are easy to use and compliant with the relevant regulations and standards.

A new life for our PCs

The initiative to donate personal computers that have reached the end of their service life has been implemented with the aim of creating a positive social impact on public and private entities, which carry out various kinds of activities of social relevance and/or which pursue public benefit purposes. By giving PCs a new life, for the second year we are reinforcing our commitment to supporting communities in the countries where we operate, by promoting digital inclusion and enhancing the circular economy of digital devices, thereby extending the equipment's service life through reuse. 213 devices were donated in 2022.

Video communication(1)

More than **7.3 million** meetings
More than **639.3 thousand tons** of CO_2 avoided

Printing service(2)

81 million pages printed
5.8 tons of CO_2 produced

The printing service, based on new generation printer models set up for a more eco-sustainable use, continues to be in operation at all Group offices. Together with a more rational use of prints and digitalization, the service has made it possible to reduce paper consumption over the years and, in turn, reduce the impact on the environment.

(1) More than 7.3 million meetings in 2021, almost 5.1 million in 2020 and 244 thousand in 2019, respectively avoiding contributing 587.5 thousand metric tons of CO_2 in 2021, 444.7 thousand in 2020 and 242.1 thousand in 2019.
(2) 83 million pages printed in 2021, 88 million in 2020 and 136 million in 2019, which respectively produced 6.5, 8.4 and 12.5 tons of CO_2.

PC Power Management – Italy[3]

7.3 million hours of use
48.8 tons of CO_2 produced

In 2022, we continued to monitor electricity consumption outside normal working hours[4] of the IT workstations (desktops, laptops, monitors) of our people working in Italy. This was measured thanks to a Microsoft function (System Center Configuration Manager) on the workstations, which can identify when a workstation is on and not being used. Following the analysis, specific awareness-raising initiatives were defined, aimed at reducing electricity consumption. Also this year, there has been a decrease in the hours of inactivity. This is thanks to both our awareness-raising activities on energy efficiency and to the new IT tools made available to our people during the Covid-19 pandemic, which enabled a reduction in emissions. The greater use of mobile devices has in fact made it possible to reduce the number of fixed devices in the Group's offices and, in turn, cut down the amount of time that devices are on outside working hours.

(3) 12 million hours of use in 2021, 18 million in 2020 and 32 million in 2019, which respectively produced 77.4, 159.6 and 321.1 tons of CO_2.
(4) Monday-Friday (from 7pm to 7am); Saturday and Sunday. Monitoring is not carried out on servers and personal computers which, by their nature, must be operational at all times. Specifically, the indicator represents the amount of CO_2 associated with the electricity consumption of desktop computers, laptops and monitors, calculated after applying the average CO_2 emission value per unit of electricity generated (gCO_2/kWh) in relation to the mix of sources present in Italy.