2022
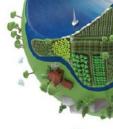# Sustainability
Report Digest

tenova

About Tenova

Tenova, a Techint Group company, **provides sustainable, innovative, and reliable solutions in the metals and mining industries.** Headquartered in Italy with over 2,300 employees across 19 countries, Tenova's collaborative working model ensures we are **at the forefront of the industries we work in.**

Tenova partners with **global clients** to design and develop innovative technologies and services that allow their **positive transformation.** To learn more about our fully integrated range of sustainable products, technologies, and services visit tenova.com.

In this document, any reference to **Tenova is to be intended as inclusive of Tenova S.p.A. and its fully consolidated subsidiaries operating within the framework of the Tenova metals business.** As such, the scope of this report **does not include TAKRAF and DELKOR, companies operating in the mining business.**

Where we are

- TENOVA
- TAKRAF/DELKOR

Technologies for the Metals industries

Innovative and sustainable solutions are the core of our product offering.

Iron and Steel	**Pyrometallurgy**
Aluminum	**Grinding & texturing**
Hydrometallurgy	**Port Facilities**

2022 Highlights

Sustainability Strategy

Conducted first **materiality assessment**

Developed a **Sustainability Framework**

Aligned research, development, and innovation goals with the **UN Sustainable Development Goals (SDGs)**

Sustainable Solutions and Innovation

Launched **new customer solutions with sustainability benefits**

Received **HorizonEU** grant for **TenovaLAB** to demonstrate green hydrogen production/ utilization at industrial scale

Launched **partnerships** with Tenaris and Snam to develop low-carbon solutions

Environmental Impact of our operations

Reduced energy consumption in 2022, compared to 2021, through energy efficiency measures

Reduced waste generation and increased recycling over the previous year

Employee Engagement and Development

Organized **Tenova Innovation Days** and intrapreneurship workshops for employees

Launched enhanced safety training for project site personnel

Updated career path training offerings and completed nearly **15,000 hours of training**

Compliance and Responsible Sourcing

Launched an **ESG supplier screening** questionnaire

Confirmed **zero substantiated complaints** concerning **breaches of customer privacy and loss of customer data**

Our Sustainability Strategy

Materiality Assessment

In 2022, Tenova carried out its **first materiality assessment** to identify its **most relevant environmental, social, and governance (ESG) topics.** The methodology combined **quantitative and qualitative insights**: a survey completed by over 250 stakeholders and a series of one-to-one interviews to obtain more detailed insights.

The assessment was managed by the **Sustainability Project Team**, backed by the **Operative Committee**, and supervised by the **Sustainability Steering Committee** that validated the results.

Tenova's Sustainability Framework arranges the material topics under **three pillars** to guide the company's strategy and action planning process.

Tenova's Material Topics are:

Environment	Social	Governance and Business resilience
Energy transition	Health and safety	Business ethics, anti-corruption, and compliance
Energy efficient technologies	Product safety and quality	Transparency and reporting
Environmental impact of products and services	Employee well-being	Responsible procurement
Circular economy	Employee hiring and retention	Human rights
Climate impact of operations	Employee benefits and compensation	C-level accountability for ESG issues
Waste disposal and recycling	Employee training and development	Sustainable behavior promotion
Sustainable innovation and R&D	Diversity, inclusion, and equal opportunity	Sustainability advocacy
Digital transformation of processes		

Our Sustainability Framework

After identifying our priority issues, leaders and key internal stakeholders were involved in a participatory process to develop a **Sustainability Framework** to drive purposeful action and clearly declare our **sustainability ambitions.**

Our ambition is articulated under three main pillars:

1 **WE TRANSFORM BUSINESS**

2 **WE BUILD TRUST**

3 **WE ACT TRANSPARENTLY**

Transformation, Trust, and **Transparency** are the three concepts underpinning these three pillars. It is **no coincidence that they all start with the "T" of Tenova** – this underscores our intention to deeply embed sustainability in our business.

Besides, we prioritized the **Sustainable Development Goals (SDGs)** that Tenova contributes to and focuses on.

Sustainability ambition

We **lead the way** towards the sustainable **transformation** of our industry.

We **enable** our people, clients, suppliers, and stakeholders to grow and innovate **while caring** for the well-being of our planet.

We **contribute to a resilient and fair world** by operating responsibly.

The pillars

WE TRANSFORM BUSINESS

Helping our clients and suppliers transform to operate within planetary boundaries.

WE BUILD TRUST

Empowering our employees and reinforcing every day mutual trust with all our stakeholders.

WE ACT TRANSPARENTLY

Being transparent within our organisation and with our stakeholders.

The focus areas

WE TRANSFORM BUSINESS
- Developing sustainable solutions & technologies
- Investing in sustainable innovation, R&D, and Digital Transformation
- Accounting responsibly for our direct environmental impact

WE BUILD TRUST
- Providing a safe working environment
- Caring for our employees & providing equal opportunities
- Managing talent, empowering and training employees
- Developing safe-by-design technologies
- Strengthening our collaboration with communities and stakeholders at large

WE ACT TRANSPARENTLY
- Operating an ethical business
- Communicating our impact openly and responsibly
- Engaging suppliers for a sustainable and resilient supply chain, and providing supply chain transparency
- Embracing sustainable finance principles

SDGs (We Transform Business): 7 AFFORDABLE AND CLEAN ENERGY, 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE, 12 RESPONSIBLE CONSUMPTION AND PRODUCTION, 13 CLIMATE ACTION

SDGs (We Build Trust): 3 GOOD HEALTH AND WELL-BEING, 5 GENDER EQUALITY, 8 DECENT WORK AND ECONOMIC GROWTH, 10 REDUCED INEQUALITIES

SDGs (We Act Transparently): 16 PEACE, JUSTICE AND STRONG INSTITUTIONS, 17 PARTNERSHIPS FOR THE GOALS

We transform business

Driving value for our clients

Our portfolio of solutions is mainly dedicated to the sustainable transformation of the metal and mining industries. We create value for our clients by providing innovative technologies that boost efficiency, resulting in better performance, less waste, and lower carbon emissions.

1.1 Energy Transition

Tenova aims to **shift the energy paradigm** in the metals industry by **encouraging clients to adopt hydrogen-ready technologies** for business transformation. This involves partnering with gas supply operators, electrolyzer manufacturers, and other actors supporting a sustainable energy transition.

Our solutions:

→ **DRI and Energiron®**

→ **iBLUE®**

→ **SAF and Open Slag Bath Furnace**

→ **Production lines for electrical applications high performance steel**

→ **Smart burners**

→ **Innovative testing lab for combustion systems**

1.2 Energy Efficiency

In cases where it is not yet feasible to transition to cleaner fuels, we have developed a **suite of technologies to help our clients use their existing fuels more efficiently or adapt their existing processes**, thus reducing their emissions.

Our solutions:

→ **Consteel®**

→ **iRecovery®**

→ **High efficient heat treatment and reheating furnaces**

1.3 Circular Economy

Industrial processes create numerous waste byproducts. Our solutions contribute to the circular economy by **enhancing the recovery and reuse of these byproducts through our technologies.**

Our solutions:

→ **EAF-LF (Electric Arc Furnaces - Ladle Furnace)**

→ **Dry Slag Granulation**

→ **Lithium Recovery**

→ **Twin-chamber furnaces for aluminum**

1.4 Impact monitoring

As a responsible metallurgy company, we acknowledge the significance of **assessing our products and services'** environmental and health impacts. We pledge to enhance our processes and products by considering their impact throughout their entire **life cycle**.

Our solutions:

→ **Pomini Digital Texturing**

1.5 R&D and Sustainable Innovation

We enhance existing technologies and develop new ones to **reduce the environmental impact** of clients' facilities while boosting production efficiency. Our solutions minimize CO_2 and other harmful emissions, integrate alternative and renewable energy, and promote **circularity**.

Our solutions:

→ **Tenova Innovation Days**

→ **EcoSlag**

→ **Cyberman 4.0**

→ **Burner 4.0**

→ **Insoluble Anode Tin Coating and Chromium-Free Passivation**

2022-2024 R&D&I Focus Areas and SDGs

Energy Transition	7 AFFORDABLE AND CLEAN ENERGY	13 CLIMATE ACTION	Raw materials / Residual valorization	12 RESPONSIBLE CONSUMPTION AND PRODUCTION
Local Environment	11 SUSTAINABLE CITIES AND COMMUNITIES	15 LIFE ON LAND	Safety	3 GOOD HEALTH AND WELL-BEING
Process Flexibility / Efficiency (OPEX)	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE		Quality of final product	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

Digital Transformation

Tenova's digital transformation strategy leverages technologies like machine learning, data analytics, and artificial intelligence (AI) to **increase efficiency and reduce environmental impacts for clients.**

Adopting a digital mindset

Tenova encourages employees to adopt a digital mindset, aiming to promote a deep cultural change where teams understand and harness pioneering technologies. To advance this digital mindset, Tenova deploys specific **tools and technologies for education, awareness, and remote collaboration,** such as the **Project Collaboration Portal** and the **Supplier Portal**.

Support client Engagement

Tenova aims to provide excellent service to clients by offering a **Customer Portal** for support requests and spare parts ordering, which is constantly updated with new features.

Environmental Impact from our operations

2024 Goal

Reduction of Scope 2 emissions (market-based) of **450 tCO$_2$e** by 2024 (*)

26%

(*) equivalent to a 26% reduction (baseline 2022)

Tenova is deeply committed to mitigating the harmful impacts of climate change on the environment. That is why the **core of our business is helping clients reduce their environmental impact** through our products, technologies, and services.

In addition to helping its clients, **we are also taking steps to reduce our own environmental footprint.**

Our 2022 primary energy consumption and direct CO$_2$ emissions disclosed below are related to our main Italian offices, located in **Castellanza** and **Genoa**, as well as the **production location in Castellanza**:

Total energy consumption: 29,504 GJ
- of which natural gas: 16,135 GJ
- of which electricity: 13,219 GJ

Scope 1 Emissions: 279 tCO$_2$eq

Scope 2 Emissions: (market-based): 1,677 tCO$_2$eq

We build Trust

At Tenova, we believe trust is our license to operate. Trust is established through safe and reliable technology that fosters long-lasting client relationships and a thriving workplace for our employees.

Our commitment to safety comprises two **focus areas:**

- **"Safety First"** — **promoting a safety culture among employees**
- **"Safety by Design"** — **focusing on integrating robust safeguards into technologies.**

1,386 Tenova employees as of Dec 31, 2022	Tenova Spa ISO 45001 certified	**11** Average hours of training per employee
95% Permanent employees	**6.2** Rate of employees recordable work-related injuries	Leadership Mentorship and Reverse Mentoring programs
	New health & safety procedure in 2023	**88%** Response rate to our Employee opinion survey

SAFETY FIRST

1. Occupational Health and Safety

At Tenova, **safety is a top priority** for the well-being of our people. We implement comprehensive **safety trainings**, risk assessments, and continuous improvements, including machinery upgrades, to maintain high safety standards and promote a **culture of safety** across all locations.

2. Talent

We pride ourselves on providing a supportive work environment where employees can grow and develop their careers. We consider ourselves a **learning company**: we upskill and reskill our employees through on-the job training, cultural exposure, and education.

3. Benefits and Well-being

We know that attracting and retaining the right talent includes creating a **package of benefits** that proves our commitment to creating an **equitable and supportive workplace**.
To ensure our employees' satisfaction, Tenova regularly carries out an **internal feedback survey**, a tradition established by the Techint Group.

4. Diversity, Equity and Inclusion

Tenova is committed to fostering a **respectful and fair environment** for all employees, irrespective of their gender, religion, origin, nationality, age, sexual orientation, or disability while tailoring diversity and inclusion programs according to specific regional socio-historic contexts.

→ **November 21st 2021:** our first campaign in honor of the International Day for the Elimination of Violence Against Women
→ **2022 international women's day:** we held a fundraiser for "The Gorgeous Initiative"
→ **In 2022** we hosted an online seminar about violence at the workplace and how to recognize and help victims of violence with 267 attendees.

SAFETY BY DESIGN

5. Safe Technology for Clients

Our commitment to eliminating potential dangers begins at the **design stage**, where we harness the experience, know-how, and innovative thinking of our experts and engineers to **integrate safety into our products, systems, and facilities from the outset**.

We take a tech-forward approach, leveraging digital technologies, data gathering, data analysis, and dedicated training to deliver products with significant safety advantages. To provide real-time and predictive analytics for our clients, we incorporate advanced monitoring features, including robotics, smart sensors, and AI—directly into our products.

This empowers clients to **prevent accidents before they happen** and reduce potential harm to their employees.

Our solutions:

→ **iBOF Intelligent ISDSR Slop Detection**

→ **Water Detection System (WDS)**

→ **Platinum Group Metals (PGM)**

→ **Pomini Digital Texturing™ (PDT™)**

We act Transparently

Governance and Ethics

At Tenova, we are committed to leading by example in the metals industry. Recognizing our responsibilities, we strive to be a reliable partner for stakeholders and promote exceptional conduct within the sector. To achieve this, we have implemented extensive internal policies governing employee behavior and external relationships.

We focus on advancing transparency within our top governance bodies and policies, ensuring that our employees act ethically and in accordance with our company values.

Compliance and Ethics

We prioritize adherence to regulations and foster a **culture of compliance**:

- our employees are expected to follow **Code of Conduct**, ethics, and integrity values;

- our Code of Conduct covers interactions with clients, suppliers, and third parties;

- **Anti-Bribery Policy** in place and compliant with international conventions and acts

- we have set a goal of 100% completion for **conflict-of-interest declarations**; we estimate 95%+ have completed the declaration to date

- anonymous **whistleblowing procedure** available for personnel and external parties

Sustainability Governance

To manage sustainability, Tenova has created three management bodies:

- the **Sustainability Steering Committee**, which devises overall strategy and goals;

- the **Sustainability Project Team**, which manages projects and monitors progress;

- and the **Operative Committee**, which communicates strategy and goals throughout the organization.

Supply Chain

Our Supply Chain Roadmap to 2025

At Tenova, we are committed to maintaining a **sustainable and responsible global supply chain**. To that end, we ensure compliance with all legal regulations in the countries where we operate and purchase from, and expect the same from our supply chain partners.

Our commitment to a stronger, more responsible supply chain materializes in our **Supply Chain Roadmap to 2025**, which aims to identify and implement annual, actionable steps to enhance our supply chain with best practices in environmental, social, and governance criteria.

Actions

2022
- Analysis of current Tenova Supply Chain (SC) versus ESG criteria
- Fine-tuning of **SC Roadmap**
- Design of **Supplier Questionnaire**
- Tests with shortlisted suppliers to be ESG rated

2023
- Publishing of Tenova **Sustainable SC Program**
- Distribution of SC **ESG Awareness Handout**
- Training to shortlisted suppliers
- Performance Monitoring system
- Increase of rated suppliers
- Audit of shortlisted suppliers
- Integration of **Supplier Portal (Qualification Module)**

2024
- Tests on selected bids
- Procedure for bid awarding also based on ESG Rating
- Integration of **Supplier Portal (Bid Module)**
- Increase of rated, audited, and trained suppliers
- Data and Trend Analysis

2025
- Awarding of bids weighting **ESG Rating**

Results

2022
- ESG Principles and Rating Definition

2023
- Comprehensive portfolio of rated suppliers
- First Publishing of Sustainable Supply Chain Program

2024
- Non-Financial Reporting (NFR) readiness

2025
- Tenova Sustainable Supply Chain fully operational

2022

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