

NUH ÇİMENTO INDUSTRY INC.

SUSTAINABLE DEVELOPMENT GOALS REPORT



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SDG 3: GOOD HEALTH AND WELL-BEING

Within the scope of the Third Sustainable Development Goal, goals such as eradicating epidemics, providing access to health services for everyone as a society, reducing environmental, water, and soil pollution deaths and diseases are aimed.

The trainings given for the purpose of creating awareness and consciousness are one of the methods of protection from epidemic diseases. As Nuh Çimento, we care about the Holistic Health of our employees during the pandemic period and aim to raise awareness by providing various trainings on HIV/AIDS contagious disease.

Detailed information on the subject is given below.

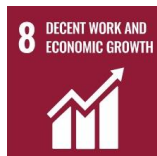
Holistic Well-being

As Nuh Çimento Group, we continue to attach importance to the holistic health of all our employees during this period when the effects of the pandemic are gradually decreasing, but infectious diseases are diversifying. With the development opportunities we offer to our employees in different fields, we have provided them with support both in their career journeys and in their personal development.

We continued to implement the Healthy Living Envoys Project in 2022, in a way that all our employees can benefit from. We aimed to ensure and protect the holistic well-being of our employees in the project, which consists of Eating Healthy, Staying Healthy, Post-Covid-19 Check-Up, and Health at Work applications.

The physical, mental, and spiritual health of our employees continued to be our top priority. We presented the Eat Healthy and Stay Healthy project, which we created with the aim of being better and living better together, to our employees in 2022 as well.

All of our employees in our group companies received support in the post-Covid-19 Check-Up Program, which is our other application within the scope of the project. Additional examinations were performed on our employees when deemed necessary by our workplace doctor. Our employees also benefited from our latest application, the Field Examination Health at Work Programme. Our employees participated in all the practices within the scope of our Healthy Life Ambassadors Project, which aims to maintain internal well-being and vitality.



SDG 4: QUALITY EDUCATION

As Nuh Çimento, in 2022, such as Competency Model Project, MBA Program, Nuh Academy Platform, OHS Engineers Project, ÇEİS Occupational Health and Safety Leadership Program We carry out activities that will serve to encourage lifelong learning opportunities for our employees through projects.

In addition, we organize in-house and external training to improve the behavioral competencies of our employees.

Nuh Çimento employs qualified students within its own structure after the internship program with the Engineering Education Program in the Workplace, which we started with Kocaeli University. After graduation, we employed a student who participated in the program at Nuh Çimento in 2022 in our company.

As Nuh Çimento, we plan our training and development activities in line with the harmony of corporate values, functional competencies, and managerial competencies. In this context, we have carried out many activities based on learning and development such as seminars, conferences, workshops, sector-specific training and technical training to contribute to the professional and personal development of our employees, to support them in doing their jobs more efficiently and to increase their loyalty.

Detailed information on the subject is given below.

Nuh Akademi

As Nuh Çimento Group, we attach importance to supporting the training and development activities of our employees as a necessity to always be one step ahead with our achievements and to maintain our leadership in the sector. We introduced Nuh Akademi, which we have established for the continuity of this development and designed to cover all employees of the Nuh Çimento Group.

With Nuh Akademi, we aim to support every employee to be the best in their fields by bringing them together with training and development programs that will feed their competencies and expertise in business fields, and. While nurturing a dynamic organizational culture that encourages, learns, and shares Nuh Akademi's power from the Internal Trainer System, the internal trainers aim to add value to our institution and our sector. We aim for all our employees to achieve greater success under the roof of Nuh Akademi under the leadership and the mottoes of "Efficiency in Business, Performance in Business and Leadership in Business".

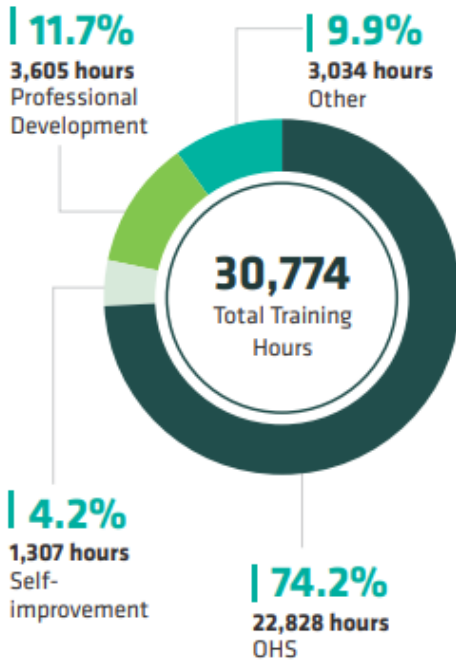
Technical Competencies

In order to improve the technical and professional skills of our employees, we have implemented the Competence Model Project in 2022. To create an ideal profile within the scope of this project, we have considered the competence model in two contexts. First, we determined the priority behavioral competencies by taking the opinions of our leaders on behavioral competencies. In the technical competence section, We have determined the technical competence areas and actions together with the opinions we have received from our managers by examining the current job descriptions.

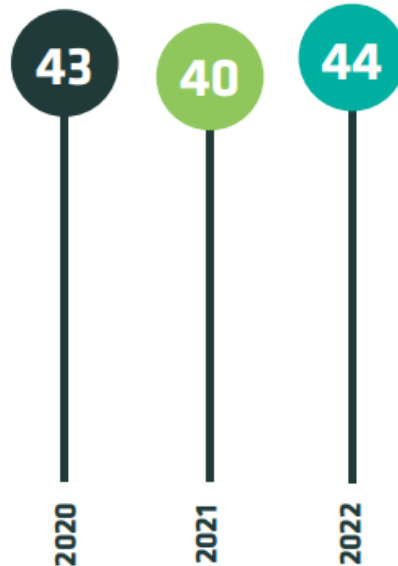
With this project, we aimed to create both the correct competency screening in the recruitment criteria and the input to the processes of career planning and determining the training needs. One of the new dynamics of today is to take quick action in the field of technical competencies. In this process, we have provided opportunities to increase the technical competencies of all our employees and ensured the formation of expert staff in their field. In the sustainable education system, we aimed to train qualified employees with the equipment needed by the cement sector by working on up-to-date education systems and to contribute to the learning and development of employees.

We aim to support our corporate culture and valuable knowledge based on years of moving the cement sector and our company forward by developing Nuh Çimento Group's technical training within itself. We organize our trainings as professional qualification programs, with separate contents for office staff and field staff.

All Trainings 2022



Average Training Hours*



*All Employees

MBA

We have contributed to the development of our employees with the Cement Sector MBA Program, which was designed specifically for the sector, and was implemented this year in cooperation with ÇEİS, TÜRKÇİMENTO, and MEF University. Cement Sector MBA Program content and course curriculum, unlike other master's and MBA programs, have been designed in accordance with the requirements for the future of our industry and to improve the competencies of our participating managers and executive candidates in this direction. As Nuh Çimento Group, we aimed to shed light on their career development by ensuring the participation of three of our employees in the program. The MBA program, which industry leaders also participated as guest speakers within the scope of the program, will have its first graduates by June 2023.

Personal and Corporate Training

We also organize in-house and out-of-house training to improve the behavioral competencies of our employees and thus contribute to their career development. Among the behavioral-based trainings we organized this year; effective communication, feedback, leadership, empathy, and process management trainings that will add value to our employees in the fields of cooperation, team management, and problem solving were included. Together with our functional trainings aimed at the professional development of our employees during the year, we have also carried out collaborations with various universities and leading training companies in the field for our personal development training programs.

Engineering Education Program in the Workplace

Every year, the top 10 most successful students in engineering branches are included in the Engineering Education at Work Program initiated by Kocaeli University. In the program in which Nuh Çimento includes two students, the manager of the facility where the student works in the second semester of the fourth year completes the student's education and has the right to give the semester grade considering the study performance. In 2022, we employed a student who participated in the program at Nuh Çimento in the sustainability department of our company after graduation.

OHS Engineers Project

At Nuh Çimento, in cooperation with the Cement Industry Employers' Association ÇEİS, occupational health and safety engineer groups:

- To be able to understand the root causes of accidents/incidents and to proactively develop analytical solutions for the root causes,
- To ensure that they can consolidate their practices and contributions in working life with activities and practices in the field of OHS, and
- For them to acquire the achievements of being a leader and future manager in the field of OHS, we have prepared a special training program.

Results and Achievements

As a result of transferring OHS applications to the field from the engineer's point of view, there was a significant reduction in occupational accidents. Lost days and equipment losses due to work accidents have also decreased.

ÇEİS Occupational Health and Safety Leadership Program (ÇEİSLIP)

As Nuh Çimento, we have implemented the ÇEİS OHS Leadership Program (ÇEİSLIP) in 2020 to improve the competence of middle-level managers in the field of OHS and ensure their more active participation in OHS-related processes. This program continues for our newly joined engineers and other managers.

ÇEİS Occupational Health and Safety Leadership Program (ÇEİSLIP) is a development program based on Turkish dynamics, production habits, and specific solution models, considering local and international references. The program was prepared in order to improve the managerial and technical skills in the field of occupational health and safety of technicians, engineers, chefs and managers and OHS professionals at all levels, who act as a bridge between blue-collar employees and senior management, regardless of the department and position they work.

The program consists of four main parts:

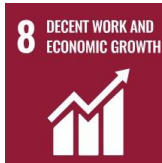
Module 1 - Introduction to Safe Management (4 days)

Module 2 - Management of High-Risk Jobs (4 days)

Module 3 - How should OHS Management Be (4 days)

Module 4 - Program Completion Project

In the first module of the program, the elements of safe management are conveyed, focusing on the measurement of OHS leadership and OHS performance and why employees behave insecurely. In the second module of the program, attention is drawn to technical issues, with emphasis on how risks can be managed and the principles of the work permit system. In the third module of the program, subcontractor, and contractor management, PPE (Personal Protective Equipment) selection, incident root cause analysis, OHS inspection, and feedback are explained. The fourth module of the program consists of a Graduation Project. The Program Graduation Project is a study that is expected to develop solutions to a problem faced by the participants regarding OHS in the workplace, with the coaching/support of the OHS professional in the workplace, taking into account the knowledge and skills they acquired during the training they received in the program.



SDG 5- GENDER EQUALITY

Achieving gender equality is crucial in laying the foundation for a strong culture and a peaceful world. As Nuh Çimento, we take social protection measures in the areas we operate and in our supply chain, and to protect people from health to safety in any way. We are committed to ensuring that rights are not violated with the "Diversity and Inclusion Policy". As a company, we give unconditional support by saying "Equal Life Will Come with Me". With this project, which was started with the cooperation of ÇEİS - Help Steps, 45 million steps have been taken and as Nuh Çimento, we contribute to the empowerment of our women with our support.



ADIMLARINI İYİLİĞE DÖNÜŞTÜR!

Help Steps, atılan her adımı mali desteğe dönüştüren sağlık ve sağduyu uygulamasıdır.

ÇEİS & Help Steps birlikteliğiyle gerçekleştirilen proje ile Help Steps uygulamasını indiren tüm çalışanların atacağı her adım, kadınların yaşamlarını iyileştirme çabalarına ve yerel kalkınmadaki liderliklerini güçlendirmelerine destek olan **Kadın Emeli Değerlendirme Vakfı**'na bağışlanacaktır.

#GönüllüAdımlar

1. ADIM

Help Steps'i ücretsiz indirin

App Store'dan
Google Play'den

QR kodu okutarak uygulamayı indirin

Uygulamaya kayıt olurken aşağıdaki davet kodunu gir.

DAVET KODU: **CEİS**

Eğer daha önce Help Steps'i indirdiysen ve kayıt olduysan ana sayfada "İş birlikleri" kategorisi altında **ÇEİS'e tıkla ve katıl!** Burada günlük ve haftalık olarak en çok adım başı yapan kullanıcıları takip edebilirsin.

2. ADIM

Gün içinde attığın adımları Help Steps sayar, tek yapman gereken gece 00.00'dan önce adımlarını dönüştürmek.

3. ADIM

Dönüştürdüğün adımları sağduyu kampanyaları altında bulunan **KEDV'e** gönder ve adımların kadınların yaşamlarını iyileştirme çabalarına ve yerel kalkınmadaki liderliklerini güçlendirmelerine destek olsun!

17,940 adım

17,940 adım

Kadın Emeli Değerlendirme Vakfı

ÇEİS Help Steps

/helpsteps /helpstepapp

<https://www.linkedin.com/feed/update/urn:li:activity:7016279825640251392/>

<https://www.linkedin.com/feed/update/urn:li:activity:7039202615913504768/>

<https://www.linkedin.com/feed/update/urn:li:activity:7039542636713492480/>

<https://www.linkedin.com/feed/update/urn:li:activity:7052520860678578177/>

SDG 6- CLEAN WATER AND SANITATION

In the cement sector, water is mainly used for cooling in kiln processes and mills. In addition, it is consumed in crushers to keep dust in the field and for human needs.

As Nuh Çimento, being able to continue our process with recycled water has been one of the priority issues of our factory. In line with our needs, we purify sea and stream water with various technologies and provide use.

You can find detailed information on the subject in our Sustainable Water Project.

Sustainable Water Project!

As Nuh Çimento, we show the greatest sensitivity to the environment after the management of our carbon emissions in the use of clean water resources. Although we have legal permits and authorizations, we prefer to continue our process with recovered water without using natural underground water sources, that is, well water, which is more advantageous both in terms of cost and quality. We purify sea water with reverse osmosis technology for some of our needs, and for the rest, we use it in the process after it is treated by applying preconditioning to the stream water.

Use of Treated Waste Field Waters in the Process

In 2021, we took these studies a step further and launched a project to collect and treat and reuse the wastewater that comes out in high quantities throughout the factory, thereby saving both water and energy.

The Sustainable Water Project is an internal R&D study carried out by Nuh Çimento's environmental unit and maintenance unit. With these studies, we first determined the properties of the water we needed, and then we made improvements to our physical treatment plant. We aimed to multiply these areas by examining the processes by which we can use the wastewater we obtained.

In 2020, 30 percent of the wastewater discharged from the treatment plant (about 64 thousand m³), and 36 percent in 2021 (about 82 thousand m³) we reused it in units such as dedusting, irrigation, and chlorination systems. Thanks to this, we saved 300 thousand TL in the water bill. In 2022, we also achieved a total of 62,632 tons of water savings and made a profit of 623,752 TL per cubic meter of water. We aim to increase this ratio by using it for feeding purposes in ovens in the coming years.

We Serve SKA 6 Sub-Targets Directly!

With our sustainable water approach, the sub-goals that we directly support within the scope of SDG 6: Clean Water and Sanitation are as follows.

6.3. Improving water quality by reducing pollution, eliminating garbage dumping, minimizing the release of harmful chemicals and substances, halving the rate of untreated wastewater, and significantly increasing recycling and safe reuse globally.

6.4. Greatly increasing the efficiency of water use in all sectors, ensuring a sustainable supply of fresh water to solve the problem of water scarcity.

Future Plans

By increasing the volume of wastewater reuse in Nuh Çimento, we aim to reuse our wastewater by 90 percent in 2023 and 100 percent in 2025. Later, with this project, we will take a corporate academic report, convert it into a discharge exemption, and position Nuh Çimento as a zero waste-water company.

As a support project for this project, we planned to collect rainwater throughout the factory in a healthy way and evaluate it as cooling water in our Clinker production process after the necessary chemical and physical treatment efforts were carried out. With this project, which we will easily integrate into our Sustainable Water Management approach, we will ensure that clean water resources are used less in the process.



SDG 7- AFFORDABLE AND CLEAN ENERGY

As Nuh Çimento, we operate in an energy-intensive sector and in a country that is more than 70 percent dependent on external sources for meeting energy needs. Energy, as the largest cost item of the cement sector, represents about 60 percent of operating costs. It takes about 110 kWh of electricity and 3-4 GJ of fuel energy to produce one ton of cement. Using energy by giving priority to efficient and environmentally friendly sources without compromising cement/clinker production quality, production quantity and, most importantly, occupational safety is one of the environmental responsibilities of our company.

Our goals within the scope of our Energy Management System Policy are:

- Ensuring compliance with the relevant laws,
- Monitoring and reducing energy consumption,
- Improving energy efficiency,
- Reducing greenhouse gas emissions and
- Raising awareness of energy among our employees.

As Nuh Çimento, one of our goals is to ensure that energy is clean, accessible, sustainable, and modern. In this context, it was decided to switch to the pneumatic air shock system in the dust cleaning system, which is a mechanical system.

With this project, the time spent on the maintenance of these equipments was eliminated, the boiler efficiency was increased, and dust adhesions were prevented.

Detailed information on the subject is given below.

SP Boilers Dust Cleaning System Replacement Project

When we examined the annual maintenance amounts of the existing dust cleaning system, which is a mechanical system, the changing number of parts, the working time and efficiency of the equipment used, we decided to switch to a pneumatic air quenching system.

The aims of starting this project are; to eliminate the time spent by the mechanical maintenance unit for this equipment, to increase the boiler efficiency, to prevent dust adhesion, to remove the material purchase for the mechanical hammer assembly used in the hammering system, to reduce the amount of air leakage into the system (between seven and ten percent)) to keep it at five percent and below, to end the electricity consumption by removing the motors from use. We plan to complete the project, which will take about three months, in the first months of 2023.

Economic Results and Gains Since 24 electric motors will be disabled, we will save approximately TL 369,600/year in electricity expenses for 8,000 working hours per year.

Social Results and Benefits: We anticipate that the hammers encountered in the controls in the boiler area will not have a crashing sound and a high decibel value, and there will be no workspace difficulties caused by the outdoor units of the hammers.



We Continued our Investments to Fight Climate Change in 2022 as well!

The Energy-Focused Investments that We Started in 2022

- 1-Alternative fuel combustion system
- 2-Conversion of rock trucks to electric

Energy-Oriented Investments that We Are Planning in 2023

- 1-Alternative fuel preparation and feeding system
- 2- Two WPP (Wind Power Plant) investment



Intensive raw material extraction originating from our production capacity; accordingly, fuels and electrical energy are used. As Nuh Çimento, we prepare our products with suitable recipes instead of raw materials from natural sources. We support our sustainability performance with alternative wastes instead of fuels and electrical energy.

Detailed information on the subject is given below.

Use of Alternative Fuel and Alternative Raw Materials

To reduce the use of natural resources and greenhouse gases caused by fuels, as well as to reduce the associated fuel and raw material costs, we use waste instead of the primary main raw materials and fuels. in 2022, we provided 0.6 percent of our total energy obtained from fuels from waste within the scope of alternative fuel use. Our goal is to provide 0.5 percent of the annual heat energy we use from waste and also to use at least 275 thousand tons of waste as raw materials.

In this context, we obtain the necessary permits by conducting waste negotiations with companies and following legal processes. We analyze the incoming materials and prepare waste usage prescriptions. By using the appropriate waste during the production phase, we reduce the amount of waste that has the potential to pollute the environment, as well as reduce our fuel and raw material costs. In the coming period, we aim to increase the amount of waste we use by making investments in new waste incineration and feeding systems.

Results and Gains

Economic

The net profit we made by using alternative raw materials and alternative fuels was TL 104.6 million in 2022.

Social

We have become a solution partner for the waste problems of municipalities and organized industrial zones that have problems with waste.

Environmental

We have reduced our greenhouse gas emissions and our consumption of natural resources by using waste instead of natural resources. in 2022, within the scope of sustainability and energy acquisition, we prevented the formation of carbon dioxide, which corresponds to the carbon dioxide reduction of about 1.26 million trees while restoring 416.6 thousand tons of waste to the economy.



SDG 8- DECENT WORK AND ECONOMIC GROWTH

Nuh Çimento, within the scope of decent work and economic growth: Holistic Well-being Project, Trainings, Captain Project, Studies on Clean and Accessible Energy, Electric Vehicle Project, E- Dump It has grown in the international market by signing works such as Retrofit Project, Fishing Project, and Purchasing Applications.

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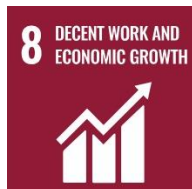
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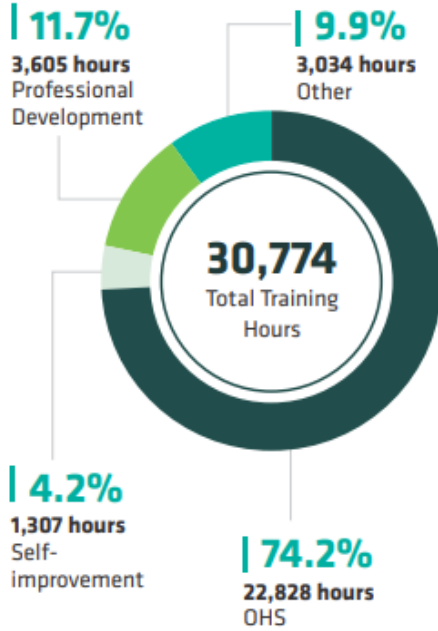
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All Trainings 2022



Average Training Hours*



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MBA

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OHS Engineers Project

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- To ensure that they can consolidate their practices and contributions in working life with activities and practices in the field of OHS, and
- For them to acquire the achievements of being a leader and future manager in the field of OHS, we have prepared a special training program.

Results and Achievements

As a result of transferring OHS applications to the field from the engineer's point of view, there was a significant reduction in occupational accidents. Lost days and equipment losses due to work accidents have also decreased.

ÇEİS Occupational Health and Safety Leadership Program (ÇEİSLIP)

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The program consists of four main parts:

Module 1 - Introduction to Safe Management (4 days)

Module 2 - Management of High-Risk Jobs (4 days)

Module 3 - How should OHS Management Be (4 days)

Module 4 - Program Completion Project

In the first module of the program, the elements of safe management are conveyed, focusing on the measurement of OHS leadership and OHS performance and why employees behave insecurely. In the second module of the program, attention is drawn to technical issues, with emphasis on how risks can be managed and the principles of the work permit system. In the third module of the program, subcontractor and contractor management, PPE (Personal Protective Equipment) selection, incident root cause analysis, OHS inspection and feedback are explained. The fourth module of the program consists of a Graduation Project. The Program Graduation Project is a study that is expected to develop solutions to a problem faced by the participants regarding OHS in the workplace, with the coaching/support of the OHS professional in the workplace, considering the knowledge and skills they acquired during the training they received in the program.



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In this context, we obtain the necessary permits by conducting waste negotiations with companies and following legal processes. We analyze the incoming materials and prepare waste usage prescriptions. By using the appropriate waste during the production phase, we reduce the amount of waste that has the potential to pollute the environment, as well as reduce our fuel and raw material costs. In the coming period, we aim to increase the amount of waste we use by making investments in new waste incineration and feeding systems.

Results and Gains

Economic

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Environmental

We have reduced our greenhouse gas emissions and our consumption of natural resources by using waste instead of natural resources. In 2022, within the scope of sustainability and energy acquisition, we prevented the formation of carbon dioxide, which corresponds to the carbon dioxide reduction of about 1.26 million trees while restoring 416.6 thousand tons of waste to the economy.



Supporting the Local Economy with Our Purchasing Practices

As Nuh Çimento Group, we create an important economy with the raw materials, products, and services we purchase during the processes from the preparation of our products, which have reached record sales levels, to the sale. In the Economist Magazine July 2022 evaluation, we took part in the ranking of the 50 most powerful Purchasing and Supply Managers in Turkey according to the purchase volume.

273 new local and three new overseas suppliers were added to our suppliers, whose number reached 2,185 by the end of 2022. Of these, 584 serve more than one company. In 2022, we made 76 percent of the supplier expenditures of 7.4 billion TL belonging to Nuh Çimento, Nuh Yapı, Nuh Beton and Çim-Nak for the goods and services we purchased from our domestic suppliers. Nuh Çimento's share in this total is about 67 percent.

In order to be the company preferred by our suppliers in terms of our products, we ensure that all work done in terms of legal compliance, occupational health and safety, cost advantage, environmental compliance, energy efficiency, quality, and sustainability can be controlled.

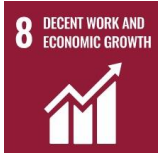
At the end of the year, we carry out our work by looking at the scores obtained as a result of the surveys we conducted with the suppliers.

Our Purchasing Systems and Supplier Selection

We have created purchasing processes in international standards with the most up-to-date SAP Supplier Evaluation software and our applications such as the Purchasing Portal Project. In this way, we ensure that standards on legal compliance, occupational health and safety, cost advantage, environmental compliance, energy efficiency, quality and sustainability can be controlled.

Our Purchase Procedure, which is valid for all companies of our Group, is approved by our Board of Directors. Raw material, energy, mechanical maintenance, etc. our critical goods group suppliers are put through an effective pre-evaluation system. The supply performance of suppliers is scored by user surveys conducted at the end of the year. We do not have suppliers

operating in countries and geographies where the collective bargaining rights of employees have been determined to be at risk or where these risks are high.



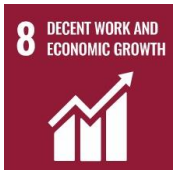
Nuh Çimento has become the largest export company in the history of the Turkish Cement industry and in the world, with 4.55 million tons of Cement and Clinker in 2022. The awards crowning our success in this regard are our source of motivation.

Detailed information on the subject is given below.

Growth in the International Market

In the first nine months of 2022, the total cement production of the members of the Cement Manufacturers Association of Turkey (TÜRKÇİMENTO) decreased by 8.5 percent compared to the same period last year to 53 million 673 thousand tons. According to the provisional data of the Exporters' Associations, the total export amount of the cement sector in the January-November 2022 period decreased by 10.4 percent compared to the same period of the previous year and fell to 25 million 300 thousand tons. The cement exports of the sector showed an increase of 2.4 percent compared to the same period last year. The decrease in clinker exports reached 29.3 percent. The total exports of the sector consisted of 17.2 million tons of cement and 8.1 million tons of clinker.

We received the championship award in the category of the Top Exporters in the general cement sector (including clinker) in the 2021 Turkish Exporters Assembly (TIM) Top 1000 Exporters List, announced in 2022. We export our products to more than 50 countries in North America, Africa and Europe. In 2022, our total exports amounted to 259 million dollars, an increase of 54 percent compared to 2021. Our exports to the USA reached 227 million dollars with an increase of 71 percent compared to 2021.



Kaptan Project

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The Targeted Gains of the Project

Effects on Product Quality

This digital transformation project will help to keep the natural fluctuation in product quality in a narrower band. The quality will increase because there will be less deviation from the target. Since there will be less deviation from the target in a positive direction, a decrease in production cost will also be achieved. It will be possible to measure this effect through the reduction in standard deviation when the project is used daily.

Effects on Energy Efficiency

With the transition to regular use, energy can be saved by reducing the specific surface area values in the band of 100- 300 points by the target.

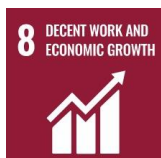
Effects on Emissions

Simulation features will also be added to the project and accordingly, the course of the basic indicators of production and quality will be simulated according to the input data. The simulation will be used for emission values, for example, possible values can be seen in advance using the method of comparing similar days.

Future Plans

- Using the software for finding optimum points or training studies by adding the application feature to the Kaptan
- Making Kaptan available as an application on different platforms
- Also improving the data used by Kaptan for retrospective consistency and health screening. Improving the quality of the data pool.
- Examining the specific energy usage parameters as well as the quality and production parameters.

We plan to complete the Kaptan Project by 29.10.2023.



The Project of Converting Construction Machines Used in the Production of Raw Materials from Diesel to Electric Vehicles

Çim-Nak, a subsidiary of Nuh Çimento, supplies 20,000 tons of raw materials needed for cement production daily to the cement factory with raw material extraction, drilling and loading tools. Construction machinery working in raw material mines consumes more than two million liters of diesel fuel in a year. Diesel fuel is the most costly item in raw material mines, as well as an important CO₂ emission source.

In addition to this environmental impact, to reduce fuel and maintenance costs, 10 excavators were converted to electric, five of them in the 2018-2020 period, four in 2021 and one in 2022, as a result of two years of engineering work. In 2022, there was a first in the quarry business with the conversion of the vehicle into an electric construction machine without dismantling the diesel engine. Conversion work continues in our workshop for 1 excavator, which is targeted to be converted by the end of 2023.

Our goals in electric vehicle transformation;

- eliminating the consumption of diesel fuel in all construction machines working in raw material mines
- Ensuring that the project pays for itself in a short time without any government incentive.
- Realizing the electrical transformation project without changing the mine operating habits that have been going on for years,
- Reducing fuel and maintenance costs and to protect the environment by reducing exhaust emissions by electrifying the power transmission units and engines of diesel-powered raw material extraction, drilling, and loading vehicles.

Business Efficiency

A possible loss of efficiency was the biggest concern among both the operators and the colleagues in the technical team. While the scrapping of a machine that cannot be operated because its performance and engine efficiency are too low is on the agenda, the new machine has achieved its performance with electric operation. There was no efficiency loss in the excavators converted to electric compared to diesel, the measured data are almost exactly the same output. Other construction machines, on the other hand, did not fall below the performance they showed when working with diesel fuel. They work very efficiently both in terms of loading speed and breakout power.

Energy Efficiency

The most exciting result of this project was that the energy consumed and the resulting energy efficiency could be calculated. Previously, when loading one ton of raw materials (marn), we spent 0.175 liters of diesel fuel. (This data is the average of a year's consumption and represents an efficient business. 0.175 liters of diesel fuel contains about 1.70 kWh of energy.)

We measured that electrically powered construction machines consume 0.45 kWh electricity while loading one ton of marn. This figure also includes the mine lighting and the energy loss in the cables. From these data, it turned out that the diesel engine efficiency is only about 25 percent under mine operating conditions, while the electric machine works with 95 percent efficiency. In summary, we found that construction machinery powered by mains electricity consumes 3.8 times less energy than those powered by diesel fuel.

Fuel Saving

The diesel fuel savings achieved since the implementation of the project have exceeded two million liters. The monthly savings are at the level of 74,000 liters. In addition to saving millions of pounds, the annual savings will amount to three million liters with the newly converted machines.

Thanks to our 10 electric construction machines, instead of using 892 tons of diesel fuel in 2022, electricity consumption was 2,995 MWh.

The emission rates of vehicles decreased by 39 percent to 56 percent. In 2022, we prevented the release of 992 tons of CO₂ into the atmosphere thanks to our electric vehicles. Our greenhouse gas reductions from electric vehicles still correspond to about 1.4 percent of our total reductions. In order to increase this rate, we will continue to work on the conversion of all construction machines working in the mine to electric in the coming period.



E- Dump Truck Retrofit Project

In the project, which has been in the preparatory stage since 2020, we started engineering works as of January with the signing of a contract with the headquarters of ABB company in 2022. Within the scope of the project, we aim to prevent air pollution by zeroing carbon emissions from mobile transportation of raw materials by 2030, by converting all of the 8 Euclid and two Hitachi brand trucks, which are used as diesel in the mine sites, from diesel to battery electric. In line with this goal, our technical negotiations with ABB Turkey and the Global team are continuing, and we plan to complete the first prototype vehicle within the scope of the project by mid-2023 and become active in the field.

Our goals in this project are;

- The electric, empty dump truck can complete the track from the unloading place to the loading place in the same time as the diesel version, and
- Provided that the electric, dump-filled truck can complete the track at the same time as the diesel version by using regenerative braking from the loading point to the unloading point, Completing the conversion of all rock trucks to electric and achieving the zero-carbon target at our mine site.

Gains of the Project

Although it is a project that is closely followed both in our country and in international circles due to the fact that it is a study conducted for the first time in the world, it is of great importance for our country that the Turkish company is the host and leader of this project. As a result of the project we have initiated with this awareness and vision, our enterprise will have gained 10

battery-powered rock trucks in line with the zero-carbon target, in addition, the stakeholders we are conducting the project with and contributing to the project will be able to switch to mass production of tried and approved rock trucks and make a large profit and contribution to their companies.



Izmit Bay Fishing Project

In the fifth year of the Izmit Gulf Fish Restocking project, we again took part as the sole sponsor. Fishing activities in the Gulf of Izmit are important for the people in Hereke, where we operate, from an economic and social point of view. In this context, as Nuh Çimento, we have been contributing to the fishing project under the leadership of Kocaeli Metropolitan Municipality since the beginning of 2017. Our aim is to protect and enrich Biodiversity and thus contribute to the economic development of the region and to the greater benefit of the people from the sea.

Within the framework of the protocol signed on 20.12.2016 in cooperation with the Ministry of Food, Agriculture and Livestock (General Directorate of Agricultural Research and Policies) and its affiliated Institutes, the studies conducted together with the Trabzon Fisheries Central Research Institute (SUMAE) affiliated to TAGEM primarily determined the existing fish species and diversity and stock status. In this direction, sampling studies were carried out in the Gulf of Izmit in 2017 and 2018.

The fish restocking project, which is only one of the pillars of the protection of the Gulf of Izmit, a closed basin of the Sea of Marmara, aims to increase the number of native fish species living in the Gulf of Izmit and protect the species by reducing the effects of adverse environmental conditions experienced on fish species. Within this scope, broodfish are taken from the Gulf of Izmit and bred at the Trabzon Fisheries Central Research Institute, and the young of the native fish are released into the Gulf of Izmit and the species population here is stabilized.

Trabzon Fisheries Central Research Institute provides support for the collection and reproduction of fish, while the Ministry of Food, Agriculture and Livestock and the General Directorate of Agricultural Research and Policies provide informational support. As Nuh Çimento, we have sponsored vehicles, organizations and ceremonies; we support meetings and evaluation studies as the sole sponsor. The Izmit Bay Fish Restocking Project, which is Turkey's exemplary project on behalf of biodiversity, also has the distinction of being the first fish release study conducted in the seas.

As part of the Izmit Bay Fish Restocking Project carried out by Kocaeli Metropolitan Municipality, General Directorate of Agricultural Research and Policies and the Central

Research Institute of Fisheries, a total of 12 thousand young bream, sea bass and turbot fish, six thousand of which were on the Değirmendere Lake coast and six thousand on the Karamürsel Ereğli beach, were released into the sea. Thus, in its 6th year, a total of 36 thousand fish were released into the gulf waters.

Results and Gains

Economic

Fishing has developed in the region and the economy has revived even more.

Social

The local people met with the sea again thanks to line fishing.

Environmental

With the decrease in marine pollution, biodiversity and fish species and number began to increase.



SKA 9- INDUSTRY, INNOVATIVE AND INFRASTRUCTURE

Nuh Çimento launched the Kaptan Project in 2018 to ensure that forward-looking decisions in quality and production parameters are made quickly. You can find detailed information on the Kaptan Project title, which has continued to work with various developments over the years.

Kaptan Project

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The Targeted Gains of the Project

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Effects on Emissions

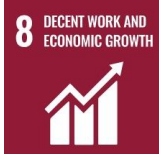
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Future Plans

- Using the software for finding optimum points or training studies by adding the application feature to the Kaptan
- Making Kaptan available as an application on different platforms
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- Examining the specific energy usage parameters as well as the quality and production parameters.

We plan to complete the Kaptan Project by 29.10.2023.



We Continued our Investments to Fight Climate Change in 2022 as well!

Our Energy-Focused Investments that We Started in 2022

- 1-Alternative fuel combustion system
- 2-Conversion of rock trucks to electric

Energy-Oriented Investments that We are Planning in 2023

- 1-Alternative fuel preparation and feeding system
- 2- Two WPP (Wind Power Plant) investment



Our Performance in Reducing Our Carbon Footprint with Environmental-Friendly Products

Nuh Çimento is a company with a high environmental sensitivity that carries out its activities in line with carbon reduction targets in accordance with the sustainability strategy and adopts the zero waste target in addition.

Greenhouse gases take the largest share of the emissions generated in cement production. as a result of our R&D and product development studies, which started in 2018 and continued in 2019, we have developed environmentally friendly products with a low carbon footprint and higher strength as a result of containing less clinker.

We have completed the research and feasibility studies for the use of the chemical CaF₂ (calcium foride), which is briefly defined as a mineralizer, which reduces the heat energy required for the clinkerization reactions in the rotary kilns, which is the main source of greenhouse gas CO₂ emission in the cement industry, and we started the sale of our low carbon footprint products. In 2022, we saved a total of 265,213 tons of clinker with our sales of doped cement and milled blast kiln slag in the domestic and foreign markets and reduced our carbon

footprint by 229,144 tons. 40 Percent of this footprint reduction took place in the domestic market.

In 2022, we reduced our carbon footprint by 119,233 tons thanks to 138,001 tons of clinker savings, by increasing the amount of cement with additives and reducing our cement clinker ratio by two percent in our domestic market sales, where we manage our product sales preferences more effectively compared to the foreign markets where we make contract manufacturing.



SDG 10- REDUCING INEQUALITIES

As Nuh Çimento, we continue our activities with the theme of sustainability in the face of all kinds of discrimination. Our company supports programs in this regard by providing a fair working environment for all our stakeholders.

In addition to our work on this issue, we constantly monitor and control wage policies in order to ensure the sustainability of the Equal Pay application.

For detailed information, you can review our **DIVERSITY and INCLUSION POLICY**



SDG 11- SUSTAINABLE CITIES AND LIVING SPACES

Use of Alternative Fuel and Alternative Raw Materials

In order to reduce the use of natural resources and greenhouse gases caused by fuels, as well as to reduce the associated fuel and raw material costs, we use waste instead of the primary main raw materials and fuels. In 2022, we provided 0.6 percent of our total energy obtained from fuels from waste within the scope of alternative fuel use. Our goal is to provide 0.5 percent of the annual heat energy we use from waste and also to use at least 275 thousand tons of waste as raw materials.

In this context, we obtain the necessary permits by conducting waste negotiations with companies and following legal processes. We analyze the incoming materials and prepare waste usage prescriptions. By using the appropriate waste during the production phase, we reduce the amount of waste that has the potential to pollute the environment, as well as reduce our fuel and raw material costs. In the coming period, we aim to increase the amount of waste we use by making investments in new waste incineration and feeding systems.

Results and Gains

Economic

The net profit we made by using alternative raw materials and alternative fuels was TL 104.6 million in 2022.

Social

We have become a solution partner for the waste problems of municipalities and organized industrial zones that have problems with waste.

Environmental

We have reduced our greenhouse gas emissions and our consumption of natural resources by using waste instead of natural resources. In 2022, within the scope of sustainability and energy acquisition, we prevented the formation of carbon dioxide, which corresponds to the carbon dioxide reduction of about 1.26 million trees while restoring 416.6 thousand tons of waste to the economy.



SKA 12- RESPONSIBLE CONSUMPTION AND PRODUCTION

Sustainable Water Project!

As Nuh Çimento, we show the greatest sensitivity to the environment after the management of our carbon emissions in the use of clean water resources. Although we have legal permits and authorizations, we prefer to continue our process with recovered water without using natural underground water sources, that is, well water, which are more advantageous both in terms of cost and quality. We purify sea water with reverse osmosis technology for some of our needs, and for the rest we use it in the process after it is treated by applying preconditioning to the stream water.

Use of Treated Waste Field Waters in the Process

In 2021, we took these studies a step further and launched a project to collect and treat and reuse the wastewater that comes out in high quantities throughout the factory, thereby saving both water and energy.

The Sustainable Water Project is an internal R&D study carried out by Nuh Çimento's environmental unit and maintenance unit. With these studies, we first determined the properties of the water we needed, and then we made improvements to our physical treatment plant. We aimed to multiply these areas by examining the processes by which we can use the wastewater we obtained.

In 2020, 30 percent of the wastewater discharged from the treatment plant (about 64 thousand m³), and 36 percent in 2021 (about 82 thousand m³) we reused it in units such as dedusting, irrigation, chlorization systems. Thanks to this, we saved 300 thousand TL in the water bill. In 2022, we also achieved a total of 62,632 tons of water savings and made a profit of 623,752 TL per cubic meter of water. We aim to increase this ratio by using it for feeding purposes to ovens in the coming years.

We Serve SKA 6 Sub-Targets Directly!

With our sustainable water approach, the sub-goals that we directly support within the scope of SDG 6: Clean Water and Sanitation are as follows.

6.3. Improving water quality by reducing pollution, eliminating garbage dumping, minimizing the release of harmful chemicals and substances, halving the rate of untreated wastewater, and significantly increasing recycling and safe reuse globally.

6.4. Greatly increasing the efficiency of water use in all sectors, ensuring a sustainable supply of fresh water to solve the problem of water scarcity.

Future Plans

By increasing the volume of wastewater reuse in Nuh Çimento, we aim to reuse our wastewater by 90 percent in 2023 and 100 percent in 2025. Later, with this project, we will take a corporate academic report, convert it into a discharge exemption and position Nuh Çimento as a zero waste-water company.

As a support project for this project, we planned to collect rainwater throughout the factory in a healthy way and evaluate it as cooling water in our Clinker production process after the necessary chemical and physical treatment efforts were carried out. With this project, which we will easily integrate into our Sustainable Water Management approach, we will ensure that clean water resources are used less in the process.



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In this context, we obtain the necessary permits by conducting waste negotiations with companies and following legal processes. We analyze the incoming materials and prepare waste usage prescriptions. By using the appropriate waste during the production phase, we reduce the amount of waste that has the potential to pollute the environment, as well as reduce our fuel and raw material costs. In the coming period, we aim to increase the amount of waste we use by making investments in new waste incineration and feeding systems.

Results and Gains

Economic

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SP Boilers Dust Cleaning System Replacement Project

When we examined the annual maintenance amounts of the existing dust cleaning system, which is a mechanical system, the changing number of parts, the working time and efficiency of the equipment used, we decided to switch to a pneumatic air quenching system.

The aims of starting this project are; to eliminate the time spent by the mechanical maintenance unit for these equipment, to increase the boiler efficiency, to prevent dust adhesion, to remove the material purchase for the mechanical hammer assembly used in the hammering system, to reduce the amount of air leakage into the system (between seven and ten percent)) to keep it at five percent and below, to end the electricity consumption by removing the motors from use. We plan to complete the project, which will take about three months, in the first months of 2023.

Economic Results and Gains Since 24 electric motors will be disabled, we will save approximately TL 369,600/year electricity expenses for 8,000 working hours per year.

Social Results and Benefits: We anticipate that the hammers encountered in the controls in the boiler area will not have a crashing sound and a high decibel value, and there will be no workspace difficulties caused by the outdoor units of the hammers.



Tras Mill Tonnage Increase Effort

We aimed to increase the cement production capacity by taking advantage of the times when the slag is not ground in the Tras mill and the mill is idle, and by ensuring that the clinker milled here feeds the output of the cement mills, as well as to increase production and energy efficiency.

Thanks to the optimization of process conditions, we have achieved an increase in clinker and slag grinding capacity by 20-30% without negatively affecting the quality parameters. We also provided a quality increase by increasing the slag blaine (fineness) values to around 5000 cm²/g.

Economic Results and Gains: Cement 1-2 production capacity increased by an average of 50 tons/ hour with 65 tons of cement-thin clinker milled at the tras mill. During this period, when we bought cement from outside and planned to invest in a new mill, we reduced costs and increased turnover with the extra capacity gained.

Environmental Results and Gains: We have achieved savings of 1-2 kWh in specific energy consumption.



The Project of Transformation of Coupled (Sleeve) Connected Reducer Motors Used Throughout the Factory

Due to problems such as prolongation of downtime due to gear damage during disassembly and formation of oil deposits in the working area due to failures in coupled motor reducers, we started the project by using the coupling and flanged connection type; eliminating these problems, reducing equipment/ unit downtime that may occur at the end of the engine search process suitable for equipment in accidental cases, preventing additional downtime and labor caused by oil loss and seal change during disassembly, reducing dependence on a single type of motor, and aimed to expand the area of use of electric motors of the same power by reducing the dependence on a single type of motor.

Our Equipment Installed in 2022 and the Material Savings We Provide

In the year 2022, we applied the gearbox-motor coupling connection system to 11 equipment throughout the factory. In this project, production gain will be achieved in downtime related to failure; oil savings will be achieved both in downtime related to failure and planned downtime. It will be obtained in eight different areas in incidental cases; we have saved 33 liters of oil, 47 tons of coal and 310 tons of raw mill.

Economic Results and Gains: We have achieved a reduction in oil consumption and downtime during disassembly, and our dependence on a single type of electric motor and the manufacturer has disappeared.

Social Results and Gains: Coordinated work was ensured between the teams and the applications that each team will make during disassembly and assembly were determined more clearly.

Environmental Results and Gains: The formation of oil deposits formed in the work area and the related environmental pollution were prevented.

Our Equipment is to be Installed in the Year 2023 and the Savings We will Provide

We plan to save 24 liters of oil, 9.5 tons of coal, 190 tons of clinker and 100 tons of cement in three different areas.

Future Plan: We will modify the gearbox-motor connections of the equipment determined on a unit-by-unit basis throughout the factory according to the needs, as specified in the project.



Zero Waste Policy and Sustainable Waste Management

In order to ensure the management of wastes generated throughout the factory and in administrative areas and to keep the amount of waste sent to regular storage below 10 percent, under the coordination of the Sustainability and Environment Directorate for the recycling and recovery of all wastes;

1. We have established the waste separation systematics.
2. We have increased the waste separation containers.
3. We have increased awareness levels by providing training to employees.
4. We have made regular inspections and controls.
5. We sent the waste to recycling and recovery facilities.

Although there have been difficulties such as improper waste separation, we have overcome this problem with regular controls and training.



SDG 13- CLIMATE ACTION

Disaster Preparedness and Response

Our actions and preparations related to fire, explosion, spread of dangerous chemicals, poisoning, epidemic disease, radioactive leakage, sabotage and natural disaster (earthquake, flood, storm, flood, lightning strike) at Nuh Çimento are available in our Emergency Action Plans under the titles of Protection Plan against Sabotage, Civil Defense Plan, Emergency Plan, Protection and Security Plan, LTGP (Port Facility Security Plan). We have updated our Protection and Security Plan in 2018, our Civil Defense Plan in 2021 and our other plans in 2022.

Within the scope of Port Facility Security Plan at least once a year and with all units' participation and in cooperation with the Port President and the Coast Guard; we conduct practical emergency evacuation, assembly, fire extinguishing exercises, train emergency crews, process evacuation, search and rescue, flare, explosion, fire and fire protection and earthquake issues in occupational health and safety renewal trainings, conduct lightning rod periodic inspections that must be done annually against lightning, perform periodic control and maintenance of fire extinguisher systems and regularly drain loopholes against floods

In our Emergency Plan, the principles of communication in emergency situations are described and emergency teams contact information is included. General law enforcement and factory emergency units contact numbers are available in our plans.



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Our Energy-Focused Investments that We Started in 2022

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Energy-Oriented Investments that We are Planning in 2023

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In this context, we obtain the necessary permits by conducting waste negotiations with companies and following legal processes. We analyze the incoming materials and prepare waste usage prescriptions. By using the appropriate waste during the production phase, we reduce the amount of waste that has the potential to pollute the environment, as well as reduce our fuel and raw material costs. In the coming period, we aim to increase the amount of waste we use by making investments in new waste incineration and feeding systems.

Results and Gains

Economic

The net profit we made by using alternative raw materials and alternative fuels was TL 104.6 million in 2022.

Social

We have become a solution partner for the waste problems of municipalities and organized industrial zones that have problems with waste.

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We have reduced our greenhouse gas emissions and our consumption of natural resources by using waste instead of natural resources. In 2022, within the scope of sustainability and energy acquisition, we prevented the formation of carbon dioxide, which corresponds to the carbon dioxide reduction of about 1.26 million trees while restoring 416.6 thousand tons of waste to the economy.



SP Boilers Dust Cleaning System Replacement Project

When we examined the annual maintenance amounts of the existing dust cleaning system, which is a mechanical system, the changing number of parts, the working time and efficiency of the equipment used, we decided to switch to a pneumatic air quenching system.

The aims of starting this project are; to eliminate the time spent by the mechanical maintenance unit for these equipment, to increase the boiler efficiency, to prevent dust adhesion, to remove the material purchase for the mechanical hammer assembly used in the hammering system, to

reduce the amount of air leakage into the system (between seven and ten percent)) to keep it at five percent and below, to end the electricity consumption by removing the motors from use. We plan to complete the project, which will take about three months, in the first months of 2023.

Economic Results and Gains Since 24 electric motors will be disabled, we will save approximately TL 369,600/year electricity expenses for 8,000 working hours per year.

Social Results and Benefits: We anticipate that the hammers encountered in the controls in the boiler area will not have a crashing sound and a high decibel value, and there will be no workspace difficulties caused by the outdoor units of the hammers.



Our Performance in Reducing Our Carbon Footprint with Environmental-Friendly Products

Nuh Çimento is a company with a high environmental sensitivity that carries out its activities in line with carbon reduction targets in accordance with the sustainability strategy and adopts the zero-waste target in addition.

Greenhouse gases take the largest share of the emissions generated in cement production. as a result of our R&D and product development studies, which started in 2018 and continued in 2019, we have developed environmentally friendly products with a low carbon footprint and higher strength as a result of containing less clinker.

We have completed the research and feasibility studies for the use of the chemical CaF_2 (calcium foride), which is briefly defined as a mineralizer, which reduces the heat energy required for the clinkerization reactions in the rotary kilns, which is the main source of greenhouse gas CO_2 emission in the cement industry, and we started the sale of our low carbon footprint products. In 2022, we saved a total of 265,213 tons of clinker with our sales of doped cement and milled blast kiln slag in the domestic and foreign markets and reduced our carbon footprint by 229,144 tons. 40 Percent of this footprint reduction took place in the domestic market.

In 2022, we reduced our carbon footprint by 119,233 tons thanks to 138,001 tons of clinker savings, by increasing the amount of cement with additives and reducing our cement clinker ratio by two percent in our domestic market sales, where we manage our product sales preferences more effectively compared to the foreign markets where we make contract manufacturing.



As Nuh Cement, we use 20,000 tons of raw materials per day in cement production. The CO₂ formed due to the fuels burned by the construction machines working in the quarries is undeniable. For this reason, we are carrying out an electrical transformation project without changing the operating habits of the quarry that have reached the present day.

With the implementation of the project, positive results have been obtained in areas such as work efficiency, energy efficiency and fuel saving.

Detailed information on the subject is given below.

The Project of Converting Construction Machines Used in the Production of Raw Materials from Diesel to Electric Vehicles

Çim-Nak, a subsidiary of Nuh Çimento, supplies 20,000 tons of raw materials needed for cement production daily to the cement factory with raw material extraction, drilling and loading tools. Construction machinery working in raw material mines consumes more than two million liters of diesel fuel in a year. Diesel fuel is the most costly item in raw material mines, as well as an important CO₂ emission source.

In addition to this environmental impact, with the aim of reducing fuel and maintenance costs, 10 excavators were converted to electric, five of them in the 2018-2020 period, four in 2021, and one in 2022, as a result of two years of engineering work. In 2022, there was a first in the quarry business with the conversion of the vehicle into an electric construction machine without dismantling the diesel engine. Conversion work continues in our workshop for 1 excavator, which is targeted to be converted by the end of 2023.

Our goals in electric vehicle transformation;

- Completely eliminating the consumption of diesel fuel in all construction machines working in raw material mines,
- Ensuring that the project pays for itself in a short time without any government incentive,
- Realizing the electrical transformation project without changing the mine operating habits that have been going on for years,
- Reducing fuel and maintenance costs and protecting the environment by reducing exhaust emissions by electrifying the power transmission units and engines of diesel-powered raw material extraction, drilling, and loading vehicles.

Work Efficiency

A possible loss of efficiency was the biggest concern among both the operators and the colleagues in the technical team. While the scrapping of a machine that cannot be operated because its performance and engine efficiency are too low is on the agenda, the new machine has achieved its performance with electric operation. There was no efficiency loss in the excavators converted to electric compared to diesel, the measured data are almost exactly the same output other construction machines, on the other hand, did not fall below the performance they showed when working with diesel fuel. They work very efficiently both in terms of loading speed and breakout power.

Energy efficiency

The most exciting result of this project was that the energy consumed, and the resulting energy efficiency could be calculated. Previously, when loading one ton of raw materials (marn), we spent 0.175 liters of diesel fuel. (This data is the average of a year's consumption and represents an efficient business. 0.175 liters of diesel fuel contains about 1.70 kWh of energy.)

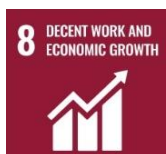
We measured that electrically powered construction machines consume 0.45 kWh electricity while loading one ton of marn. This figure also includes the mine lighting and the energy loss in the cables. From these data, it turned out that the diesel engine efficiency is only about 25 percent under mine operating conditions, while the electric machine works with 95 percent efficiency. In summary, we found that construction machinery powered by mains electricity consumes 3.8 times less energy than those powered by diesel fuel.

Fuel saving

The diesel fuel savings achieved since the implementation of the project have exceeded two million liters. The monthly savings are at the level of 74,000 liters. In addition to saving millions of pounds, the annual savings will amount to three million liters with the newly converted machines.

Thanks to our 10 electric construction machines, instead of using 892 tons of diesel fuel in 2022, electricity consumption was 2,995 MWh.

The emission rates of vehicles decreased by 39 percent to 56 percent. In 2022, we prevented the release of 992 tons of CO₂ into the atmosphere thanks to our electric vehicles. Our greenhouse gas reductions from electric vehicles still correspond to about 1.4 percent of our total reductions. In order to increase this rate, we will continue to work on the conversion of all construction machines working in the mine to electric in the coming period.



As Nuh Çimento, we aim to prevent air pollution by zeroing carbon emissions caused by mobile transportation of raw materials until 2030, with our project, which is carried out for the first time in the world. In this regard, we support our employees to raise awareness about climate change.

Detailed information on the subject is given below.

E- Dump Truck Retrofit Project

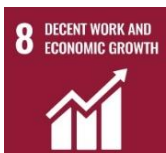
In the project, which has been in the preparatory stage since 2020, we started engineering works as of January with the signing of a contract with the headquarters of ABB company in 2022. Within the scope of the project, we aim to prevent air pollution by zeroing carbon emissions from mobile transportation of raw materials by 2030, by converting all of the 8 Euclid and two Hitachi brand trucks, which are used as diesel in the mine sites, from diesel to battery electric. In line with this goal, our technical negotiations with ABB Turkey and the Global team are continuing, and we plan to complete the first prototype vehicle within the scope of the project by mid-2023 and become active in the field.

Our goals in this project are;

- The electric, empty dump truck can complete the track from the unloading place to the loading place at the same time as the diesel version, and
- Provided that the electric, dump-filled truck can complete the track in the same time as the diesel version by using regenerative braking from the loading point to the unloading point
- Completing the conversion of all rock trucks to electric and to achieve the zero-carbon target at our mine site.

Gains of the Benefits

Although it is a project that is closely followed both in our country and in international circles due to the fact that it is a study conducted for the first time in the world, it is of great importance for our country that the Turkish company is the host and leader of this project. As a result of the project, we have initiated with this awareness and vision, our enterprise will have gained 10 battery powered rock trucks in line with the zero-carbon target, in addition, the stakeholders we are conducting the project with and contributing to the project will be able to switch to mass production of tried and approved rock trucks and make a large profit and contribution to their companies.



SDG 14- LIFE BELOW WATER

As Nuh Çimento, we aim to protect the seas and our marine resources and use them sustainably when necessary.

In line with these goals, we preserve the biodiversity in the Gulf of Izmit and make the people living in the region and the marine ecosystem more important in terms of environmental, social, and economic aspects.

Detailed information on the subject is given below.

Izmit Gulf Fish Restocking Project

In the fifth year of the Izmit Gulf Fish Restocking project, we again took part as the sole sponsor. Fishing activities in the Gulf of Izmit are important for the people in Hereke, where we operate, from an economic and social point of view. In this context, as Nuh Çimento, we have been contributing to the fishing project under the leadership of Kocaeli Metropolitan Municipality since the beginning of 2017. Our aim is to protect and enrich Biodiversity and thus contribute to the economic development of the region and to the greater benefit of the people from the sea.

Within the framework of the protocol signed on 20.12.2016 in cooperation with the Ministry of Food, Agriculture and Livestock (General Directorate of Agricultural Research and Policies) and its affiliated Institutes, the studies conducted together with the Trabzon Fisheries Central Research Institute (SUMAE) affiliated to TAGEM primarily determined the existing fish species and diversity and stock status. In this direction, sampling studies were carried out in the Gulf of Izmit in 2017 and 2018.

The fish restocking project, which is only one of the pillars of the protection of the Gulf of Izmit, a closed basin of the Sea of Marmara, aims to increase the number of native fish species living in the Gulf of Izmit and protect the species by reducing the effects of adverse environmental conditions experienced on fish species. Within this scope, broodfish are taken from the Gulf of Izmit and bred at the Trabzon Fisheries Central Research Institute, and the young of the native fish are released into the Gulf of Izmit and the species population here is stabilized.

Trabzon Fisheries Central Research Institute provides support for the collection and reproduction of fish, while the Ministry of Food, Agriculture and Livestock and the General Directorate of Agricultural Research and Policies provide informational support. As Nuh Çimento, we have sponsored vehicles, organizations, and ceremonies; we support meetings and evaluation studies as the sole sponsor. The Izmit Bay Fish Restocking Project, which is Turkey's exemplary project on behalf of biodiversity, also has the distinction of being the first fish release study conducted in the seas.

As part of the Izmit Bay Fish Restocking Project carried out by Kocaeli Metropolitan Municipality, General Directorate of Agricultural Research and Policies and the Central Research Institute of Fisheries, a total of 12 thousand young bream, sea bass and turbot fish, six thousands of which were on the Değirmendere Lake coast and six thousand on the Karamürsel Ereğli beach, were released into the sea. Thus, in its 6th year, a total of 36 thousand fish were released into the gulf waters.

Results and Gains

Economic

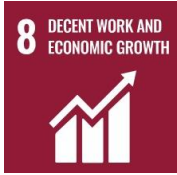
Fishing has developed in the region and the economy has revived even more.

Social

The local people met with the sea again thanks to line fishing.

Environmental

With the decrease in marine pollution, biodiversity and fish species and number began to increase.



SDG 15- LIFE ON LAND

As Nuh Çimento, we use alternative fuels and alternative raw materials to ensure environmental sustainability. In this way, to ensure sustainable forest management, land the degradation of biodiversity, prevent the use of fossil fuels and natural resources.

Detailed information on the subject is given below.

Use of Alternative Fuel and Alternative Raw Materials

In order to reduce the use of natural resources and greenhouse gases caused by fuels, as well as to reduce the associated fuel and raw material costs, we use waste instead of the primary main raw materials and fuels. in 2022, we provided 0.6 percent of our total energy obtained from fuels from waste within the scope of alternative fuel use. Our goal is to provide 0.5 percent of the annual heat energy we use from waste and also to use at least 275 thousand tons of waste as raw materials.

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Social

We have become a solution partner for the waste problems of municipalities and organized industrial zones that have problems with waste.

Environmental

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We aim to reduce equipment/unit downtime by reducing downtime caused by the use of gearmotors. With the realization of this project, oil, coal and raw meal savings and related environmental pollution have been prevented.

Detailed information on the subject is given below.

The Project of Transformation of Coupled (Sleeve) Connected Reducer Motors Used Throughout the Factory

Due to problems such as prolongation of downtime due to gear damage during disassembly and formation of oil deposits in the working area due to failures in coupled motor reducers, we started the project by using the coupling and flanged connection type; eliminating these problems, reducing equipment/ unit downtime that may occur at the end of the engine search process suitable for equipment in accidental cases, preventing additional downtime and labor caused by oil loss and seal change during disassembly, reducing dependence on a single type of motor, and aimed to expand the area of use of electric motors of the same power by reducing the dependence on a single type of motor.

Our Equipment Installed in 2022 and the Material Savings We Provide

In the year 2022, we applied the gearbox-motor coupling connection system to 11 equipment throughout the factory. In this project, production gain will be achieved in downtime related to failure; oil savings will be achieved both in downtime related to failure and planned downtime. It will be obtained in eight different areas in incidental cases; we have saved 33 liters of oil, 47 tons of coal and 310 tons of raw mill.

Economic Results and Gains: We have achieved a reduction in oil consumption and downtime during disassembly, and our dependence on a single type of electric motor and the manufacturer has disappeared.

Social Results and Gains: Coordinated work was ensured between the teams and the applications that each team will make during disassembly and assembly were determined more clearly

Environmental Results and Gains: The formation of oil deposits formed in the work area and the related environmental pollution were prevented.

Our Equipment to be Installed in the Year 2023 and the Savings We will Provide

We plan to save 24 liters of oil, 9.5 tons of coal, 190 tons of clinker and 100 tons of cement in three different areas.

Future Plan: We will modify the gearbox-motor connections of the equipment determined on a unit-by-unit basis throughout the factory according to the needs, as specified in the project.



The most important feature of the cement industry is that each of the scraps that come out as waste can be added to the product in the previous or next process stage. In this way, it is possible to ensure recycling without the generation of process-related waste.

As Nuh Çimento, we aim to eliminate all of the wastes generated within the scope of our zero-waste policy in a way that will not harm the environment.

Detailed information on the subject is given below.

Zero Waste Policy and Sustainable Waste Management

In order to ensure the management of wastes generated throughout the factory and in administrative areas and to keep the amount of waste sent to regular storage below 10 percent, under the coordination of the Sustainability and Environment Directorate for the recycling and recovery of all wastes;

1. We have established the waste separation systematics.
2. We have increased the waste separation containers.
3. We have increased the awareness levels by providing training to employees.
4. We have made regular inspections and controls.
5. We sent the waste to recycling and recovery facilities.

Although there have been difficulties such as improper waste separation, we have overcome this problem with regular controls and trainings.



SDG 16- PEACE, JUSTICE, AND STRONG INSTITUTIONS

As Nuh Çimento, the focus of our corporate success is the adoption of fair, transparent, responsible, and accountable principles. In the light of these principles, we have memberships in institutions such as TRKÇİMENTO, SKD, ÇEİS, which aim to be peaceful and inclusive.

The "Nuh Cement Group Human Rights Policy" on the subject.



SDG 17- PARTNERSHIPS FOR THE GOALS

The supply of the main raw material obtained from our production through "quarry management activities" from natural resources may adversely affect natural life. In order to reduce these effects, we do not carry out mining activities in areas under protection in terms of biodiversity.

As Nuh Çimento, our goal is not to operate in areas where special species are grown and live in terms of biodiversity, and in other areas under protection.

In addition to the subject, with the Izmit Bay Fishing Project in Hereke, where we operate, enrichment of fish species and diversity in the Izmit Bay has been carried out.

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