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Every year, being a non-profit umbrella organization representing the construction industry which is the growth engine of the Turkish economy, we undertake substantial projects with all of our stakeholders consisting of company members, association members and stakeholder members. As one of Turkey’s leading export industries, we consider our priorities as increasing our foreign trade contributions, fulfilling our obligations for the development and growth of our national economy and the industry. Despite all current regional, political, and economic fluctuations, it is of paramount importance to increase our foreign trade volume, achieve sustainable growth in current markets, and reach new markets in order to achieve our national targets.

Our association aims to contribute to a success story whereby the overall construction materials industry and the companies operating in this industry create a shared value with their stakeholders committed to sustainable development. The Sustainability Pledge we built with our members guides us on the way to our goals. We announced our association’s sustainability practices and the company members’ performances in our 2013 Sustainability Report for the first time. I feel proud of sharing our second Sustainability Report for the 2014-2015 period with the industry and stakeholders. As last year, this document reflects our performance within the G4 principles of the Global Reporting Initiative (GRI).

In 2015, the United Nations members reached a consensus that while improving its profitability the business has the responsibility to protect the world and create lasting value. The 2030 Agenda for Sustainable Development Goals is adopted with the unprecedented participation of countries, companies, and non-governmental institutions.

Therefore, we pay attention to international developments that guide the companies operating in our industry. In this sense, collaborations, development of standards, compliance and transparency become increasingly important. In addition to this, setting industry-wide or corporate targets has a crucial importance in supporting the states’ commitments.

We support the activities of member companies by blending all developments with our vision and commitments. The construction materials industry is closely interested in moving towards energy efficient products, increasing investments for innovation and keeping up with higher number of new regulations as it is a major stakeholder in other industries, too. As Türkiye İMSAD, we carry out activities to achieve sustainable growth of the industry, lay down rules, and garner success by adapting to changing trends in the world.

We believe that a strong industry which is capable of adapting to new regulations faster and is capable of answering the increasing demands of self-conscious consumers is only possible with qualified workforce, a sound management approach, higher R&D investments, following technological developments, and developing environment-friendly innovative products and production processes. We will take our industry into the future with quality, innovative and competitive material production, and represent it proudly in the global arena.

In this sense, our biggest goal is the transparent exchange and dissemination of good practices in the industry. As the umbrella organization of the Turkish construction materials industry, we will carry on our activities for sustainable success today and tomorrow by making the most of our strength and our potential.

I would like to express my sincere thanks particularly to our members and all stakeholders contributing to our activities.
We expedited our sustainability activities since we published our first sustainability report in 2013. Over the past period, we saw the unfolding of globally significant developments which concerned Türkiye İMSAD, too. Accepted by the United Nations member states in 2015, 17 Sustainable Development Goals include comprehensive actions ranging from the fight against climate change to establishing sustainable cities. They are of great importance also for the sustainable transformation of the construction materials industry.

In addition to global developments, priorities of our valuable stakeholders guide our strategy. In this respect, our material issues in the second sustainability report cover climate change, efficient use of natural resources, energy efficiency in buildings, innovation, measuring and reducing the environmental impact of products, and compliance with national and international standards and regulations.

At Türkiye İMSAD, guided by the expectations of our stakeholders and our vision we aim for the construction materials industry to focus on R&D and innovation, manufacture value-added products with lower environmental impact and contribute to the society by creating a happy and safe working environment in the process. We have been encouraging the industry stakeholders to move in this direction with the “Sustainability Pledge” signed with our members in 2015.

In order to increase collaboration to transform the industry, to understand global imperatives and to meet these requirements with innovative practices we held the 7th International Quality in Construction Summit in 2015 with the theme “Changing World, Emerging Materials” focusing on innovation and sustainability. Moreover, we will hold the Sustainable Built Environment Conference Series in Turkey for the first time with the theme “Smart Metropoles”. To date, the event has been organized in over 50 countries.

Türkiye İMSAD with its various sub-industries is a major force guiding the industry with a holistic approach. Our members comprise a significant part of the construction materials industry which has a $61.5 billion volume. These companies are the driving force behind the Turkish economy in terms of turnover and export capacity. They also lead many sustainability initiatives that set an example for the industry.

I am pleased to share our second sustainability report which features the best practices of our members and the sustainability performance of Türkiye İMSAD. We will continue to be the uniting force in the industry and move towards the goal of sustainable growth with our valuable stakeholders.
About This Report

As Türkiye İMSAD (Association of Turkish Construction Material Producers), we believe in the importance of sharing transparent information on environmental, economic and social performance of the construction materials sector in order to promote sustainable growth of the industry. We therefore publish sustainability reports with two-year intervals to support the development of the industry, better communicate our impact on the environment, economy, and wider society and promulgate the best practices in the industry.

Our second sustainability report contains information on our company members’ sustainability performance in two years, between January 1, 2014, and December 31, 2015. Data providing companies generate 60% of the revenue of all members combined while they represent 27% of company members. Relevant data from previous years is featured to allow for performance comparisons where necessary.

Best practices are covered in the report to draw attention to the industry’s outstanding sustainability practices and ensure the spread of such practices. Examples of best practices were selected by an independent jury from the best practice examples communicated in the data collection process according to an evaluation of predetermined sustainability criteria such as innovative approach, environmental, economic and social benefits, holistic approach and measurability.

This report is prepared in accordance with Global Reporting Initiative’s G4 Sustainability Reporting Guidelines and NGO Sector Disclosures reporting standards. In addition, we used Sustainability Accounting Standards Board’s (SASB) Provisional Standard on Construction Materials and references to the United Nations Sustainable Development Goals were made when relevant.

For your questions and opinions about the report: info@imsad.org
Material issues that account for the report’s content were identified in a three-stage process. As a first step, we researched and analyzed leading issues in construction materials industry’s global sustainable development agenda. In the second phase, we conducted a detailed stakeholder analysis taking the stakeholder views and expectations on issues that were determined in the literature review. Then Türkiye İMSAD’s Board of Directors prioritized these issues in a materiality workshop based on the association’s vision. Finally, material topics determined by both stakeholders and Türkiye İMSAD’s Board were put on the Materiality Matrix, showing each issue’s importance according to Türkiye İMSAD, stakeholders and external trends.

IDENTIFICATION OF SUSTAINABILITY ISSUES

To understand Türkiye İMSAD’s material issues, we examined topics brought forward in research papers, reports, statistics, standards, norms and good practices published by industry-leading institutions and organizations in global construction materials industry.

Türkiye İMSAD’s Sustainability Committee created a list of sustainability issues that are affecting and are expected to affect the industry in the future by gathering trends, global sustainable development agenda topics in relation to the construction materials industry including topics in the radar of international organizations, regulatory authorities, and think-tanks in the industry.

STAKEHOLDER ANALYSIS

We tried to understand Türkiye İMSAD’s stakeholders’ perception, opinions and expectations from the construction materials industry and our association. Consequently, during the identification of material issues we conducted a detailed and inclusive stakeholder analysis in accordance with the international Accountability AA1000SE standard.

As part of the stakeholder analysis, we contacted 180 key stakeholders that we mapped according to expectations and demands from Türkiye İMSAD and considering their potential impact on the industry and we achieved a 51% return rate.
Feedback submitted by stakeholders who were contacted through online surveys during the stakeholder engagement process provided significant input to our report. We asked external stakeholders and internal stakeholders consisting of our members about their knowledge, perception, and expectations regarding the main problems affecting the Turkish construction materials industry and Türkiye İMSAD’s material sustainability issues. Through surveys, stakeholders prioritized the issues presented in the long-list which was created following the literature review and trend analysis. The results of the survey revealed statistical significance of each issue.

**MATERIALITY**

In order to name material issues, Türkiye İMSAD’s Board of Directors listed sustainability issues according to their materiality. These issues were identified by analyzing their potential to have financial impact and competitive advantage, to create regulatory pressure and to cause reputational risk or present a reputational opportunity. Hence, the coordinates on the matrix demonstrating the importance of material issues for Türkiye İMSAD and its stakeholders were located.
We see that some of our material issues can be grouped in categories when we compare our current material issues with those of the last reporting period.

Compared to the previous reporting period, we observe that climate change, energy and energy efficiency in buildings still continue to be of great importance for Türkiye İMSAD and its stakeholders. According to stakeholders, the importance of urban transformation projects is relatively lower, whereas renovation market comes to the fore as a sub-category of urban transformation. As in the previous reporting period, Türkiye İMSAD and its stakeholders consider the following issues to remain among top material issues: efficient waste management and use of natural resources, sustainable raw materials and the environmental impact of products linked to them. New issues such as smart and innovative building design which were added in the long-list due to their global prominence in light of current technological developments, were widely considered to be material by both Türkiye İMSAD’s Board and stakeholders. In this context, Türkiye İMSAD values building information models in particular. Issues such as partnerships which are an important part of the global sustainability agenda were also among the material issues. The importance of material issues such as occupational health and safety has significantly risen compared to previous report. Compliance and innovation are also among the key issues as they affect exports and competitiveness in foreign markets.
The Turkish construction materials industry functions as the engine of the Turkish economy with a total size of $61.5 billion, meeting 11.8% of Turkey’s total exports with $17 billion exports, and making a 187% positive contribution to the current account deficit.

One of Turkey’s most competitive industries in the international arena, the construction material industry has a strategic importance for enhancing economic growth, employment, and innovation potential. According to the 2015 data, the industry has a $44.5 billion domestic market size with its share and industrial added value reaching 17% in the manufacturing industry.

Association of Turkish Construction Material Producers (Türkiye İMSAD), is the most important non-governmental organization that has been representing the Turkish construction industry at home and abroad since 1984. Türkiye İMSAD has a unique umbrella organization model in Turkey with its wide range of members including industrial member companies, industry associations, and stakeholder members to reflect the real power and diversity of the domestic construction materials industry.

Consisting of 80 industrial companies, 31 industry associations, and 11 stakeholder organization members, Türkiye İMSAD adopts a holistic approach to support sustainable growth, promote domestic and international cooperation, enhance commodity exports by following domestic market developments and targeted overseas markets.
Türkiye İMSAD members meet 75% of the construction materials industry’s total exports worth $17 billion.

Türkiye İMSAD members provide jobs for 1.5 million employees touching 7.5% of the society along with their families.

Türkiye İMSAD has been representing the industry abroad with its Brussels and Cameroon offices since 2011 and 2015, respectively. The association produces reports and leads the projects funded by the European Commission.

"International Quality in Construction Summit," first organized in 2009 by Türkiye İMSAD, has become the construction industry’s most effective information, vision, and idea exchange platform.

The association publishes monthly reports on economic developments and their impact on the construction industry, and organizes quarterly, industry-focused economy meetings that feature special agendas.

### ECONOMIC VALUE CREATED

- **$61.5 Billion Total Industry Size**
- **$44.5 Billion Domestic Market Size**
- **$17 Billion Exports**
- **17% Share in Manufacturing Industry**
- **187% Current Account Deficit Contribution**
- **11.8% Share Turkey’s Exports**
- **75% Members’ Share of the Industry Exports**
- **1.5 Million Jobs**

### VISION

- To be the driving force behind the Turkish construction materials industry
- To enlarge the Turkish construction materials industry
- To participate in establishment and implementation of the regulations
- To add value to the industry and the companies
MISSION

To create the greatest value for all stakeholders in the representation of the Turkish construction materials industry, with a solution oriented management mentality.

Primary Target;

- To ensure the creation of related standards and laws regarding regulatory and supervisory boards, to manage these relationships
- To participate in the standard creation efforts of EU, to represent the industry fully in the EU

Secondary Target;

- To undertake required activities needed for the construction industry to grow
- To become an information center for the construction industry
- To facilitate improvement of the companies regarding common topics

Future Target;

- To become a direction indicator in all topics related to climate changes and their sub-topics
- To offer value-added services for construction materials companies

ORGANIZATIONAL STRUCTURE
Türkiye İMSAD's Role

In areas we consider to be essential for the development of the industry we gather under our committees which were specially created to facilitate information exchange and collaborative projects. 11 committees (including the Sustainability Committee) and 1 working group carry their activities under Türkiye İMSAD.

- Energy Efficiency in Buildings Committee
- Foreign Trade Committee
- Unfair Competition Committee
- Occupational Health and Safety Committee
- Urban Transformation and Building Safety Committee
- Market Development Committee
- Sustainability Committee
- Technical Committees
  - Construction Products Regulation Committee
  - Eco-Friendly Materials Committee
  - Construction Materials Purchasing Specifications Committee
  - Windows, Exterior Doors and Glass Committee
  - Structural Fire Safety Working Group

For more information on Türkiye İMSAD Committee members and activities please kindly visit: www.imsad.org

SECTORAL COVERAGE

- Timber & Wood Products
- Gypsum & Gypsum Products
- Aluminium
- Lifts
- Lightning
- Fittings
- Bims & Bims Products
- Building Automation Systems
- Pipes
- Paint
- Glass
- Roofing & Facade Cladding
- Cement
- Iron & Steel
- Autoclaved Aerated Concrete
- Ready-Mixed Concrete
- Kitchen & Accessories
- Heating, Cooling, Ventilation & Mechanical Installation
- Moulds & Scaffolding Systems
- Lime
- Windows, Doors & Accessories
- Prefabricated Building Products
- Precast Concrete Systems
- Ceramics
- Brick & Tiles
- Vitrified Products & Armatures
- Insulation Materials
- Building Chemicals
- Floor & Wall Cladding
- Other
The World Economic Forum (WEF) recommends in its framework model for sustainable transformation of the construction industry, developing industry-wide standards, ensuring a more efficient data exchange, further industry benchmarking, sharing a higher number of good practices, and collaborating with different industries throughout the value chain.

Our association considers the sustainable transformation of construction materials industry to be one of its top priorities. In this context, we follow industry developments and are organize joint activities by forming partnerships, creating platforms to enable information exchange, hosting summits, preparing sustainability reports among our members believing that transparent disclosure of environmental, economic and social performance indicators would develop the industry and support the expansion of good practices.

Representing the Turkish construction materials industry with its memberships in domestic and international organizations, Türkiye İMSAD assumes active role and tasks on behalf of the industry in many platforms.

- Ministry of Science, Industry and Technology Soil Products Industry Technical Committee Member
- CPE, Construction Products Europe, Board Member
- ÇEDBİK, Eco-Friendly Building Association, Founder Member
- DEİK, Foreign Economic Relations Board, Founder Member
- SEDEFED, Board Member of Federation of Industrial Associations
- Export and International Consulting, Contracting and Coordination Council Member
- TOBB SME Contractors Council Member
- YAD, Building Research Society Founding Member and President of the Board of Directors
- YAMTEK, Member of the Technical Committee on Building Materials

96% of our stakeholders stated that they were aware of Türkiye İMSAD's work in sustainability.
reports, and through the activities of our committees. We discuss the developments that set the industry agenda and shape the industry’s future, and we share information that guides the industry.

The largest of such information-exchange platforms has been the International Quality in Construction Summit since 2009, which brings together local and international figures from business world, economy, media and politics every year.

*Nearly 90% of stakeholders follow Türkiye İMSAD’s International Quality in Construction Summit with keen interest.*

In 2014, we held the Sixth International Quality in Construction Summit under the theme “Cooperation - Power Union”. Various industry players including architects, contractors, advisors, and construction material producers met at the summit and discussed the expansion of the Turkish construction materials industry and making positive contributions through potential partnerships and branding.

In 2015, the International Quality in Construction Summit turned into a traditional meeting point for the construction industry with its seventh occasion under the theme *“Changing World, Emerging Materials”*. At the summit, we addressed the global trends, technological developments, consumer behaviors as well as impacts of the changing needs on the construction industry with the new industrial revolution. Furthermore, we signed the “Sustainability Pledge” to encourage the construction materials industry to adopt sustainability as a target and increase its contributions to this end.

Türkiye İMSAD members promised to the following with the “Sustainability Pledge”;

1. Adopting Türkiye İMSAD’s Sustainability Principles, which are determined in accordance with stakeholder priorities,
2. Participating in capacity building programs,
3. Sharing their progress and best practices with Türkiye İMSAD on a yearly basis

*70% of our stakeholders are informed of the Sustainability Pledge that Türkiye İMSAD members have signed.*

Türkiye İMSAD members made a pledge to set sustainability targets aligned with national and international goals, create a sustainability policy integrated into their business programmes, monitor and share action results with stakeholders, and create communication channels to ensure active stakeholder engagement in water and energy management, climate change, responsible production, labor and employment, products and systems.

Moreover, as Türkiye İMSAD we organize the International Sustainable Built Environment Conference. Held in more than 50 countries around the world since 2000, the Sustainable Built Environment Conference Series (SBA) will take place in Turkey for the first time in October 2016 under the name SBE16 ISTANBUL. The event’s main theme will be “Smart Metropoles - Integrated Solutions for Sustainable and Smart Buildings & Cities.”

For more information on the International Sustainable Built Environment Conference, please visit: www.sbeistanbul.com/
In addition to summits, conferences, and events organized around specific themes, Türkiye İMSAD holds Türkiye İMSAD Agenda Meetings every quarter after the announcement of economic parameters. In these meetings, we come together with special speakers to discuss the impact of global developments’ on economic performance and our industry with industry representatives, experts, economists, and the media. We organized the Agenda Meetings under the name Economy Meetings until 2015.

We value information exchange and debates on current matters at Agenda Meetings and other events, which enable us to meet with our stakeholders frequently. Consequently, we launched the “Sustainability Exchange Days” to ensure that our stakeholders remain updated and prepared for the future complying with our mission to function as a knowledge center for the building (construction) industry and provide companies with guidance on commonly faced issues.

We also created the Construction Materials Industry Composite Index, which reflects the general state of the construction industry with a combination of activities, trust, and expectations measured in the construction materials industry. With the Construction Materials Industry Composite Index, we aim to measure how the market movements and global developments influence the construction materials industry in a quantitative way and, follow relevant developments and expectations closely, share these expectations with industry representatives and all the stakeholders by making the results public. Our objective is to create a guiding information source for the industry.

For more information on Construction Materials Industry Composite Index methodology and final index reports, see www.imsad.org/insaat-malzemeleri-sanayi-endeksleri/

**COMPLIANCE AND STANDARDIZATION**

As Türkiye İMSAD, we act with an awareness of our mission to guide our members while caring to carry out activities on national and international standards and regulations that emerge with expanding and rapidly changing global economic relations. In this regard, our material issues involve working together with our members to ensure that our industry adapts to such changes and moves further towards its targets.

It is essential for the Turkish construction materials industry to follow the global technological and innovative developments to make the most of the opportunities and maintain its competitive nature. Another important opportunity for the transformation of construction materials industry is the spread of a building approach that respects energy efficiency and environmental protection targets as well as construction and construction materials standards. This situation also applies to its reflection on the urbanization projects. The adoption of European Union’s construction and construction materials standards to increase energy efficiency and environmental protection in buildings is important for the Turkish construction materials industry to enhance eco-friendly housing.

Türkiye İMSAD exerts efforts to support production with global standards in line with its mission - ensuring regulatory and supervisory rules under relevant standards and laws. We address compliance and standardization at our committees as an essential requirement for the sustainable development and global competitiveness of the industry. Committees organize training programs, conduct research and present opinion reports on topics such as construction material regulations, sustainable construction materials, national building regulations, occupational health and safety, and energy efficiency in buildings. The most notable publication among them is Türkiye İMSAD’s document called “Construction Products Regulation Guide Book”. Construction Materials Directive is the most important legal arrangement
concerning the Turkish construction materials industry. The guidebook aims to raise all companies’ awareness of compliance with these standards, ensure market discipline regarding products, and prevent unfair competition. In addition, we provide opinions on revisions to Turkey’s laws, regulations, and standards with representatives from the member institutions participating in our committees.

As Türkiye İMSAD, we compiled our Code of Conduct to develop and disseminate construction materials industrial standards. Every institution accepted as a member declares that they will comply with the principles expressed in the Business Ethics Pledge. Our members pledge to comply with principles which include an article that oblige them to prepare the products they produce in accordance with the technical and legal standards and avoid non-standard production. This pledge plays a significant role in developing products and applications that comply with international standards. It also applies to enhancing economic growth, employment, and innovation capacity of the construction materials industry, one of Turkey’s highly competitive industries on a global scale.

Türkiye İMSAD’s activities are of vital importance in the institutionalization of the construction materials industry in our country. Türkiye İMSAD continues to represent the sector in the best way while carrying on its activities to introduce standards to the industry.

Mehmet Büyükekşi
President, Turkish Exporters Assembly (TİM)

Drawing on its collaborations and extensive member network, Türkiye İMSAD has carried on its activities to ensure the development of the construction materials industry and reach the world standards.
WE TACKLE CLIMATE CHANGE
We Tackle Climate Change

For tackling climate change and climate change-related problems, all stakeholders including civil society and private sector as well as governments, have important responsibilities. Efforts to reduce greenhouse gas emissions have been gaining momentum, especially after the Paris Agreement. The Sustainable Development Goals address the need to “take urgent action to tackle climate change and its impacts” in its Goal 13 on “Climate Action.” The Goal 13.3 states that it is necessary to “improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.” We follow global developments regarding climate change and improve our operations to contribute to tackling climate change. At Türkiye İMSAD, we are aware that we can take significant steps in tackling climate change by ensuring effective energy and greenhouse gas management and reducing the construction materials industry’s environmental effects. Accordingly, we shaped our mission as being a guide to the industry on climate change and related issues. We raise awareness

“Our expectation from Türkiye İMSAD is an increased focus on all awareness-raising efforts aiming for greater environmental awareness at the sector.”

Serpil Çimen
Technical Affairs Director, Turkish Steel Producers Association
We encourage all our members, particularly those from energy and carbon-intensive industries like cement, ceramics, and glass to follow their environmental impact and energy consumption systematically. In this context, 76% of Türkiye İMSAD members manage their facilities in accordance with the ISO 14001 Environmental Management System while 56% of members operating in the most energy-intensive industries\(^2\) work according to the ISO 50001 Energy Management System. Our two members and five members plan to obtain ISO 14001 and ISO 50001 certification, respectively, for their facilities in 2016.

Our members attach importance to preferring more efficient equipment, carrying out process improvements, and investing in energy recovery and renewable energy. Improvements by these activities also reduce the necessity for fossil fuels, and help our country reduce its external dependence on energy as well as the current account deficit. As a result of their efforts to reduce energy consumption, Türkiye İMSAD members kept their total energy consumption at 60 million GJ, achieving nearly 150,000 GJ reduced level, compared to 2013. Similarly, greenhouse gas emissions were reduced to 12.1 million tons CO\(_2\)e in 2015, when compared to 2013 levels.

\(^2\) Cement, ceramics and glass industries
The decline in total energy consumption led to a reduction in energy consumption per million TL. Türkiye İMSAD members’ energy intensity were 9.52 TJ/million TL, with a 21% reduction, compared to 2013 levels.

Energy intensity is calculated for Türkiye İMSAD members who share their revenue information with the ratio of their total energy consumption to their revenues.
Similar to energy intensity, Türkiye İMSAD members reduced their greenhouse gas emission intensity\(^4\) to 2,074 tons of CO\(_2\)e/million TL in 2015 with a 21% reduction over 2013 levels.

An NO\(_x\) reduction system called SNCR (Selective Non-Catalytic Reduction) has been implemented at Çimsa’s Mersin Cement Plant to reduce NO\(_x\) emissions in the plant’s rotary kiln number 3. The system is used to reduce thermal NO\(_x\) emissions resulting from the burning of fossil fuels at very high temperatures in the rotary kilns for burning raw materials in the clinker production process which is a key product of cement. The Selective Non-Catalytic Reduction technology includes the injection of 25% ammonia solution into the flue gas. Therefore, a reaction takes place between the solution and NO\(_x\) reducing the latter. Through this system, NO\(_x\) emissions are kept below the limit values specified in the Regulation on the Control of Industrial Air Pollution, making significant contribution to environmental protection.

\(^4\) Greenhouse gas emission intensity is calculated for Türkiye İMSAD members who share their revenue information with the ratio of their total greenhouse gas emissions (tons CO\(_2\)e) to their revenues (million TL).
Turkiye İMSAD members reduce their greenhouse gas emissions by benefiting from renewable and alternative resources in energy generation. Renewable and alternative resources used by our members include solar energy, alternative fuel use, and recovery of waste heat. Alternative fuel use reduces waste formation and raw material need while the recovery of waste heat is important for ensuring efficient energy use. With this awareness, in 2015, Türkiye İMSAD members used over 2.7 million GJ of renewable and alternative energy resources for their operations.

THE “ENERGETIC LOOK” EXHIBITION
İzocam’s “Energetic Look” project aimed to draw attention to the importance of energy efficiency, to increase public awareness and to contribute to social consciousness by exhibiting works from different branches of art. Implemented in collaboration with İFSAK, the project exhibited 120 photographs with the theme of “energy efficiency”, 120 literary texts based on the photos such as stories and poems, cartoons, two music compositions specially prepared for the exhibition project, a short film and an animated film. Consisting of different branches of art, the project intended to raise awareness on “Energy and Energy Efficiency” within the society from different perspectives.
We Tackle Climate Change
WE GROW BY INVESTING IN TECHNOLOGY AND INNOVATION
A sustainable construction materials industry can be achieved with a focus on innovation and technology. Innovation and technological developments play a major role in achieving progress in material issues of Türkiye İMSAD and its stakeholders such as energy-efficient buildings, tackling climate change, and smart and innovative cities. The future trends such as smart cities, changing population demographics and urbanization shape the construction materials industry. Innovation will enable the industry to take a leap and develop competitive and value-added products that can respond to trends. Similarly, the Sustainable Development Goal 9.b states that developing countries should support domestic technology development, research and innovation by ensuring a conducive policy environment for industrial diversification and value addition to commodities.

Innovation has continued to maintain its materiality for Türkiye İMSAD since the previous reporting period. In this context, Türkiye İMSAD focuses on sustainable development, innovation, increasing R&D efforts, technical approval of innovative products and nanotechnology. In 2015, the International Quality in Construction Summit took place under the theme “Changing World, Emerging Materials” placing sustainability at the center. The event addressed how new trends shaped the materials industry in the light of technological developments and innovation.

Türkiye İMSAD offers guidance to the industry with its reports. Based on the premise that nanotechnology will lead to a significant breakthrough in construction materials, the report “Sustainability in Construction Sector: Green Buildings and Nanotechnology Strategies” was prepared.
in cooperation between İMSAD and TÜSİAD to address strategies to be developed by the construction industry in line with the 2023 targets. Türkiye İMSAD will carry on its innovation-focused activities with the aim of increasing the industry’s competitiveness in global markets with high value-added and innovative products.

Türkiye İMSAD members place great importance on innovation and allocate a significant budget to R&D centers and activities. They establish partnerships to develop sustainable and innovative products. Türkiye İMSAD encourages the industry to increase such activities and stimulate innovation.

I wish that Türkiye İMSAD continues its success the same way by increasing collaboration and focusing on R&D.

Dr. Özlem Bahadır Karaoğlu
Expert Researcher, Center for Energy, Environment and Economy (CEEE), Özyeğin University

100+ BETON

100+ Beton is a durable product developed by Akçansa for bridge, dam, and similar projects which require 100+ years of service life. 65% granulated blast furnace slag, an iron and steel industry waste, is used in its production, which leads to reduced waste and less energy consumption and carbon emissions up to 40%. Akçansa received the first prize with its 100+ Beton product at the ACI Excellence in Concrete Construction organized every year by the American Concrete Institute to reward the most innovative projects of the concrete-producing companies.
Saint Gobain Rigips has developed Active' Air technology which reduces the amount of formaldehyde, harmful to human health and intensely concentrated in indoor areas, below the threshold value for human health. According to the study by the France-based organization (OQAI) (Observatoire de la qualité de l’air intérieur), the formaldehyde concentration in 85% of buildings is higher than the threshold value. Cause of various respiratory problems, formaldehyde is the most harmful organic compound found indoors. The Active Air technology confines 70% of the formaldehyde in the air indoors and converts it into an inert component without releasing it back to air.

**ACTIVE’ AIR**

Kale Group by using geopolymer technology developed a ceramic coating material which adjusts the humidity indoors. The product retains the moisture in the air and releases it back when humidity exceeds 70% or declines below 40%, respectively. In doing so, it keeps the humidity level between 40 and 70%, the ideal level for human health. The product provides a comfortable environment by helping to reduce diseases caused by dry or moist air and preventing the damage caused by moisture on construction materials. Tile with Humidity Control received the second prize in the “Innovative Green Product” category at the 2014 Istanbul Chamber of Industry Environment and Energy Awards.

**HUMIDITY CONTROL TILE**

Kale Group by using geopolymer technology developed a ceramic coating material which adjusts the humidity indoors. The product retains the moisture in the air and releases it back when humidity exceeds 70% or declines below 40%, respectively. In doing so, it keeps the humidity level between 40 and 70%, the ideal level for human health. The product provides a comfortable environment by helping to reduce diseases caused by dry or moist air and preventing the damage caused by moisture on construction materials. Tile with Humidity Control received the second prize in the “Innovative Green Product” category at the 2014 Istanbul Chamber of Industry Environment and Energy Awards.
WE REDUCE THE ENVIRONMENTAL IMPACT OF OUR PRODUCTS
We Reduce The Environmental Impact Of Our Products

Beside production efficiency Türkiye İMSAD members consider the development of materials for efficient buildings based on life cycle assessment as one of their material issues. The importance of reducing the environmental impact of buildings becomes more apparent when we consider that they are responsible for 40% of global energy consumption, 25% of water consumption and one-third of the carbon emissions. Ensuring efficiency in the use of construction materials plays a critical role in “making cities and human settlements inclusive, safe, resilient and sustainable” as part of the as part of the Sustainable Development Goal 11.

Measuring the life-cycle impact of products is an important step in reducing their environmental impacts. Environmental Product Declaration (EPD) involves communicating the carbon footprint and ecological impacts of a product in a transparent way by measuring impacts in the entire life cycle from raw material sourcing to production and from logistics to product use. EPD enables companies to identify the points where the highest environmental impact of the product is and to focus on improvements in these areas. Most of the Türkiye İMSAD members acquire EPD for their products, and the number of EPDs is on the rise.

In line with its mission to offer guidance on EPD and product labeling for its members Türkiye İMSAD signed two separate strategic cooperation protocols with UL Verification Services Inc. and Institut Bauen und Umwelt e.V. (IBU), the two leading organizations in environmental certification. Under these cooperation protocols, it collaborates with IBU and UL Environment on EPD and Product Labeling/Certification, respectively. In the second stage of the cooperation the target is to make Türkiye İMSAD UL Environment’s and IBU’s authorized program operator in Turkey.
Türkiye İMSAD is supported by the Eco-friendly Materials Technical Committee in its research on product environmental impact. The Eco-friendly Materials Committee published the Sustainable Materials Glossary of Terms in 2015 to establish a common language in the industry. In addition, the member companies of the committee gave “The Production-Usage Cycle of Construction Products” course to 3rd and 4th Grade Faculty of Architecture students of Yıldız Technical University thanks to the cooperation between the Sustainability Committee and the Yıldız Technical University. We plan to make the course available at other universities in early 2016.

ENERGY EFFICIENCY IN BUILDINGS

Energy efficiency in buildings as a part of reducing environmental impacts of products has a special importance for both Türkiye İMSAD and its stakeholders as a top material issue. Also, the Energy Efficiency Improvement Program, under Turkey’s Tenth Development Plan, covers the development of energy efficiency in buildings as one of the primary targets. Reducing energy demand and carbon emissions in Turkey in relation to the increasing number of buildings and constructions will be possible with more energy efficient and sustainable products. In this context, increasing cooperation in the industry for ensuring energy efficiency in buildings constitutes an important pillar of Türkiye İMSAD’s vision to offer guidance in tackling climate change. Through public and private cooperation, the Energy Efficiency in Buildings Committee works on identifying focus areas to achieve energy efficiency in buildings and related business plans. Also, it focuses on the curriculums of undergraduate and graduate programs. **Türkiye İMSAD participates in various events and seminars such as the 6th Energy Efficiency Fair and Forum, Japan Energy Conservation and Efficiency Workshop, and Energy Efficiency in Health and Public Buildings following the new developments and guiding the industry by sharing information about energy efficiency.** Türkiye İMSAD members also carry out many activities for energy efficient products. They contribute to the reduction of environmental impacts caused by buildings with the products they develop through R&D.

> It is of paramount importance to produce materials suitable for green building systems to leave an intact and habitable world in the future. I think workshops and reports that will guide local administrations and national policies should be prepared and the use of domestic green materials in real applications should be encouraged.

Engin İşiltan
Secretary General/CEO, Turkish Green Building Council
About 25-30% of heat losses in buildings occur in window and door applications. Ege Profil A.Ş. and Pimaş A.Ş., Deceuninck NV’s two companies operating in Turkey, offer consumers next-generation central-sealed systems that are designed for high heat insulation with a higher number of chambers to minimize such losses. The 80 mm, 84 mm, and 90 mm next-generation systems are designed with six or seven chambers. In these systems, the thermal transmittance value of frame (Uf) can be decreased to 1.0 W/m².K. However, for the window (Uw) 0.85 W/m².K value can be achieved with appropriate glass combinations. Also, other properties which determine performance like air permeability, water tightness, and resistance to wind load can also have high values. Ege Profil and Pimaş-owned brands prepared a web-based application to monitor energy savings achieved in PVC window choice. Taking into account heating and cooling costs for the next 10 years, the company uses graphics to explain energy savings in 10 years when current windows are replaced with next-generation systems that offer better insulation. Ege Profil and Pimaş as users of “Green Point” brand also produce all their PVC profiles in their product range by using environmental-friendly calcium zinc stabilizer. These profiles also have environmental product declaration (EPD).

**YTONG BLOCK 0,11**

Turkish Ytong broke a new ground in the industry by improving the thermal insulation performance of its block products by 15%. This new product increases energy savings in buildings also by 15%. With the support of Innovation, thermal conductivity value of the blocks used in calculations, were decreased to 0.11 W/mK. Inspite of this decrease the compressive strength value was preserved.
WE USE NATURAL RESOURCES EFFECTIVELY AND EFFICIENTLY
WE USE NATURAL RESOURCES EFFECTIVELY AND EFFICIENTLY

Responsible use of limited natural resources is one of the fundamental milestones of sustainable development. In this regard, the construction materials industry, which uses natural resources extensively, has crucial responsibilities. The global context also draws attention to these issues, as it is stated in Sustainable Development Goals; Goal 12.2 states “by 2030, achieve the sustainable management and efficient use of natural resources” and Goal 8.4 states “Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation, in accordance with the 10 year framework of programmes on sustainable consumption and production, with developed countries taking the lead.”

In the light of global developments, stakeholders expect the construction materials industry to develop safer, more durable, and more energy efficient products as well as use natural resources efficiently in all their operations. It is increasingly important for the construction materials industry to use natural resources with higher efficiency to meet both stakeholder expectations and ensure cost reduction with reduced consumption.
Türkiye İMSAD considers contributing to the industry’s development through the effective and efficient use of natural resources as one of its priorities, addressing it in its Sustainability Pledge, too. Therefore, it is ensured that members adopt to relevant targets, have a share in the industry’s transformation and share their progress with the association in a transparent manner. This issue is particularly addressed by Türkiye İMSAD Sustainability Committee. Our activities include contributing to construction material producing companies’ natural resource use policies including raw materials, water, and waste management, organizing awareness-raising events, supporting the establishment of partnerships between the industry with the public and civil society, and making publications for the dissemination of good practices. We aim to manufacture products with lower environmental impacts with more efficient use of natural resources, increase recycling and reuse, reduce waste generation, reduce the footprint of a growing industry, preserve the competitiveness of our members, and reduce the operating costs.

**PONCEBLOC**

Pumice stone, one of the best examples of sustainable and living construction materials, occurs with the sudden cooling of lava after a volcanic eruption. It has a porous and lightweight structure which enables its high insulating properties. Obtained by “Ekopons” - Ponsblok’s subsidiary company which both are Arkas’ affiliates- without damaging the texture of pumice through natural processes thanks to advanced technology, the pumice stone is used in construction and agriculture sectors, and for environmental purposes.

Poncebloc, the new-generation lightweight construction element made of pumice stone, contains no volatile organic compounds (VOC). It is 100% recyclable and provides energy savings in buildings. Awarded with the French Environment and Health Certificate (FDES), the product is suitable for use in passive energy-class buildings due to its superior insulation performance. Poncebloc ensures a longer life for buildings with its lightweight and durable structure while offering cost advantage thanks to easy processing of the material.
Thanks to our new transportation frames and transportation by bulk vessels, the usage of wooden case for jumbo and machine-sized glass is minimised. Since glass is not packaged, there are no wood-related environmental wastes in transportation. Thanks to the advancement of transportation equipments, frames and simplified handling methods, more frames can be loaded to vessel; as a result, big quantities are able to be transported at one time rather than road transport. As a first in the sector, this project was granted the Year Project Award in Şişecam Group Stars of the Year Competition.

**KALE SMART EDGE THIN-SECTION WASHBASIN SERIES**

Designs with sharp corners, steep edges, and flat surface proves to be difficult in current sanitary ware production. Products have low durability and major deformations in traditionally manufactured products. Besides, higher environmental impacts are observed in the “Mineral Casting” method used to overcome this problem due to the use of petroleum-containing materials and difficulties in recycling of the product. Kaleseramik avoided these problems with its new ceramic sludge compositions developed through the R&D processes, creating the new Kale Smart Edge thin-section washbasin series. Although values vary according to product designs, use of raw materials has been reduced by approximately 38% in these products. Products got lighter, and their production required less energy due to a smaller amount of raw materials. This enabled savings in energy consumption and lower carbon footprint. In addition, lighter products meant easier shipping and installation. Kale Smart Edge Series received the “Construction Product Award” at the 2015 Gold Çekül (the Foundation for the Protection and Promotion of the Environment and Cultural Heritage) Awards.

**TRANSPORTATION of JUMBO and MACHINE-SIZED GLASS with BULK CARRIERS**

Thanks to our new transportation frames and transportation by bulk vessels, the usage of wooden case for jumbo and machine-sized glass is minimised. Since glass is not packaged, there are no wood-related environmental wastes in transportation. Thanks to the advancement of transportation equipments, frames and simplified handling methods, more frames can be loaded to vessel; as a result, big quantities are able to be transported at one time rather than road transport. As a first in the sector, this project was granted the Year Project Award in Şişecam Group Stars of the Year Competition.
Water management has become an important issue as part of the natural resources management due to increased water demand based on the growing population, climate change-related pressure on water resources, pollution, and excessive and unconscious consumption.

At Türkiye İMSAD, we encourage our stakeholders to make efficient and conscious use of water as it is intensively used in both production processes and as a raw material. We address and contribute to sectoral improvement in the following issues under Türkiye İMSAD Sustainability Pledge:

1. Creating policies for the protection of natural water resources while monitoring and managing consumption,
2. Taking precautions to ensure lower clean water use,
3. Using solutions that enable effective wastewater treatment as well as water reuse.
4. Conducting activities to increase awareness on water management.

Türkiye İMSAD members’ total water consumption fell to 6,559,137 m³ in 2015 with a 3% reduction, when compared to 2013 consumption levels. In 2015, Türkiye İMSAD members achieved water savings of 660,000 m³ due to the water reduction and recycling projects. This is equivalent of nearly 434 persons’ annual water consumption in Turkey. Also, the percentage of recycled or reused water in the total consumption rose from 6.4% in 2013 to 15.2% in 2015.

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6 http://www.dsi.gov.tr/toprak-ve-su-kaynaklari
Sustainable use of natural resources is only possible with effective waste management. The importance of waste management, one of the main elements of sustainable production and consumption, is highlighted with Goal 12.5 of Sustainable Development Goals: “By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.” Effective waste management in the construction materials industry is also important because it creates economic value by limiting the environmental impacts, reducing waste that could pose a threat to the environment and human health, and ensuring lower use of resources. Türkiye İMSAD supports its members in the development, monitoring, and management of policies on waste management and recycling. It also encourages the use of recyclable and convertible packaging.
Eczacıbaşı Building Products-Artema, for example, recycles in-house all the brass shavings from its castings and melts them in its own furnaces for immediate reuse, using a technique that is the first of its kind worldwide for faucet and fittings manufacturers. As a result, new brass ingots purchased from external suppliers only account for about one-third of all the brass consumed in the making of faucets and fixtures.

In its recycling project, Artema benefits from recycling chips that form as a result of its faucet manufacturing in its production processes. Brass has a 20% share of Artema’s raw material costs. Recognized with an award from the European Union, this application involves brass melting as well as production in a cupola furnace. However, the brass is directly converted into a product rather than the ingot form. Since the initial implementation of the project, brass produced by the process was used at the production facilities, rather than being sent to suppliers preventing 90 tons of CO₂ emissions. The project led to a 5% reduction in slag (ash) ratio with the admixtures experimented to reduce losses in the use of raw materials. Energy consumption is lowered as no ingot casting was required after the melting of brass and these ingots were not melted for the second time in product casting.

CHIP RECYCLING PROJECT

Using natural fiber reinforced plastics indoor production, Pakpen has manufactured Turkey’s first internal pedestrian door made from fully recyclable plastics. The company uses organic fiber reinforced plastic and EPS insulation material rather than honeycomb and wooden frames, the two commonly used materials in door production. The product is 100% resistant to water and moisture coming to the forefront with its sound insulation performance.

DOOR PRODUCED FROM FULLY RECYCLABLE PLASTICS
WE CREATE VALUE FOR THE SOCIETY
WE CREATE VALUE FOR THE SOCIETY

The business community’s transforming role and responsibilities for sustainable development grow increasingly due to international developments and higher stakeholder expectations. Türkiye İMSAD acts in accordance with the principle to adopt a holistic governance in the international investment regime, one of the requirements of the global economy, and it is a unifying force for the construction materials industry. Aware of the necessity of the societies to live on a global scale, we adopt an environment-friendly attitude which focuses on innovation, comply with new regulations and puts stakeholder expectations and prosperity at the center. Construction materials industry has high competitiveness in the global markets, and it is one of the industries that bears the potential to create social value with the strength of its financial sources. The Turkish construction industry embraces value creation for all its stakeholders primarily the employees and communities in the activity regions to ensure sustainable success as it grows and increases its business opportunities. In parallel, Türkiye İMSAD aims to guide investments to contribute to all the Sustainable Development Goals, which determine the 2030 agenda for the business world. Still, Türkiye İMSAD focuses on primarily quality education (Goal 4), decent work and economic growth (Goal 8) and sustainable cities and human settlements (Goal 11).
Türkiye İMSAD members’ female employee percentage stands at 14% as of 2015. Construction materials industry has low level of female employment in Turkey and throughout the world. Being aware of its huge positive impact on economic and social development, Türkiye İMSAD endorses higher female employment in the industry. As of 2015, white-collar employees consist of 44% and blue-collar employees 56% of total employees. Türkiye İMSAD company members’ employee turnover ratio is 19% as of 2015.
Due to risky conditions in raw material supply and production processes, construction and construction materials industries should provide decent, healthy and safe working environment. Assessment of occupational health and safety (OHS) risks and improvement of working conditions have direct positive impact on companies’ businesses continuity, efficiency and competitiveness.

Aiming to ensure the application of International Labor Organization (ILO) Convention, Türkiye İMSAD’s vision is to contribute to the creation of related standards and regulations as well as offering guidance on common issues in order to ensure that companies can offer value-added services. Our labor and employment objectives constitute an important part of our sustainability pledge. As outlined by the Sustainable Development Goal 8 as “promoting sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all,” we encourage occupational health and safety practices in order to increase the well-being in the industry. We guide our members to create a healthy and safe workplace which is one of our top material issues.

Providing a safe and healthy working environment through occupational health and safety practices is one of our top priorities. For this reason, Türkiye İMSAD carries out relevant training programs, events, and awareness campaigns with the Occupational Health and Safety Committee, which includes experts from member companies. The committee conducted OHS training for member company representatives between 2014-2015. We aimed to achieve a corporate OHS culture in member companies with training programs that we prepared in collaboration with British Safety Council (BSC) for mid- and top-level executives. The program offered courses for accident prevention, practice planning, OHS performance measurement and analysis within the industry. Participants who completed the program received certificates.

We encourage our company members to create a healthy and safe work environment and strengthen their employees. Since 2013 we observed a 70% increase in the number of training hours with the total number reaching 243,645 hours in 2015 reflecting the importance given to technical and professional development by member companies. The average training per employee was 15 hours in 2013 while it rose to 25 hours with a 69% increase in 2015.
Occupational health and safety training constitutes the biggest part of all training programs. OHS trainings make up for 42% of total trainings in 2015.

Investments in employee training make a positive impact on occupational health and safety performance while prevention programs for a safe work environment lead to more efficient results. Such activities reduced the number of accidents by 4% in 2015 compared to 2013. In the same period, none of the companies provided data experienced a fatal accident.

Türkiye İMSAD’s activities will enhance the qualifications of the workforce in the industry affecting companies’ business efficiency directly.

Necati Ersoy
Secretary General
The Turkish Employers Association of Construction Industries
ENERGY UNIVERSITY

In 2010, Schneider Electric established Energy University, an online training platform, in order to increase awareness of energy efficiency. Developed in collaboration with Institute of Energy Professionals (IEP) which is one of the oldest US energy education platform, Energy University is open to everyone, and it provides Professional Energy Consultancy Certificate to individuals completing the online program. The Energy University project was recognized with the Sustainable Energy Europe Award in 2014. It has reached 548,000 people around the world in 2016. Having 14,000 users in Turkey, the project offers professionals training programs whereby they can enhance their skills, strengthen their professional background and improve their abilities to manage their companies more efficiently.

SCHNEIDER ELECTRIC EDUCATION PLATFORM: My LearningLink

Schneider Electric established My LearningLink as a wide educational pool to develop its employees both in personal and technical issues due to the importance it attaches to the development of human resources. Making education planning for all its employees to complete at least seven hours of training annually, Schneider Electric also encourages its employees to obtain two hours of such training on the digital training platform with the goal of integrating technology into the training activities on the platform. One of the training programs is the "Learning Week" event held every October in Turkey in parallel with other countries. Experts and Schneider Electric managers hold training programs and presentations throughout this event. Schneider Electric also offers training programs for employees seen as potential manager candidates as part of the three-semester senior executive program in cooperation with Sabanci University.
Akçansa formed the 10 Golden Rules, which cover the best OHS practices in the global cement and concrete industry as well as national and international standards and regulatory requirements. In order to share these practices effectively, a Health and Safety training center has been launched. The center is called OHS Academy, and it explains rules to employees from a theoretical and practical perspective. Occupational Health and Safety Specialists, Technical Engineers and Health Practitioners conduct Health and Safety trainings to Akçansa employees, subcontractors as well as business partners. OHS Academy aims to establish a bridge between theoretical and practical application, to increase OHS awareness with hands-on training techniques, to create a Health and Safety Culture of people that always awake and aware of risks and always maintaining proactive approach not only at work but also in their daily lives. Any training participants are issued with a certificate. In order to improve the effectiveness of the trainings, all participants are given a test of assessment and evaluation at the end of the trainings. The project received the Ball Award, which stands for the best practice award all over the world, at the ceremony held in HeidelbergCement. Moreover, training footages have been prepared and shown in OHS academies for a better understanding of each training.

Şişecam Group implemented a Glass School Project to increase the qualified human sources further in glass as Şişecam’s main activity field. In this context, Şişecam Flat Glass, and Şişecam Group Research and Technology Development Presidency (ATGB) held different training programs and workshops to increase engineers’ knowledge and experience in this area. Engineers received such training under the theme of Glass Science and Technology.

These projects aim to develop scientific and professional training in Turkey, which require significant investments, as well as conduct sustainability awareness campaigns and develop a qualified workforce. They are the main social investment projects for the Turkish construction materials industry. At Türkiye İMSAD, we aim to disseminate an understanding of sustainability in the construction materials industry by sharing our members’ good practices.
INDIVIDUAL ERGONOMICS ASSESSMENT PROJECT

Wilo conducted an ergonomics assessment project for all its employees including both blue and white-collar staff to create a healthy and safe working environment. After consultancy services, the project determined ergonomics criteria with the participation of occupational health and safety unit. The company evaluated lighting values of the working environments with all the screens in line with ergonomics criteria identified with the conducted research and tests. It reviewed screen positioning according to lighting principles. Based on the findings, the company replaced necessary screens, adjusted their positions and repaired and replaced tables and chairs when necessary. The Employees received ergonomics training as part of the project, and a risk assessment was conducted for all the employees with screened tools. They had much greater awareness of the importance of ergonomics for a healthy working environment and obtained a healthier working environment at the end of the project.

DYO CREATES VALUE FOR THE FUTURE...

By implementing sustainability practices based on scientific data and foundations, DYO aims to create value for the future and supports education with its Social Responsibility Project. The company collaborated with the Ministry of National Education, Professional Competency Board and Mimar Sinan Fine Arts University in the project which consists of three different areas: “It’s Worth for Learning,” “It’s Worth for Mastery” and “It’s Worth for Schools”. Throughout the 2015-2016 educational year, the project reached over 25,000 2nd to 4th grade students and 1,018 teachers with 1025 training sessions in 10 cities and 66 schools. The training sessions aimed to boost children’s quality of life and achievements as well as raised their awareness of aesthetic values. On the other hand, as part of the “It’s Worth for Mastery” program, Mimar Sinan Fine Arts University carried out training sessions to 219 painters in ten cities across Turkey. Masters received their certificates from Mimar Sinan Fine Arts University at the end of the training programs on color and living space composition. Finally, as part of “It’s Worth for Schools” project, the first School Painting Guideline of Turkey is prepared to approach scientifically to the painting. The Ministry of National Education shared the School Painting Guideline with 20,000 schools and one million teachers across Turkey to enhance and improve the quality of schools where children spend most of their time. The Guideline featured color and paint options based on elements like color, living space and light. The Ministry of National Education announced that the project undertaken in collaboration with DYO will be presented both to the OECD and the EU’s candidate countries.
BASF comes to the fore with its globally implemented education focused campaigns for children. Launched in 2010 with the support of the Ministry of National Education, the “81 Chemistry Labs in 81 Cities” project aimed to establish new chemistry labs and renovate the current ones with modern equipment at schools with no laboratories or poor laboratory conditions. The project was implemented with a €1.2 million budget and it focused on high schools that benefited from educational opportunities relatively less. As of 2016, construction and renovation of 60 laboratories have been completed in 60 cities. It is planned that ten more laboratories will be completed by the end of the year. On the other hand, the 2017 target involves completion of chemistry labs at 81 schools in 81 cities.

KID’S LAB TURKEY

Kid’s Lab Turkey is a part of a global social responsibility project implemented by BASF which aims to increase the number of scientific studies. The project aims to endear children aged 6-12 to chemistry and science and drum up their interest in experimental research, make them experiment chemistry visually and by touching. Hiring special educators, the company organizes free events to encourage children to love chemistry and science. Having reached around 5,100 kids in 35 countries all over the world, Kids’ Lab was taken to an interactive platform under the name Sanalika with a mission to reach more children from all around Turkey. The Sanalika platform featured various games and interactive activities that fostered an awareness of sustainability, as well as videos and tutorials reaching more than 600,000 children from all around Turkey. The project received the “Corporate Social Responsibility, Practices with Social Impacts” award from the Social Responsibility Association in 2012, and made it to the finals in European Excellence Awards and Sabre Awards where global public relations projects get nominated. In addition, BASF Kids’ Lab was recognized by the Interactive Advertising Bureau (IAB) with Golden Mixx “games and in-game ads award” thanks to its activities on the Sanalika platform.

81 CHEMISTRY LABS IN 81 CITIES PROJECT

BASF comes to the fore with its globally implemented education focused campaigns for children. Launched in 2010 with the support of the Ministry of National Education, the “81 Chemistry Labs in 81 Cities” project aimed to establish new chemistry labs and renovate the current ones with modern equipment at schools with no laboratories or poor laboratory conditions. The project was implemented with a €1.2 million budget and it focused on high schools that benefited from educational opportunities relatively less. As of 2016, construction and renovation of 60 laboratories have been completed in 60 cities. It is planned that ten more laboratories will be completed by the end of the year. On the other hand, the 2017 target involves completion of chemistry labs at 81 schools in 81 cities.
INNOVATIVE AND SMART URBAN DESIGNS

The UN’s 2015 Word Urbanizations Prospects report states that 54% of the world’s population lives in urban areas, a proportion that is expected to increase to 66% by 2050. This rapid population growth in urban areas leads to architectural, planning, and environmental issues as well as social and economic ones. The construction materials industry is also influenced by such changes.

Creating sustainable cities and living spaces, as cited among Sustainable Development Goals, is one of the most important issues concentrated on by the construction materials industry. In line with its vision to guide the industry in producing innovative and sustainable urban transformation solutions, Türkiye İMSAD is aware of its responsibility regarding the actions to be taken to achieve the Sustainable Development Goal 11.1 which states “by 2030, ensure access for all to adequate, safe and affordable housing and basic services, and upgrade slums”.

The Turkish construction and construction materials industries have huge responsibilities in building earthquake-resistant, smart, and green buildings in the current urban transformation process. After the 1999 Marmara Earthquake, the urban transformation in Turkey primarily focused on urban settlements that were exposed to disaster risks. On the other hand, the 2011 Van Earthquake raised the legal and administrative problems encountered in urban transformation. In 2013, Türkiye İMSAD established the Urban Transformation and Construction Safety Committee to bring construction safety, earthquakes, and urban transformation to the national agenda and ensure that innovative solutions were produced. It published the Roadmap for Safe Constructions-1 under the title “Sustainable, Safe, Modern Constructions and Urban Transformation.” We carry on our efforts to implement the Roadmap for Safe Construction-2 report as a continuation of the previous report.

Türkiye İMSAD will hold the Sustainable Built Environment Conference Series in Turkey for the first time in October 2016 with its unifying power in the industry, and bring together construction materials industry stakeholders. The conference’s main theme will be “Smart Metropoles - Integrated Solutions for Sustainable and Smart Buildings & Cities”. The event will offer a discussion platform based on studies conducted in Turkey and abroad on issues such as sustainable future, climate change, smart cities, green buildings, and cities as well as Turkey’s current state, and its issues and solutions.

INTEGRATED DESIGN FOR SMART CITIES

In the era of rapid urban growth, the information technologies enrich the construction and construction materials industry in different fields such as the efficiency and quality improvement, the interaction between various disciplines and various actors, a collaborative work platform, and effective data exchange. Integrated design process (BIM, BEM, BAM, and BOOM) strengthen communication and collaboration in the construction industry enabling reduction of costs resulting from construction errors in the design processes.

BIM, BEM, BAM, BOOM systems are used to increase the cost-quality ratio and create a sustainable living space for the society. It is possible to build sustainable and eco-friendly building and cities that can generate their energy requirements without any cost increase during their lifetime or any carbon emissions.
while keeping resource utilization and waste generation to a minimum. The integrated design model can be used effectively in all the main processes of the architectural projects. It enables the development of the most suitable product for end users by enhancing the quality and speed of information exchange between employers, designers, consultants, subcontractors, and suppliers. It facilitates the management of green building concept as it enables taking right steps in buildings’ energy management and carbon footprint starting with the design stage.

Turkey adopts an approach that puts sustainable building at the center when creating safe and healthy living spaces as indicated with its Tenth Development Plan and 2023 vision. In this regard, Türkiye İMSAD’s agenda features creating smart and sustainable buildings and cities with the adoption of the integrated design approach. Türkiye İMSAD carries on its activities to introduce the integrated building design approach to the Turkish construction industry, make it applicable and determine performance priorities. This topic will be addressed comprehensively in the program of the Sustainable Built Environment Conferences Series 2016 - Istanbul held by Türkiye İMSAD.
Reporting principles include the addition and calculation principles for greenhouse gas emissions data (GRI G4-EN15, EN16, EN18) and energy consumption data (GRI G4-EN3, EN5) contained in this report. Türkiye İMSAD member companies within this report are different than those in Türkiye İMSAD 2013 Sustainability Report, and this is stated in the “About this Report” section. We determined 2015 as the base year for greenhouse gases since it gives access to complete and reliable data and reflects current activities. The greenhouse gas calculation method involved a “greenhouse gas activity data multiplied by greenhouse gas emission or elimination factors”. We calculated greenhouse gas emissions pursuant to the Greenhouse Gas Protocol, a partnership between the World Resources Institute (WRI) and the World Business Council on Sustainable Development (WBCSD). Türkiye İMSAD includes in the inventory the greenhouse gas emissions from all the buildings, facilities, and generators controlled by Türkiye İMSAD members the limits of which is addressed with a control approach. Activity limitations are determined as scope 1 (direct) and scope 2 (indirect). In our calculations, we used CO₂ equivalent factors comprising CO₂, CH₄, N₂O emissions. Global Warming Potential (GWP) coefficients are taken from the 4th Assessment Report of the Intergovernmental Panel on Climate Change (IPCC). We calculated the grid emission factor by using 2014 data from the Turkish Electricity Transmission Corporation (TEİAŞ).

Distribution is as follows based on resources causing greenhouse gas emissions:

**Scope 1:** Rental cars, fuels used in buildings and facilities, and diesel generators used in emergencies.

**Scope 2:** Power consumption. The emission factor is used as 0.552103 kg CO₂e/kWh in greenhouse gas calculations resulting from electricity energy. The electricity factor is calculated up-to-date with TEİAŞ data. We monitor the energy consumption of all the buildings, facilities and generators controlled by Türkiye İMSAD members. The report contains all such energy consumption data. The lower heating values of the energy resources used, and Tons of Oil Equivalent (TOE) cycle factors were taken from...
the Table of Lower Heating Values and Conversion Factors for Oil Equivalent found in Appendix 2 of "Regulation on Increasing Efficiency in Energy Resources and Energy Utilization," which was issued in the official gazette No. 28097 on October 27, 2011. 1 kcal = 4.186 kJ and 1 GJ = 0.2777 MWh (1 MWh = 3.6 GJ) values are used in energy unit conversions.

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<td>Gasoline</td>
<td>kgCO₂e/liter</td>
<td>2216</td>
<td>0.0030</td>
<td>0.054</td>
<td>2274</td>
</tr>
<tr>
<td>Fuel Oil</td>
<td>kgCO₂e/liter</td>
<td>3001</td>
<td>0.002</td>
<td>0.006</td>
<td>3011</td>
</tr>
<tr>
<td>Electricity (Grid)</td>
<td>kgCO₂e/kWh</td>
<td>0.550</td>
<td>0.000</td>
<td>0.002</td>
<td>0.552</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Energy Consumption</td>
<td>60,424,049</td>
<td>61,995,614</td>
<td>60,277,714</td>
</tr>
<tr>
<td>Coal</td>
<td>12,749,346</td>
<td>12,676,725</td>
<td>12,486,646</td>
</tr>
<tr>
<td>Natural Gas</td>
<td>22,300,792</td>
<td>23,079,974</td>
<td>20,688,171</td>
</tr>
<tr>
<td>Other Fossil Fuels</td>
<td>18,493,182</td>
<td>18,833,867</td>
<td>20,416,311</td>
</tr>
<tr>
<td>Alternative Fuel</td>
<td>2,276,778</td>
<td>2,766,397</td>
<td>2,002,880</td>
</tr>
<tr>
<td>Electricity</td>
<td>4,039,874</td>
<td>4,080,716</td>
<td>4,138,223</td>
</tr>
<tr>
<td>Sun</td>
<td>118</td>
<td>118</td>
<td>118</td>
</tr>
<tr>
<td>Renewable/Waste Heat</td>
<td>538,959</td>
<td>541,817</td>
<td>532,365</td>
</tr>
<tr>
<td>Other</td>
<td>25,000</td>
<td>16,000</td>
<td>13,000</td>
</tr>
</tbody>
</table>

Türkiye İMSAD Members’ Energy Consumption (TJ)
<table>
<thead>
<tr>
<th></th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Greenhouse Gas Emissions</td>
<td>12,158,452</td>
<td>11,978,117</td>
<td>12,147,248</td>
</tr>
<tr>
<td>Scope 1 (Direct)</td>
<td>11,252,318</td>
<td>11,121,816</td>
<td>11,320,890</td>
</tr>
<tr>
<td>Scope 2 (Indirect)</td>
<td>906,134</td>
<td>856,301</td>
<td>826,358</td>
</tr>
</tbody>
</table>

Türkiye İMSAD Members’ Greenhouse Gas Emissions (ton CO₂)

<table>
<thead>
<tr>
<th></th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Municipal Water</td>
<td>955,745</td>
<td>1,012,599</td>
<td>1,031,849</td>
</tr>
<tr>
<td>Groundwater</td>
<td>5,763,391</td>
<td>5,333,095</td>
<td>7,583,810</td>
</tr>
</tbody>
</table>

Türkiye İMSAD Members Water Consumption (m³)

<table>
<thead>
<tr>
<th></th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recycled/Reused Water</td>
<td>431,790</td>
<td>952,996</td>
<td>998,280</td>
</tr>
<tr>
<td>Waste Water</td>
<td>1,854,143</td>
<td>1,990,023</td>
<td>2,174,107</td>
</tr>
</tbody>
</table>

The Amount of Water Reused by Türkiye İMSAD Members and Waste Water (m³)

<table>
<thead>
<tr>
<th></th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazardous Waste</td>
<td>4,545</td>
<td>102,062</td>
<td>6,278</td>
</tr>
<tr>
<td>Regular Storage/ Solid Waste Landfill</td>
<td>5,438</td>
<td>3,368</td>
<td>4,534</td>
</tr>
<tr>
<td>Recycled</td>
<td>13,675</td>
<td>13,501</td>
<td>30,779</td>
</tr>
<tr>
<td>Recycled for Energy Purposes</td>
<td>1,445</td>
<td>801</td>
<td>679</td>
</tr>
<tr>
<td>Reused</td>
<td>2,464</td>
<td>2,412</td>
<td>2,820</td>
</tr>
<tr>
<td>Other</td>
<td>493</td>
<td>529</td>
<td>740</td>
</tr>
</tbody>
</table>

The Amount of Waste Generated By Türkiye İMSAD Members (tons)
## Reporting Principles And Tables

### Türkiye İMSAD Social Performance Data

<table>
<thead>
<tr>
<th>Number of Employees</th>
<th>2014</th>
<th></th>
<th>2015</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Female</td>
<td>Male</td>
<td>Female</td>
<td>Male</td>
</tr>
<tr>
<td>Total</td>
<td>4</td>
<td>3</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Over 50 Years Old (including 50)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>30-50 Years Old</td>
<td>4</td>
<td>3</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Under 30 Years Old (including 30)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>New Employee Hired</th>
<th>2015</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Female</td>
<td>Male</td>
</tr>
<tr>
<td>Over 50 Years Old (including 50)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>30-50 Years Old</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Under 30 Years Old (including 30)</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>
Having approximately 100 suppliers, Türkiye İMSAD works with corporate firms that comply with ethical values. All procurement processes with a 5,000 Turkish lira or higher value take place after the evaluation of three offers from three different suppliers identified according to the item in question.
<table>
<thead>
<tr>
<th>G4 Indicators</th>
<th>Page Number/Direct Link</th>
<th>Explanation for Omission</th>
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<tbody>
<tr>
<td><strong>ENVIRONMENTAL</strong></td>
<td></td>
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<tr>
<td></td>
<td><strong>Energy</strong></td>
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</tr>
<tr>
<td>G4-EN3</td>
<td>25, 26, 65</td>
<td></td>
</tr>
<tr>
<td>G4-EN5</td>
<td>26</td>
<td></td>
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<tr>
<td></td>
<td><strong>Water</strong></td>
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<tr>
<td>G4-EN8</td>
<td>47, 66</td>
<td></td>
</tr>
<tr>
<td>G4-EN10</td>
<td>47, 48, 66</td>
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<tr>
<td></td>
<td><strong>Emissions</strong></td>
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<tr>
<td>G4-EN15</td>
<td>25, 26, 66</td>
<td></td>
</tr>
<tr>
<td>G4-EN16</td>
<td>25, 26, 66</td>
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</tr>
<tr>
<td>G4-EN18</td>
<td>27</td>
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<tr>
<td></td>
<td><strong>Waste Water and Waste</strong></td>
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<tr>
<td>G4-EN23</td>
<td>48, 66</td>
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<tr>
<td></td>
<td><strong>Products and Services</strong></td>
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<tr>
<td>G4-EN27</td>
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<tr>
<td><strong>LABOUR PRACTICES AND DECENT WORK</strong></td>
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<tr>
<td></td>
<td><strong>Employment</strong></td>
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<tr>
<td>G4-LA1</td>
<td>53, 57</td>
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<tr>
<td></td>
<td><strong>Training and Education</strong></td>
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<tr>
<td>G4-LA9</td>
<td>54, 55</td>
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</tr>
</tbody>
</table>