TITAN
ANTEA CEMENT SH.A.

Sustainable Practices

A necessity to ensure Health and Safety

Who We Are

ANTEA Cement, **is one of the largest manufacturers of building materials, and applies the highest standards in Albania.**

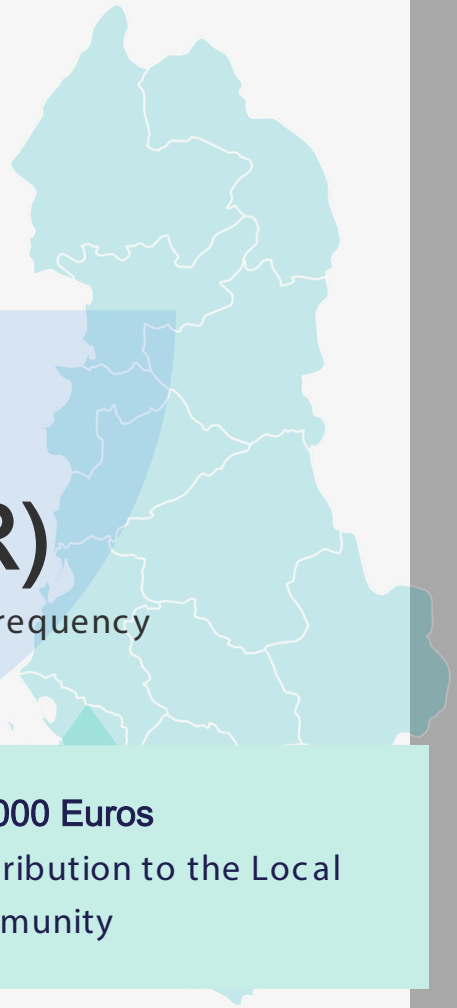
The integrated operations of ANTEA Cement Plant include two cement terminals, in Tirana and Ortona, Italy. The cement plant is located 50 km from the capital city, Tirana, and is positioned in Boka e Kuqe, Borizanë. The main activities of ANTEA Cement include the production and distribution of cement with a capacity of 3300 tons/clinker per day obtaining of 14 million/ton cement yearly.

2022 Highlights

4.80 m€
Consolidated Capital Expenditures

2600
Training Hours

0 (LTIFR)
Lost Time Injuries Frequency Rate for Employees



CO_2 **3.5 (g/t clinker)**
Dust emissions
1023 (g/t clinker)
NOx emissions

150,000 Euros
Contribution to the Local Community

24.63 m€
EBITDA

85.68 m€
Suppliers Expenditure

103.22 m€
Consolidated Revenue

7.30 m€
Tax to Central and Local Government

Quotes on Health & Safety Sustainability

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Sustainable Development is defined as a process which “meets the needs of the present without compromising the ability of the future generations” (UN, 2016).

Safety and health initiatives, particularly as part of a broad sustainability effort, can positively affect an organization’s brand and long- term viability .

Quotes on Health & Safety Sustainability

Some forward - thinking companies understand the importance of the safety to sustainability and are incorporating safety as part of their sustainability initiatives .

Quotes on Health & Safety Sustainability

Health & Safety “Our Top Priority”

We strive to implement sustainable practices to ensure Health and Safety on all fronts

Health & Safety Performance

767.600

Or more than

2 YEARS

LTI free manhours for direct employees

More than 750.000

free manhours for direct employees and contractors

400 +

corrective actions taken since 2016 or approximately 60 corrective actions per year.

656 +

improvement proposals given by employees since 2016

23.757

training hours since 2016 equivalent to **989** workdays (based on 3 shifts per day) or approximately 3 years or an average of more than

3.300

training hours/year (2969 workdays based on one shift per day)

We apply same KPIs for both direct employees and contractors

ANTEA's Cement Plant according to its **Environmental Permit** has a capacity, to co-process in compliance with all required standards and best available techniques a quantity of 60,000-ton RDF/SRF annually, achieving as such:

Benefits from the introduction of RDF/SRF 19 12 10 in Cement Production Process

Substitution of Fossil Fuels at the rate of almost 50% equal to 30,000-ton pet coke annually

Reduction of CO2 Emissions by 80,000 ton annually

Description of RDF/SRF 19 12 10

RDF: Residual Derived Fuel

RDF is classed as a waste product and has been named, in the European Waste Catalogue as "Combustible Waste – RDF" categorised as EWC 191210 and rated "AN (**Absolute Non-hazardous**)

This fuel is produced from combustible components that the industry calls Municipal Solid Waste – MSW for short. This waste, usually taken from industrial or commercial sites, is shred, dried, baled and then finally burned to produce electricity .

Usually, the RDF contains **60 % paper, 30 % plastic, 7% textile** and the rest consist of wood and inert materials .

Description of RDF/SRF 19 12 10

SRF: Solid Recovered Fuel

SRFis a fuel produced from non-hazardous waste and sampled and tested in accordance with **EU Standard EN 15359**.

It is made up of dry, non-hazardous waste which can be recovered through incineration on municipal sites (household waste incinerators) or on high-capacity industrial plants (cement plants).

The European Integrated Pollution Prevention and Control Bureau (EIPPCB) (2010) acknowledges the cement production process as the most suitable process for the co-processing of waste materials.

Cement Plants - The most suitable technology for disposing RDF/SRF

Total recovery of energy and mineral content of waste (raw material and fossil fuel saving). The technical characteristics are compliant with European Directives, i.e., the Waste Incineration Directive.

Description of FLY ASH

Fly ash is also recognized as an **environmentally friendly material** because it is a byproduct and has low *embodied energy*, the measure of how much energy is consumed in producing and shipping a building material.

CEMENT

FLY ASH

Fly ash is a fine powder that is a byproduct of burning pulverized coal in electric generation power plants. This residue, known as fly ash, is created when the mineral impurities in the coal fuse together as they come out of the combustion chamber, then cool down and harden. Fly ash is a pozzolan, a substance containing aluminous and siliceous material that forms cement in the presence of water. When mixed with lime and water, fly ash forms a compound similar to Portland cement. This makes fly ash suitable as a prime material in blended cement, mosaic tiles, and hollow blocks, among other building materials. **When used in concrete mixes, fly ash improves the strength and segregation of the concrete and makes it easier to pump .**

Benefits from the introduction of FLY ASH in Cement Production Process

1. Reduces **CO2 emissions**

2. **Environmental benefits** such as reduced greenhouse gas emissions, reduced need for disposing in landfills, and reduced use of other materials.

3. **Economic benefits** such as reduced costs associated with coal ash disposal, increased revenue from the sale of coal ash, and savings from using coal ash in place of other, more costly materials.

4. **Product benefits** such as improved strength, durability, and workability of materials.

5. Reduced use of **virgin** resources

Benefits from the introduction of FLY ASH in Cement Production Process

ANTEA's Cement Plant according to its Environmental Permit has a capacity, to co-process in compliance with all required standards and best available techniques a quantity of 100,000 -ton FLY ASH annually, achieving as such:

Reduction of Electrical Energy Consumption **by 10 % annually.**

Reduction of CO_2 Emissions by 65,000 ton annually

FLY ASH Cements certified as per EN 197, already used in large construction projects such as Hydropower plants, Ports etc., are today the most requested types in Europe also due to their lower carbon footprint .

Cement Plants - The most suitable technology for disposing FLY ASH

Antea's plant was originally designed for usage of Fly ashes through a completely closed circuit . Silo trucks arrive to the plant, to discharge by pneumatic transportation the fly ash to dedicated metallic silos. From the metallic silos, the fly ash is transported pneumatically with a closed circuit to the cement mill, where is co-grinded with the rest of the materials to produce cement .

Benefits for the Country

Cement Plants can co-process Alternative Fuels/RDF through utilization of existing infrastructure .

This allows the reduction of energy demand from fossil fuels, and thereby prevents unnecessary natural resource exploitation . Moreover, it leads to the reduction of cement industry's carbon dioxide (CO2) emissions .

On 24 September 2015, Albania submitted its new climate action plan to the UN Framework Convention on Climate Change (UNFCCC).

The INDC of Albania is a baseline scenario target : it commits to reduce CO2 emissions compared to the baseline scenario in the period of 2016 and 2030 by 11.5 %. This reduction means 708 kT carbon -dioxide emission reductions in 2030 .

Taking into consideration the fact that there are 2 Cement Plants in Albania, the benefits from CO2 reduction, due to introduction in the cement production process of both RDF/SRF 19 12 10 and FLY ASH, shall enable a reduction of 300 ,000 ton in CO2 emissions Annually .

Benefits for the Country

Such a reduction equals to almost 40% of the CO2 Reduction Target that Albania has undertaken to achieve until 2030.

Cement plants will become more competitive since they will substitute fossil fuels with AF which will come at lower costs.

Significant additional revenues from additional exports activity, given that cement industry **is the 3rd largest exporter in the country** (after electricity and oil) and could further boost its exports.

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Reach out to us

www.anteacement.com