Company Sustainability Strategy & Waste Management

WRI WEBINAR BUILD BACK BETTER, 9 June 2020
In January 2019, Semen Indonesia Group represented by its subsidiary; PT Semen Indonesia Industri Bangunan (SIIB), acquired majority shares of PT Holcim Indonesia Tbk. The company then changed its name consequently to PT Solusi Bangun Indonesia Tbk on 11 February 2019.

<table>
<thead>
<tr>
<th>Statistic</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Million tons of cement per annum</td>
<td>53</td>
</tr>
<tr>
<td>Innovative portfolio</td>
<td>55%</td>
</tr>
<tr>
<td>Market share in Indonesia</td>
<td>37.2 Trillion of revenue</td>
</tr>
<tr>
<td>Employees</td>
<td>&gt; 8,000</td>
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</table>
Sustainability as our competitive advantages

VISION:
To be the **Biggest Building Materials and Solutions Provider** in the Region

PROFIT
Providing solutions (innovative products & services) to address urban problems (waste, floods, poor air quality, climate).

Generate revenue from sustainable solutions

SUSTAINABLE SOLUTION

PLANET
Demonstrating leadership in environmental stewardship and being a responsible role model for future generations.

1. CO₂ reduction
2. Utilization renewable resources
3. Biodiversity initiative
4. Water management

CIRCULAR ECONOMY

PEOPLE
Creating shared value to community.

1. Keeping people safe
2. Community empowerment through partnership
3. Social license acceptance

PEOPLE & COMMUNITY

CLIMATE, WATER & NATURE
SD Dashboard: Target 2025 and Achievement 2019

**SBI SDs PILAR**

**Sustainable Solution**

5% percent of total Revenues generated from Sustainable Solutions (Nathabumi, speedcrete, Thrucrete, green concrete, and other portfolio product)

**SBI SDs Target 2025**

3.35% percent of total Revenues generated from Sustainable Solutions

**ACHIEVEMENTS 2019**

- a) 11% reduction basis 2010 kgCO2/Ton cem equivalent (608 kgCO2/Ton cem equivalent)
- b) 7.51% TSR
- c) 70.6% Clinker Factor (consolidated)
- d) Research on CO2 absorption by algae has started and start study for solar panel at LHO plant

**CLIMATE**

- a) 15% specific net CO2 reduction basis 2010
- b) 15% TSR
- c) 69% Clinker Factor (consolidated)
- d) Potential initiative identified and feasibility study available for CO2 reduction / absorption and renewable energy (Solar)

**CIRCULAR ECONOMY**

- a) 1 Mio ton waste valorised/year
- b) Pilot project for (MSW) as Refuse Derived Fuel (RDF) established

- a) 1.2 Mio ton waste valorised
- b) RDF project at Cilacap has started
Nathabumi – Waste Management Services
Nathabumi – Waste Management Services

- Since 2007 as Business unit at PT SBI Tbk – We do Waste Management for Industrial Waste and Municipalities for Hazardous and Non Hazardous waste material
- We are processing and managing waste from Industrial and municipalities activities to be eliminate through our co-processing method in Cement Kiln as Alternative Fuel and Raw material
- The business unit has managed to provide waste management solution to more than 400 clients such as Chevron, Pertamina, Unilever and Nike.

Our Services :
- Hazardous Waste Management Services
- Non Hazardous Waste Services
- Field Services
- Tailor Made Services
- Consulting Services
- Secured Destruction Services
- ODS Destruction Services
- Document Destruction Services
Waste Pre-treatment Facility in Narogong Plant
MSW to RDF Development Project
Map of potential future development of MSW business in Semen Indonesia Group

Ongoing development project:
1. Cilacap: SBI RDF Pilot Project
2. DKI Jakarta: SBI – Landfill Mining study
Business Case Study - Cilacap MSW to RDF Pilot Project

Cilacap

- 120 TON PER DAY
  - Fresh waste

Jeruk Legi

- 5 - 15 TON PER DAY RESIDU (+/- 15%)
- 40 - 60 TON PER DAY RDF / PRODUCT (+/- 50%)

Waste processing facility

- 1 - 3 TON PER DAY
  - Recyclable materials (>3%)
  - +/- 35% AIR WILL EVAPORATE DURING DRYING PROCESS
Business Case Study MSW Landfill Mining & other services for DKI Jakarta

**Project Background**

- DKI government are required to find solution of their volume waste that goes in Bantagebang – 7,500 ton per day
- Capacity at Bantargebang are vastly reduced over many years of utilization
- The solution need to apply in the next 2-3 years

**SBI’s Solutions**

- **Landfill mining:** To conduct landfill mining for the old waste volume to be co-processed at cement Kiln. → A study done and the result we could fit with cement plant requirement.
- **B2B services**: Zero waste for commercial area
- **Fresh MSW to RDF**: Treat Fresh waste become alternative fuel (RDF product) or other

**Project Status**

- FS for using Old Waste frm Landfill Mining become alternative fuel done from 1 year since January 2019 and continue with commercial scheme
- Operational Target for Landfill Mining activities in Q2 2020
- Next follow up: Waste Management for Commercial area (B2B services) and Fresh MSW to RDF
The Benefits
Profitable and beyond by creating sustainable solutions

Three main benefits are to be expected:

**EXPECTED BUSINESS PROFIT**
- Revenue from sustainable solutions
- Reduced fuel costs
- Increased TSR
- Brand building

**EXPECTED ENVIRONMENTAL BENEFIT**
- Drastically reduce the need for landfiling
- Reduce odor & leachate
- Significant greenhouse gas reduction

**EXPECTED SOCIAL BENEFIT**
- Provision of land for active uses
- Better working environment for waste pickers
- Better living condition
Lesson Learned and Challenges

- Mindset
- Technology selection
- Business modelling
- Tender process

Required extensive lead time to introduce, propose and execute project

- Tipping fee mechanism
- CAPEX and OPEX cost sharing between stakeholders
- Less aid fund available in Indonesia for waste management

Financial engineering scheme to enable all stakeholders participation and project viability (Local city government in particular):

- Environmental regulation discourage cement plant using AFR
- Provincial government still having issues on how to access state budget on the waste disposal fee

Regulation support/consistency to support RDF project
### SD Dashboard: Target 2025 and Achievement 2019

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<th>SBI SDs Target 2025</th>
<th>ACHIEVEMENTS 2019</th>
<th>SDGs related</th>
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| **WATER & NATURE** | a) Rain water harvesting implemented at all cement plant  
b) Implemented Biodiversity & Conservation action plan at all quarries.  
c) Sustainable Post mining Cibadak Quarry  
d) Established partnership with reputable universities and NGO for conservation project | a) Total water harvesting: 425,544 m³  
Specific water consumption: 209L/T cem  
b) Set up Biodiversity Policy and New Biodiversity Action Plan for each Cement quarries (2020-2025).  
c) Exploring partnership for Cibadak Mine closure.  
d) MOU signed with Yayasan Ekosistem Lestari for Conservation Project in Langkat |  |
## SD Dashboard: Target 2025 and Achievement 2019

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|                     | a) Zero fatality, LTIFR ≤ 0.15  
                            TIFR ≤ 0.75  
                            HSIP ≥ 90%  
                          b) NIHIL HAM Violation  
                          c) 1,050,000 people benefitted from CSR cumulative from 2019  
                          d) 4 cement plants achieved co-ownership acceptance by Social License Index measurement | a) Zero fatality, LTIFR : 0.13  
                            TIFR : 1.03  
                            HSIP Not implemented in 2019  
                          b) NIHIL HAM Violation  
                          c) 1,214,150 people benefitted from CSR  
                          d) Starting up Social License Index measurement in Cilacap by Universitas GajahMada | 1. NO POVERTY  
4. QUALITY EDUCATION  
6. CLEAN WATER AND SANITATION  
10. REDUCED INEQUALITIES  
17. PARTNERSHIPS FOR THE GOALS |
| OTHER TARGET        | a) Environment Rating Program (PROPER) : Minimal Green for all cement plant  
                          b) Sustainable implementation of ISO management system (9001,17025,14001,50001, 45001) | a) Capacity Building for plant enviro related to PROPER Criteria  
                          b) Preparation for ISO 50001 and migration of OHSAS 18001 to ISO 45001 | 3. GOOD HEALTH AND WELL-BEING |

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A Wide Range of Waste We Can Handle

Solid
- Plastics and used or contaminated packaging materials
- Oil and solvent contaminated rags
- Consumer products (Off Spec or expired)
- Rubber waste or manufacturing off cuts
- Rejected packaging materials
- Textile or garment waste
- Bottom ash and other process residues
- Waste Water Treatment Sludge or filter cake
- Foundry Sand
- Contaminated Soil

Liquid
- Solvents
- Spents oils
- Contaminated liquids

Sludge
- Oil sludge
- Paint sludge
- Petrochemical sludge

Gas
- Phased out or contaminated refrigerant gases