CSR Thursday Lunches

The sustainable approach of a large construction company

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Geneva
1. Why sustainability should be integrated within the strategy of a large construction company?

2. How to change the corporate culture?

3. What are the successes, the risks and/or the opportunities?
Introduction

Implenia at a glance

Implenia plans and builds for life. with pleasure.

3.3
Revenue
CHF bn

108
EBIT excl. PPA
CHF m

8227
Employees

Sustainability
An integral part of Global Reporting Initiative “GRI G4”

Road construction and civil works
From A to B with flexibility and regional presence

Underground construction
Groundbreaking underground construction at Implenia

Foundation engineering
The skilful approach to civil engineering

Civil engineering
Bridges, walkways and cut-and-cover tunnels from a single source

Materials Engineering
Insightful expertise in the planning, testing and evaluation of materials

Posttensioning
Innovative and exciting methods for the construction industry

Project development
Forward-looking real estate projects from the concept through to the final structure

Structural engineering / New buildings
Implenia is your expert partner for all types of structural engineering projects

Structural engineering / Modernisation
Convincing solutions from strategy to execution

Home and building technology
For buildings that work

Wood and formwork construction
Wooden buildings and formwork The natural solution

Mechanical and electrical technology
Success through efficient use of machinery and equipment

5
Core markets
Switzerland
Germany
Austria
Norway
Sweden

10
Years of Implenia
Sustainable development is integrated within the company’s strategy
Megatrends, such as mobility, the energy transition, urban sprawl and resource shortages, demand sustainable responses. At the same time we know that Implenia, through all its activities, has an enormous influence on the economy, environment and society. We take the responsibilities this implies very seriously.» A.Affentranger (CEO Implenia)

« We are convinced that - both as a company and as citizens - what we do or do not do has a huge impact on society, the environment and the economy. That is why we are all required to exercise this power of influence!» R.Wagenbach (Leader Sustainability Implenia)
Why?
Our CO₂ impact in numbers

Greenhouse gas emissions (Scopes 1 + 2)
(by usage and scope in tonnes of CO₂ equivalents, 2015)

- 1% 390
- 6% 2,018
- 2% 755
- 21% 7,422
- 7% 1,277
- 2% 244

Greenhouse gas emissions, Implenia Switzerland (Scopes 1 + 2)
(by fuel type in tonnes of CO₂ equivalent)

- 2012/13: 41,300
- 2014: 41,494
- 2015: 37,913

- 19.20
- 19.45
- 18.96

- 1,807
- 2,300
- 2,021

- 5,676
- 6,417
- 5,734

- 6,070
- 4,777
- 3,948

- 1,028
- 911
- 562

- 26,829
- 27,089
- 25,648

- Electricity
- Heating oil
- Natural gas
- Petrol
- Diesel
- Emissions against revenue in tCO₂/CHF m

Around 58% of the emissions come from transport to or on building sites (lorries, machinery, delivery trucks). Another 21% come from production facilities, especially surfacing works.
Sustainability in every level of Implenia
How?
Developed tools in our process

Sustainability Report
Period covered: 2014/15

- Sustainable product and services
- Attractive working environment
- Respect for the environment
- Social commitment and compliance
- Financial excellence

GeNaB®

TECHNICAL CENTER

Performance review

Code of Conduct

ONE

Projets
How?
Integration of sustainable criteria in building projects

1. Acquisition
   - Opportunity studies
     - GeNaB* evaluation
     - Pre-project
     - Preliminary studies

2. Conception
   - Feasibility studies
     - (REIE, Solis, OPAM, etc.)
     - (calculation structure, thermal, technics)

3. Construction
   - Descriptions
     - RFPs by engineers
     - Follow-up in EXE
     - Quality control, labels
     - On site standards control

4. Delivery
   - Quality insurance
     - Delivery controls
     - Commissioning
     - Tests, documentation for labels

Technical Center
Technical support and studies, decision making process to lead towards sustainable constructions
How?
Sustainable research for our production tools

Implenia installed a pilot plant for concrete and gravel processing in Oberwinterthur two years ago. Daniel Hardegger, Head of Region East, is pleased with the results of the recycling project so far: “Excavated material is washed and processed to make concrete on site, and then used for the project itself, so we save on transport, time and landfill space, as well as cutting emissions. This pilot system has proved itself economically and environmentally, and should become standard at similar Implenia construction sites”.

Production at the Ecublens bitumen plant
The modern production process at Ecublens has cut greenhouse gas emissions by around 15%.

1. Photovoltaic cells help cut electricity costs
2. Efficiency is raised by optimising the logistics of materials transportation
3. Efficient conveyor belt engines help save power
4. Heat recovery from exhaust air (approx. 5 MW) and active carbon filters reduce emissions of volatile organic compounds (VOC)
5. Better insulation of the bitumen tank reduces energy consumption
6. Improved monitoring thanks to efficient programming

The Ecublens plant was opened in June 2016. It will have the lowest emission values of any plant producing bitumen products in the whole of Switzerland.
Few examples presented in the last sustainable report
GeNaB enables Implenia to develop its own projects according to sustainable specifications. Between the first planning and the completion of the project the projects lose points.

The Investment Committee will only approve Implenia’s own development projects if they score at least 8 on the GeNaB® scale. Projects are only authorised if they meet Implenia’s sustainability criteria. Projects with 6 or 7 points require special approval from the Investment Committee.
Over the last ten years, Implenia has carried out around a hundred projects with one or more sustainability labels, such as Minergie and Minergie-Eco, or in compliance with the SIA energy efficiency requirements, including 20 own developments to the company.

Certified Minergie projects

<table>
<thead>
<tr>
<th>Certified Minergie projects</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
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</thead>
<tbody>
<tr>
<td>Minergie</td>
<td>2</td>
<td>10</td>
<td>10</td>
<td>6</td>
<td>15</td>
</tr>
<tr>
<td>Minergie-P</td>
<td>–</td>
<td>–</td>
<td>2</td>
<td>1</td>
<td>1</td>
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<tr>
<td>Minergie-P-ECO</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Minergie A-P-ECO</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>1</td>
<td>–</td>
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<tr>
<td>Minergie ECO</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>–</td>
<td>2</td>
</tr>
</tbody>
</table>

Building construction projects with sustainability labels

<table>
<thead>
<tr>
<th>Building construction projects with sustainability labels</th>
<th>Completed</th>
<th>Ongoing</th>
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</thead>
<tbody>
<tr>
<td>SIA 2040</td>
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<td>3</td>
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<tr>
<td>LEED</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>SNBS</td>
<td>1</td>
<td>2</td>
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<tr>
<td>DGNB</td>
<td>–</td>
<td>3</td>
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Results and feedbacks

Wooden construction within Implenia

Implenia Holz has developed large wooden projects in Winterthur, the WellnessHostel in Saas-Fee, the Zurich zoo and the intergenerational house of Giesserei in Winterthur.

Implenia’s use of wood
(Implenia Wood Construction’s revenue in CHF million)

![Bar chart showing Implenia's use of wood from 2014 to 2017.](Giesserei, Winterthur, Lignum Price in 2015 - Image T Ingénierie SA)
Results and feedbacks
Recycling beton in construction

The technical department of research in material construction (Implenia Deutschland) works on «b.congreen», recognized since 2013 by DGB. The objective of «b.congreen» is to replace the cement with fly ashes to reduce CO2 emissions up to 60%.

**b.congreen – CO₂ emissions comparison**
(CO₂ equivalent in kg per m³ of material)

**b.congreen – cost comparison**
(cost comparison in % by material)

-60%  

A26 of Les Vergers in Meyrin

**Nant de Drance**
One of the most powerful pumping stations/Turbiines of Europe

20% of aggregates revaluation out of the 1.7 M m³ excavated
Results and feedback
Application of environmental standards on construction sites

Modules
- Waste
- Water
- Noise
- Energy
- Soil

Management concept
- Project manager
- Environmental concept
  - Objectives and responsibilities
  - Laws

Guide
- Direction of works
- Guide pratique
  - Dimensioning tools
  - Checklist

Poster
- Collaborators

Relevant for:
- Acquisition
- Building permit
- Environmental studies
- Neighbours
- Labels
Implenia key suppliers and subcontractors are evaluated according to social, environmental and economical requirements (compliance supply chain). In 2016: 521 self-assessments on 841 qualifications (65% of suppliers according to CA)

Results and feedbacks
Supply chain evaluation
Conclusions
**Conclusions**

**History and perspectives**

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
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<tbody>
<tr>
<td>2009</td>
<td>GeNaB</td>
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<tr>
<td>2010</td>
<td>Eco-Drive</td>
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<tr>
<td>2011</td>
<td>SNBS</td>
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<td>2012</td>
<td>Sus report</td>
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<td>2013</td>
<td>Carbon Footprint</td>
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<td>2014</td>
<td>Code of Conduct</td>
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<td>2017</td>
<td>Construction site standards</td>
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<tr>
<td>2018</td>
<td></td>
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<tr>
<td>2019</td>
<td></td>
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**Energy & Environment** (Reuss Engineering)
- Real Estate, Bau Infra, Industrial Construction
- HR, CC

**Sustainability** (Implenia)
- IBD, ICR, IIN, IMD, IBU, IDA, ISC
- HR, CC, TC
Implenia® conçoit et construit pour la vie. Avec plaisir.