Carbon footprint, a first step to sustainable development and future success of your business

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Meet the speakers behind the voice

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Overview

1. United Nations Sustainable Development Goals (SDGs) and Paris Agreement - A roadmap for climate actions
2. The importance of a carbon management plan of your business
3. How to start calculating your carbon footprint
4. Credible and effective communication of your engagement against climate change
United Nations Sustainable Development Goals (SDGs)

SDGs were born at the United Nations Conference on Sustainable Development in Rio de Janeiro in 2012.

The SDGs replace the Millennium Development Goals.

17 Goals for Sustainable Development including 169 targets.

Goal 13: Climate Action
- Most important target: Integrate climate change measures into national policies, strategies and planning
- Other targets: Resilience, education, fund rising, capacity building

Resilience is the capacity to adapt to changes without losing competitiveness.
In the Conference of the Parties (COP21) under the United Nations Framework Convention on Climate Change (UNFCCC) in 2015, 195 countries adopted the Paris Agreement.

Long-term goal keep temperature increment well below 2°C
- Aim for 1.5°C

Every country should send a nationally determined contribution (NDC) to achieve the goals

Every one is invited to:
- scale up their efforts and support actions to reduce emissions;
- build resilience and decrease vulnerability to the adverse effects of climate change;
- uphold and promote regional and international cooperation
Paris Agreement - A roadmap for climate actions

- Article 4: carbon neutrality by second half of this century
- Article 6: use of internationally transferred mitigation outcomes towards NDCs
  - A mechanism to promote mitigation while fostering sustainable development
- Article 7: Adaptation
- Article 8: risk of loss and damage
- Article 9: financial mechanism
- Article 10: technology development
- Article 11: capacity building

SDG
Goal 13: Climate Action
Most important target: Integrate climate change measures into national policies, strategies and planning
Other targets: Resilience, education, fund rising, capacity building
TUÜ V SÜD can support you to:

— understand the SDGs
— create an SDG strategy
— develop a climate resilience environment within your company
— set a science base GHG emission reduction targets
— assess your climate change risks
— define a climate strategy

SDGs and Paris Agreement - A roadmap for climate actions
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The importance of a carbon management plan of your business

Carbon management = measurement and management of the 7 greenhouse gases targeted by the Kyoto Protocol

- Different GHGs have different effects on the Earth’s warming, expressed as *Global Warming Potentail (in CO\(_2\text{e}\))*

- For many sectors only CO\(_2\) is of relevance, however there are important exceptions, such as methane and N\(_2\)O in the agricultural sector or NF3 in high-tech industries
The importance of a carbon management plan of your business

All relevant GHG emissions for a corporate or product carbon footprint shall represent as accurate as possible the reality

1. The GHG emission calculation is necessary for any carbon management plan
2. The carbon footprint calculation allows to recognise the most important emission sources “Hot-Spots“.
3. The data use for a carbon footprint allows planning, monitoring and control of any emission reduction measure activity
The importance of a carbon management plan of your business

Key elements of an effective carbon management plan:

1. Senior management leadership in order to demonstrate the importance of the activities
2. A comprehensive internal strategic planning process, not only a new lighthouse project and business-as-usual
3. Carbon footprint accounting of your company, your products or services
4. Definition of a carbon reduction target
5. Reduction management plan
6. Monitoring and reporting
The importance of a carbon management plan of your business

- It is important to choose a recognized and accepted methodology for the measurements of your GHG emissions:

- International Standards for the calculation of a corporate carbon footprint:
  - GHG Protocol Corporate Standard
  - GHG Protocol Corporate Value Chain (Scope 3) Standard
  - DIN ISO 14064-1

- International Standards for the calculation of a product carbon footprint:
  - PAS 2050
  - ISO 14067
  - GHG Protocol Product Standard
The importance of a carbon management plan of your business

Scope of emissions of a corporate carbon footprint

Source: GHG Protocol
The importance of a carbon management plan of your business

Scope of emissions of a product carbon footprint (Life cycle assessment):

Cradle-to-grave
Cradle-to-gate

Source: https://figliodellafantasia.wordpress.com/2015/06/15/cellulari-e-corsa-compulsiva-allultimo-modello-grandissimo-impatto-ambientale/
The importance of a carbon management plan of your business

Definition of targets is a management decision

- Several reporting tools are available

  - CDP – Global disclosure system – with focus on GHG emissions
  - SBTi – Science Based Targets Initiative – focus on 1.5°C
  - GRI – Global Reporting Initiative – wider focus on sustainability
  - Global Compact – United Nations Global Compact – ten principles on sustainability
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How to start calculating your carbon footprint

Step 1: Specification / definition of the system boundaries

- What is to be assessed?
  - Corporate
  - Entities
  - Activities/processes
  - Products
  - Services
  - Buildings
  - Projects
  - Events
How to start calculating your carbon footprint

Step 2: Specification / definition of calculation method

- Definition of the appropriate standard to be followed
Step 3: Calculation of carbon footprint

- Identification of emission sources within the system boundary
- Data collection of activity data (e.g. litres of petrol consumed, kWh of electricity consumed)
- Selection of calculation tools or conversion factors for the conversion of activity data into emission data
- Data quality and data gap assessment
- Data aggregation
- Calculation of the carbon footprint
How to start calculating your carbon footprint

Step 3a: Calculation of corporate carbon footprint

Scope 1 Emissions = All **direct** GHG emission within the corporation

- Direct emissions from the **stationary combustion** of fuels (e.g. Boiler)
- Direct emissions from the **mobile combustion** of fuels (e.g. company fleet)
- Direct emissions from **processes**
- Direct **fugitive** emissions
How to start calculating your carbon footprint

Step 3a: Calculation of corporate carbon footprint

Scope 2 Emissions

= All **indirect** GHG emission related to energy consumption within the corporation

- Indirect emissions from purchase **electricity**
- Indirect emissions from purchase **heat and cooling**
- Indirect emissions from purchase **steam**
Step 3a: Calculation of corporate carbon footprint

Scope 3 Emissions = All other indirect GHG emission, consequence of the performed activities within the corporation

Indirect emissions from the **upstream** chain of custody
Indirect emissions from the **downstream** chain of custody
## How to start calculating your carbon footprint

### Step 3a: Calculation of corporate carbon footprint

<table>
<thead>
<tr>
<th>Upstream or downstream</th>
<th>Scope 3 category</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Upstream scope 3 emissions</strong></td>
<td>1. Purchased goods and services</td>
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<td></td>
<td>2. Capital goods</td>
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<td></td>
<td>3. Fuel- and energy-related activities (not included in scope 1 or scope 2)</td>
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<td></td>
<td>4. Upstream transportation and distribution</td>
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<td>5. Waste generated in operations</td>
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<td>6. Business travel</td>
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<td>7. Employee commuting</td>
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<td>8. Upstream leased assets</td>
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<td><strong>Downstream scope 3 emissions</strong></td>
<td>9. Downstream transportation and distribution</td>
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<td></td>
<td>10. Processing of sold products</td>
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<td>11. Use of sold products</td>
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<td></td>
<td>12. End-of-life treatment of sold products</td>
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<td></td>
<td>13. Downstream leased assets</td>
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<td>14. Franchises</td>
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<td></td>
<td>15. Investments</td>
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</tbody>
</table>
How to start calculating your carbon footprint

**Step 3b:** Calculation of product carbon footprint

- GHG balancing along the entire product life cycle

or

- LCA including only one impact category - Global warming
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Credible and effective communication of your engagement against climate change

- Use simple wording, about using jargon
- Use metaphors, specially when talking about climate science
- Use stories to inspire and not only facts
- Be consistent in all information presented
- Avoid relation to climate catastrophe
- Be transparent and show traceability
Credible and effective communication of your engagement against climate change

- Communication of your carbon actions
  - For credible climate protection engagement, the path to climate neutrality must be transparent and comprehensible
  - Which activities and which upstream and downstream areas are involved have to be transparently presented
  - In addition, information on calculation methods, certificates, examination by expert and independent third parties must be made available
Credible and effective communication of your engagement against climate change

- Communication of your carbon actions
  - It must be ensured that customers / stakeholders can assess the engagement of the company or the organization for climate protection
  - Therefore, it must be disclosed whether a comprehensive climate protection plan for the prevention and reduction of greenhouse gases exists
  - If climate change mitigation is limited to compensating for greenhouse gases, the term carbon neutrality should be avoided in this context.
Credible and effective communication of your engagement against climate change

- Communication of your carbon actions

  - Independent third-party assurance / verification increases the reliability of your activities and the GHG emission reductions achieved

  - Example of a TÜV SÜD certification mark: PAS 2060 “Specification for the demonstration of carbon neutrality”
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