Our Approach

The diagram explains the rigorous process undertaken to develop the Carbon and Water Footprint Tool for OEKO-TEX® SteP certified facilities.

1. Defined scope
   Guided by principles of screening LCA
   
   As there is no standard for production facilities nor market appetite for an expensive full Life Cycle Assessment (LCA), our approach followed five principles of a screening LCA:
   
   - Simplicity
   - Efficiency
   - Credibility
   - Transparency
   - Iterative

2. Gathered stakeholder input
   Identified 100+ activities and inputs/outputs / activity

   Together with industry experts, over 100 key production activities with corresponding inputs and outputs were identified and categorized:

   - Yarn Production
   - Fabric Manufacturing
   - Pre-Treatment
   - Drying
   - Dyeing
   - Washing
   - Printing
   - Finishing
   - Making-up

   Main Categories:
   - Yarn Production
   - Fabric Manufacturing
   - Pre-Treatment
   - Drying
   - Dyeing
   - Washing
   - Packaging
   - Transportation
   - Waste Packaging

3. Selected methodologies
   Combined product and corporate LCA methodologies

   Our approach is aligned with the requirements described in the following standards:

   - Product LCA based on ISO 14040 and PEF - for materials used
   - Corporate Water Footprint based on AWARE - for indirect impacts
   - Corporate Carbon Footprint based on IPCC 2013 - for production-related impacts

4. Identified data sources
   Incorporating relevant datasets

   The datasets and models leverage inputs from vetted data sources and credible industry databases to provide “best of” industry averages:

   - OEKO-TEX® anonymized SteP customer data
   - OEKO-TEX® experts’ data on textile production
   - WALDB – environmental data on fibre production and textile processing steps (see Step 2 “Main Categories”)
   - ecoinvent v3.5 – global/regional/country level data

   Data sources:
   - Electricity
   - Steam
   - Water
   - Chemicals
   - Waste
   - Waste Packaging

5. Developed “proof of concept”
   Developed carbon & water footprint model

   The tool enables facilities to input real data. If datapoint is unknown, the model selects the respective default data, then calculates the emissions and water usage.

   Input categories:
   - Country Location
   - Facility Boundaries
   - Materials Processed (inputs & outputs)
   - Inventory
   - Transportation

   Resulting output:
   - Carbon emissions and water reported:
     - per facility
     - per process step
     - per kg of material input

6. Tested model
   Functional testing locations

   To ensure global applicability, the tool was tested in key textile markets:

   - India
   - Hungary
   - Switzerland
   - Italy
   - Germany
   - More to come

7. Iterated model
   Continuous improvement

   The tool is built so that future updates can easily be made in various areas:

   - Datasets
   - Explanations
   - User Experience