

Life Cycle Assessment for Smart Dock

QA & Sustainability/QMD/GCM

Project Description

- Project Objectives
 - USI Green Product Lifecycle Assessment – Smart Dock Study
- Project Implementation Framework
 - The Green Product Lifecycle Assessment and Counseling Project is planned for one year, with the goal of promoting the establishment of product LCA, and at the same time, through counseling and training, strengthening the ability to implement product LCA, to fulfill the corporate social responsibility, to give full play to the influence of the semiconductor industry, and to improve the performance of international sustainability questionnaires (e.g., DJSI, CDP, etc.).

Project Description

- Anticipated Benefits
 - ▶ Perform life cycle assessment on the target product to the USI control subsidiary to more comprehensively identify the environmental impacts associated with the product production process, as well as to identify improvement hotspots in the production process, and to fulfill its corporate social responsibility.

NPI / RMA Summary

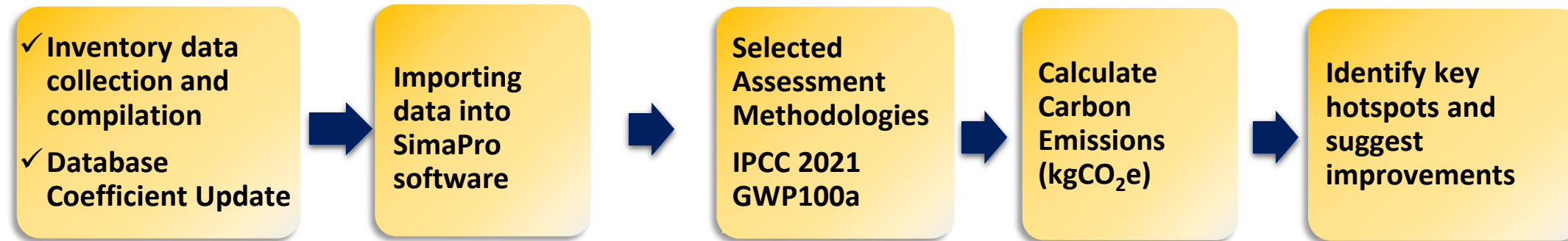
Target

Target Product	Smart Dock
Functional unit	The production of Smart Dock products
System Boundary	B2C(Raw materials, manufacturing, distribution, usage, waste)
Software	SimaPro 9.6.0.1
Database Use	Ecoinvent 3.10
Inventory Data	The data collection period is one year.
Carbon Footprint	IPCC 2021 GWP 100(incl. CO ₂ uptake) v1.03

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Carbon Footprint Execution Process

- Time period: 2023.01.01-2023.12.31



Smart Dock Carbon Footprint Assessment Results

life cycle stage	GWP100 - fossil, kg CO2-eq	GWP100 - biogenic, kg CO2-eq	GWP100 - land transformation, kg CO2-eq	GWP100 - total, kg CO2-eq	Percentage %
Raw materials	27.232	0.078	0.045	27.355	30.90
manufacturing	3.387	0.001	0.000	4.261	3.83
distribution	9.456	0.001	0.000	9.457	10.68
use stage	47.647	0.107	0.002	47.756	53.94
EOL stage	0.448	0.123	0.000	0.571	0.64
total	88.170	0.310	0.047	89.4	100

Thank You