# Maaden Phosphate GHG Inventorying

**Project Design** 



#### Table of Contents

- 1. Workplan
- 2. Methodology
- 3. Tools





 Site Visit and Operational Process Mapping

> (Interviewing operations managers/engineers to mapping of activities, emissions sources, and processes)

(Designing and Developing online and field visit questionnaires, QA/QC of collected data)

Data Collection
& Verification

#### GHG Inventory Analysis and Compilation

(Calculating GHG emissions using 2006 IPCC Methodologies , and Scope 3 Protocol Guidelines)



#### • Reporting

(Collating Emissions Calculations from Spreadsheets, tabulating emissions across appropriate Scope 1, Scope 2 and Scope 3 Emission Categories ) (Develop User-Friendly Web-Based SaaS (Software-as-a-Service) Software and issue 4-year licence)

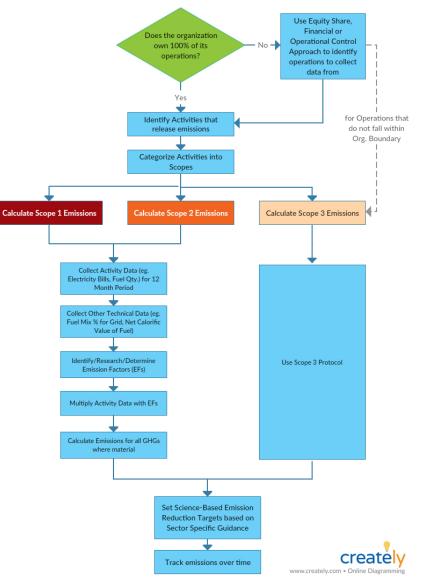
 Emissions Reporting System Development Training
Workshop

(32-hour training workshop for Company Team related to Ammonia Production, Sulfuric, Acid Production, Phosphoric Acid Production, Di-Ammonium Phosphate Production, and Power & Utilities)



# **METHODOLGY**

#### **GHG Inventorying Process Flow**





### **Organizational Boundary**

Sr. No.	Unit Operations / Facilities	Qty.	
1	Ammonia Production	2	
2	Sulfuric Acid Production	1	
3	Phosphoric Acid Production		
4	Di-Ammonium Phosphate Production		
5	Power & Utilities		
6	Central Maintenance Workshop	1	
7	Plan Area Maintenance Workshop	1	
8	Quality Assurance Laboratory	1	
9	Central Hazardous, Non-Hazardous Waste Storage Yard	1	
10	Material Storage	1	
11	Product Storage and Handling	1	
12	Rock Phosphate Storage	1	
13	Training Center	1	
14	Cafeteria Mess/Hall	1	
15 Fire, Security, and Admin Building		1	
16	Manufacturing Control Rooms	7	
17	Emergy Diesel Generator Sets	7	
18	Fire Water Pump	1	
19	Indirect Emission Sources	1	
20	Trains	14	



#### **Operational Boundary**

	Emissions Category	Emissions Sub-category	Within Operational Boundary?	Scope	
Scope 1	Direct Energy Consumption	Fuel Combustion & Refrigerants	Yes	1	
Scope 1		Captive Power Generation	Yes		
Seene 2	Indirect Emissions	Purchased Electricity/Heat	Yes	2	
Scope 2		Purchased Water	Yes	2	
4	Durchased goods and convises	Production related Procurement	Yes		
1	Purchased goods and services	Non-Production related Procurement	No		
2	Capital Goods	Capital goods (Complete LCA)	No		
3	Fuel- and energy-related activities	Upstream Emissions of Purchased Fuels, Electricity and T & D Losses	Yes	3	
4	Upstream transportation and distribution	Procurement of raw materials	Yes		
5	Waste generated in operations	Solid Waste	Yes		
5		Wastewater & Waste Transportation	Yes		
6	Business Travel	<b>Business Travel &amp; Accommodation</b>	Yes		

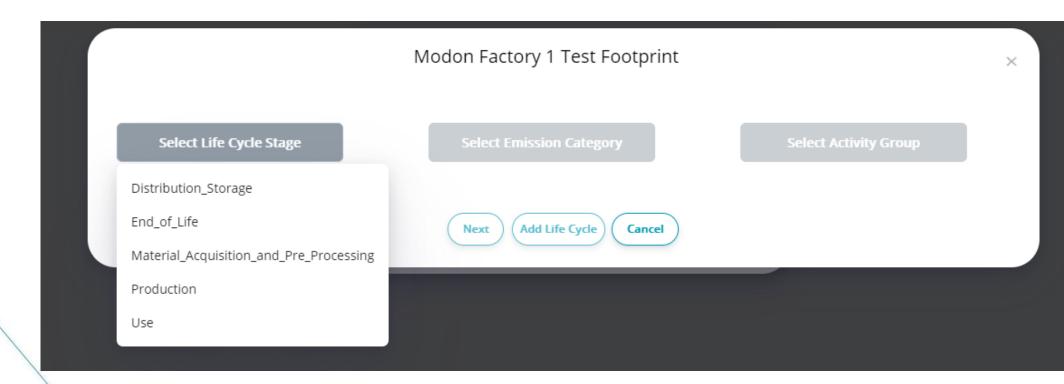


#### **Operational Boundary**

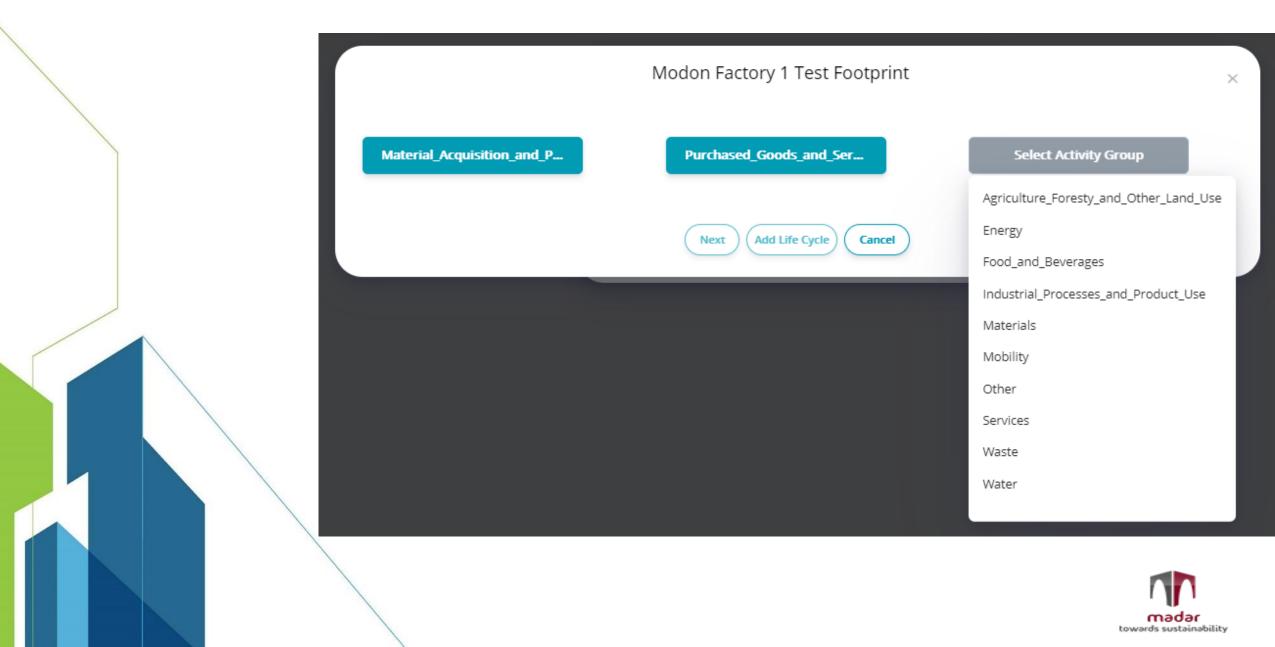
	Emissions Category	Emissions Sub-category	Within Operational Boundary?	Scope
7	Employee Commuting	Employee Commuting	Yes	
8	Upstream leased assets	Upstream leased assets	Yes	
9	Downstream transportation and distribution	Transportation, Storage in Warehouses & Retail Stores	Yes	
10	Processing of Sold Products	Processing of Sold Products	No	
11	Use of sold products	Fuel Consumption	No	3
12	End-of-life treatment of sold products	Waste generation	No	
13	Downstream leased assets	Downstream leased assets	NA	
14	Franchises	Franchises	NA	
15	Investments	Investments	NA	



## CUSTOM GHG INVENTORYING SOFTWARE



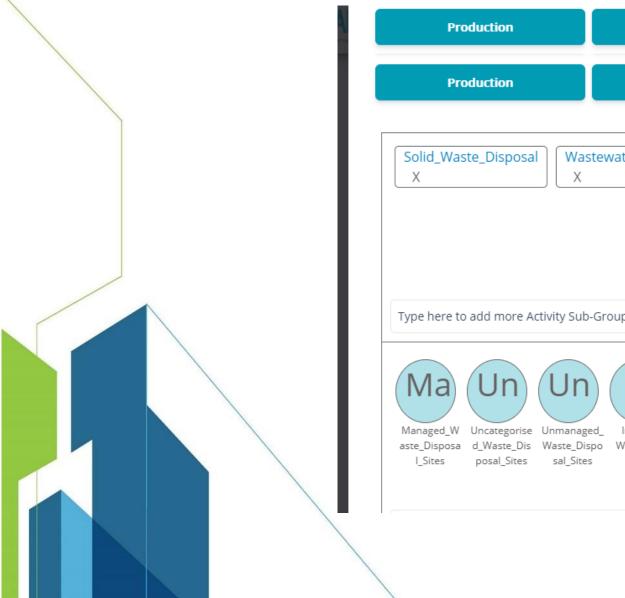






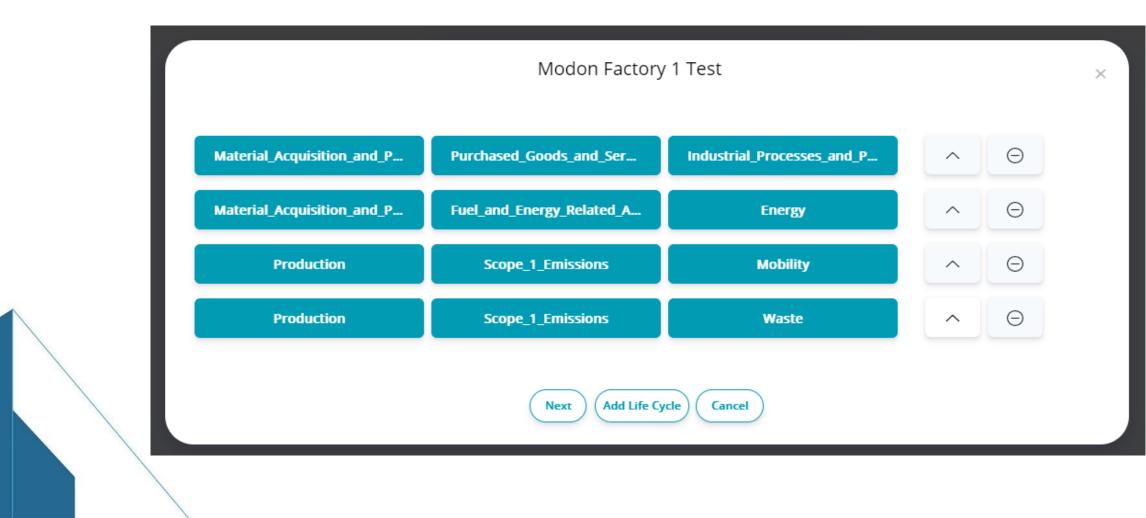
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Material_Acquisition_and_P	Purchased_Goods_and_Ser	Industrial_Processes_and_P
Electronics_Industry X X	Mineral_Industry X ODS_Substitutes X	
Type here to add more Activity Sub-Group		-
Heat_Transfe Integrated_Ci Photovoltaic TFT_Flat_Pan r_Fluid rcuit_or_Sem s el_Display		rodu Lime_Produc Refrigeration
Type here to add more activity types		-
	Next Add Life Cycle Cancel	



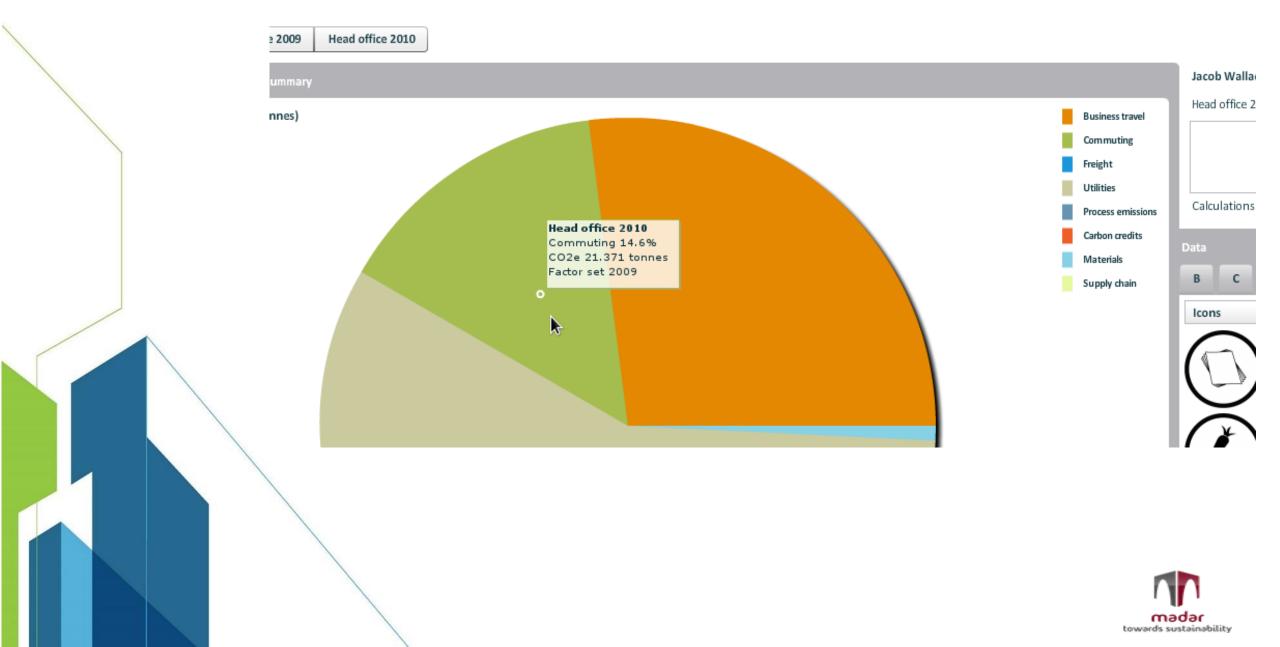


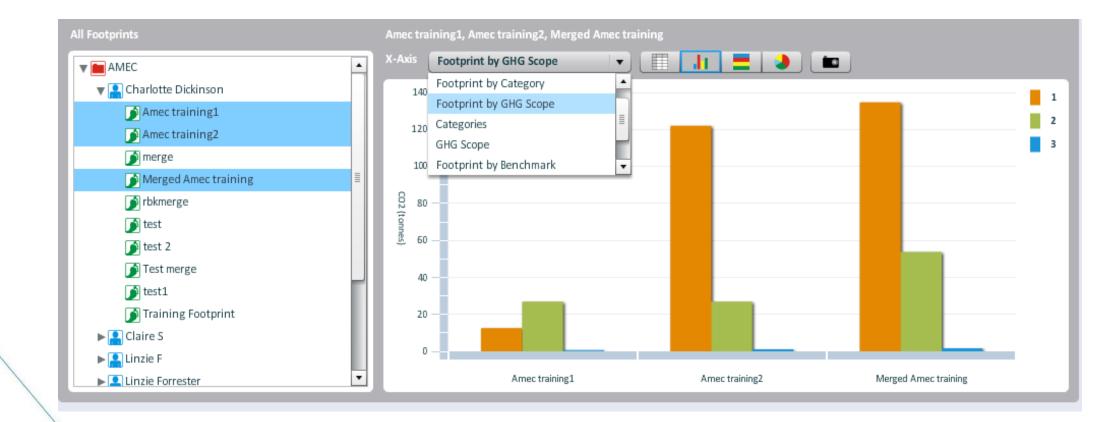
Production	Scope_1_Emissions	Waste	~	Θ	
Production	Scope_1_Emissions	Waste	~	Θ	
Solid_Waste_Disposal Wast	ewater_Treatment_and_Discharge	2			
Type here to add more Activity Sub-Group					
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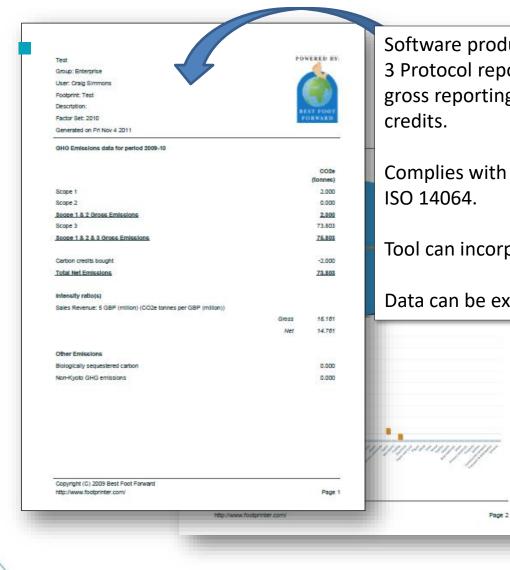












#### Industry standard reporting

Software produces PDF reports based on the WRI's Scope 3 Protocol reporting standard by scope including net and gross reporting of renewable energy use and carbon credits.

Complies with international GHG Protocol Standard and ISO 14064.

Tool can incorporate other reporting schemes if required.

Data can be exported into Excel.



#### **Software Data Security Features**

- 1. End-to-end SSL encryption and only pre-authorized users are allowed access after authentication using their Gsuite for work email ids
- 2. Application and Emission factor data reside on separate MongoDB databases. The data is presently owned by cBalance-Al Madar.
- 3. User data is stored in Google firebase, again owned by cBalance-Al Madar.
- 4. Ownership for all 3 datastores can be shared with any authorized party.
- 5. Add end of licensing period, user can download and erase all data stored with the software with the help of a database administrator.
- 6. Can create standalone instances of the application on the licensee's infrastructure so that they can control data and access.



To learn more about meaningful ways to avert our Climate Crisis, please do get in touch:

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