

# 3D Carbon Accounting

An Oliver Wyman solution

## INTRODUCING 3D CARBON ACCOUNTING AS A SERVICE

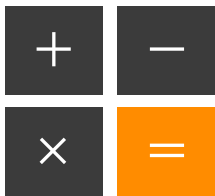
Oliver Wyman helps clients with Scope 1, 2 and 3 baseline creation, validation, modelling of business growth, and passive and active abatement analysis.



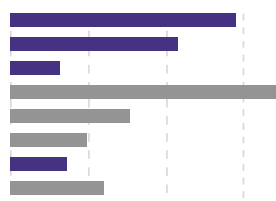
## A WORLD CLASS SERVICE AND WORLD CLASS TOOLS

Oliver Wyman's Carbon Accounting as a Service combines deep industry expertise, regulatory know-how, carbon accounting skills and purpose built tools to enable an agile and efficient process. Our service is available globally to support national and multinational clients wishing to establish, verify and model their Corporate Carbon Footprint.

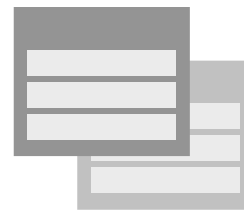
In this document we outline the services we provide, which include:



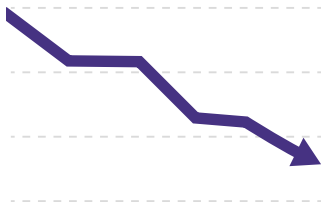
Calculation of your emissions baseline including scope 1, 2 and 3



Validation of an existing emissions baseline



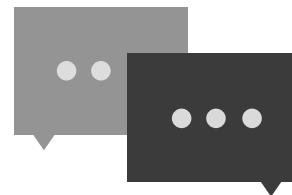
Deployment of custom emission factors



Dynamic modelling of business growth, and active and passive abatement



Handover of tools to your organization to use on an ongoing basis



Future updates and support

# BASELINE VALIDATION

If your firm has a baseline already we can validate it, and then synch with it to provide a dynamic digital twin for abatement modelling.

Baseline validation provides an expert view. But we are not here to 'mark homework', our service fills any gaps you may have intentionally left in your baseline, checks emissions are in the appropriate categories and are mapped to suitable LCA data, and ensures everything aligns with the GHG protocol.

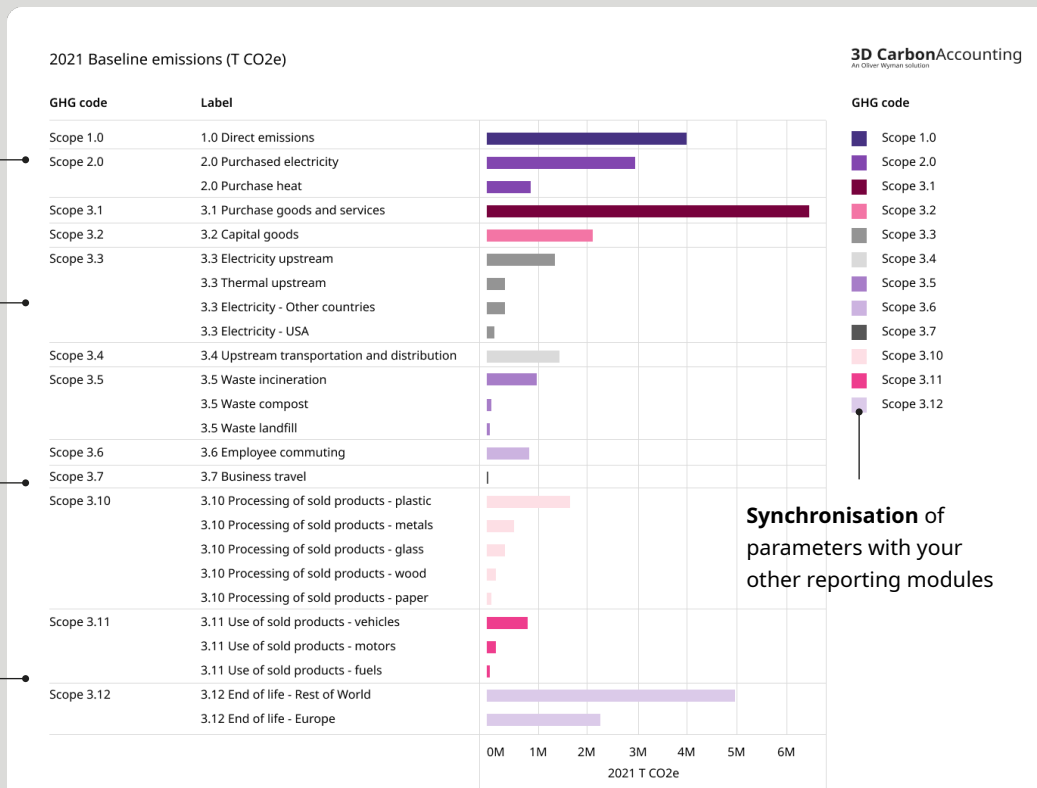
Oliver Wyman is then able to create a digital twin of the baseline, that is a perfect mathematical match, though now in a dynamic form where emissions factors are not fixed parameters in the calculation process.

**Validation** of pre-existing baseline calculations

**Fill any gaps** in calculations

**Verify GHG Protocol rules** have been properly followed

Emissions Factor **mapping automation** for large inventories



# BASELINE CALCULATION

If your firm has yet to calculate your emissions baseline, Oliver Wyman is here to help.


Our baseline calculation programs typically take no more than six weeks to complete, and place minimal demands on your team's resources. The process involves a number of steps:

- 1 **Agreeing** who will do what between our teams.
- 2 **Considering** whether it makes sense to conduct a pilot with one of your business units or territories before rolling out firm-wide.
- 3 **Obtaining** the data we need from your ERP system or other source. This will preferably be activity-based data, but we can work with spend-based data if that is all that is available.
- 4 **Arranging** the data into the correct scope 3 categories.
- 5 **Inputting** that data into our tools, providing both a record of emissions suitable for regulatory reporting and a dynamic model for abatement planning.
- 6 **Conducting** automated mapping of the data to best in class emission factors.
- 7 **Performing** the calculations to determine the emissions.

# BEST IN CLASS EMISSIONS FACTORS BUILT IN

Transparent, auditable, updateable, customizable. Oliver Wyman tools deploy the most granular and accurate emissions factors available. We can create custom datasets where useful and offer a periodic update service to keep you in lock step with improvements in accuracy and coverage.

We use **OpenLCA** by default but our models are also compatible with **SimaPro** and **GaBi (Sphera) LCA** software



**Custom LCA analysis** for key emission factors

- 3.10 Lumber from waste wood
- 3.10 Reclaimed plastic pellet
- 3.10 Reclaimed plastic products
- 3.10 Recycled glass from glass cullet waste
- 3.10 Recycled plastic from waste plastic
- 3.10 Steel from iron scrap
- 3.10 Waste cardboard treatment for recycling

**LCA contributions** used to quantify **abatement potential** in forecasting module

Name	Category	Impact result	Unit
IPCC GWP 100a (Original)		1.34410	kg CO2 e
<ul style="list-style-type: none"> <li>181116801 energy, heavy fuel oil A combustion</li> <li>Carbon dioxide, fossil</li> </ul>	18 Petroleum and... Emission to air / un...	0.41629	kg CO2 e
<ul style="list-style-type: none"> <li>34111801 energy, town gas 13A combustion</li> </ul>	34 Gas / 341 Town...	0.30519	kg CO2 e
<ul style="list-style-type: none"> <li>338112000 electricity by LNG, Japan</li> </ul>	33 Production, Tra...	0.16159	kg CO2 e
<ul style="list-style-type: none"> <li>338117000 electricity by coal, Japan</li> </ul>	33 Production, Tra...	0.13512	kg CO2 e
<ul style="list-style-type: none"> <li>052112801 energy, natural gas combustion</li> </ul>	05 Mining / 052 Cr...	0.06514	kg CO2 e
<ul style="list-style-type: none"> <li>451200100 ship transportation, LNG tanker</li> </ul>	45 Water Transport...	0.03972	kg CO2 e

# DYNAMIC MODELLING OF BUSINESS GROWTH, AND PASSIVE AND ACTIVE ABATEMENT

A forward-looking tool that provides your leaders with the scenarios they need to decide their business strategy. Our tools allow granular modelling of three key drivers:

## ✓ **Business growth**

Most businesses target growth. All things being equal this growth will cause your emissions to rise, and it takes business growth of less than 3% a year between now and 2050 to make emissions double. Our tools take into account this business growth, projected market by market, so the model accurately reflects the future.

## ✓ **Passive abatement**

The main contributor to passive abatement is the decarbonization of national power grids. Oliver Wyman has extensive models of the abatement of power grids in over 160 countries and this data is integral to our tool's dynamic modelling.

## ✓ **Active abatement**

Once the baseline has shown hotspots, we can support your efforts to plan ways in which active abatement, in other words the actions you take across all 15 scope 3 categories to reduce your emissions. The tools allow fine tuning of abatement by location, procurement and other actors to create multiple emissions scenarios between now and 2050 with inflection points along the way.

1

Real-time impact assessment

2

Forecast and track portfolio emissions

3

Incorporate business growth assumptions

4

Validation against Science Based Targets

5

Assess impact of excluding emissions categories

6

Passive abatement via decarbonisation of national power grids

7

Deep drill into individual scope category forecasts

8

Model benefits and costs of CCUS and other abatement actions

CCF = Corporate Carbon Footprint

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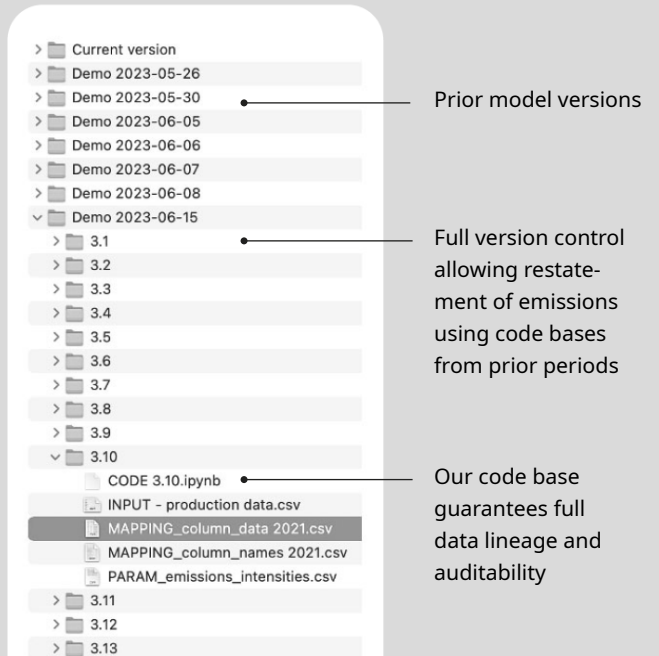
# IN SYNCH WITH YOUR BASELINE AND FULL VERSION CONTROL

Ready for regulatory requirements today and future abatement scenario modelling.

Whether you have already calculated and submitted your baseline emissions, for example to SBTi, or Oliver Wyman has helped you with that process, it is important you can always return to your baseline for four reasons:

- As a matter of record
- So future team members can understand how it was calculated
- In the likely event that regulators wish historic calculations to be re-run in future using the latest LCA data or to model other changes
- To provide a comparison with future abatement model scenarios

Version control, therefore, is essential and our tools provide this functionality.



Full version control allowing restatement of emissions using code bases from prior periods

2021 Baseline emissions (T CO2e)

GHG code	Label		
Scope 1.0	1.0 Direct emissions		
Scope 2.0	2.0 Purchased electricity		
	2.0 Purchase heat		
Scope 3.1	3.1 Purchase goods and services		
Scope 3.2	3.2 Capital goods		
	3.3 Electricity upstream		
	3.3 Thermal upstream		
	3.3 Electricity - Other countries		
Scope 3.3	3.3 Electricity - USA		
	Scope 3.4	3.4 Upstream transportation and distribution	
	Scope 3.5	3.5 Waste incineration	
3.5 Waste compost			
3.5 Waste landfill			
Scope 3.6	3.6 Employee commuting		
Scope 3.7	3.7 Business travel		
Scope 3.10	3.10 Processing of sold products - plastic		
	3.10 Processing of sold products - metals		



## TECHNICAL Q+A

Oliver Wyman's tools are agile and efficient. Here we set out how they work and answer some common questions

**How are your tools built?** Our tools use Python to harvest data from the datasets and perform the calculations. The presentation layer is created using Tableau or PowerBI.

**Can we use Tableau or PowerBI to visualize the data?** Yes, our tools can work with either.

**Do your tools work on Azure or AWS?** They work on both clouds.

**Do your tools integrate with SAP or other ERP systems?** Our tools typically require one time data feeds from your ERP system but they do not integrate with them as this is not necessary for the tools to work.

**Do you host your tools or are they provided to us to use on our own systems?** Oliver Wyman host the tools during the project, and we then provide them to you to use on your own servers or cloud at the end of the project.

**Are your tools available on a SaaS license basis?** No. The tools we create for you are delivered to you, and are yours to keep.

**Will you update our tools in future?** We are happy to be engaged to refresh the tools in years to come, for example to update emission factors and rates of power grid decarbonization.

**STAY CONNECTED**

