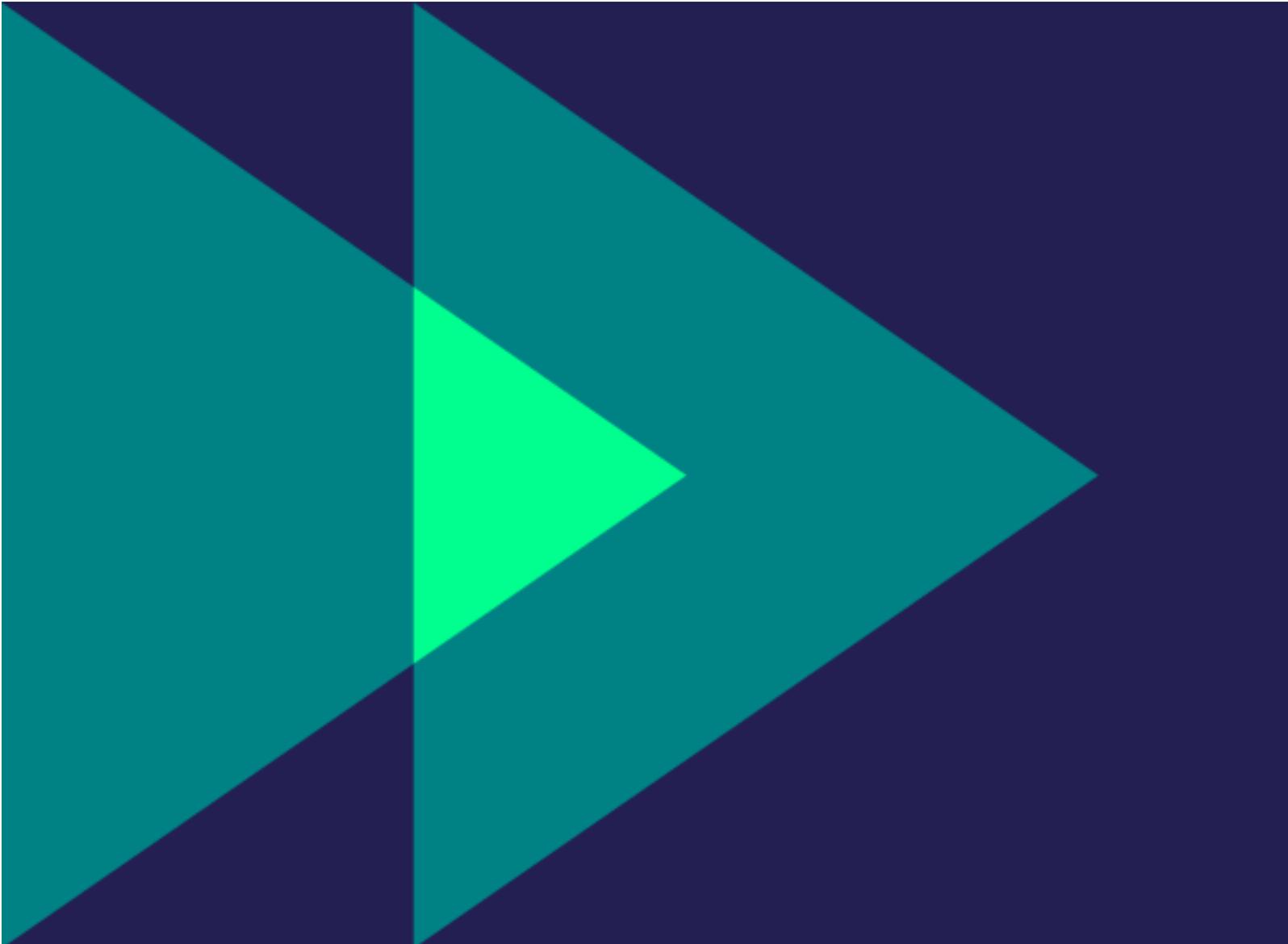


VALIDATION REPORT

Solight Ltd
2022 JW0025



Contents

Details of the validation process	2
Improving Business Competitiveness – Carbon Savings Estimation	3
Details of the program	3
Introduction and definitions	4
Valid	4
Positive	4
Significant	4
Impact story	5
Climate Impact Forecast and Validation result	5

Details of the validation process

Solight	Validation request	First review	Feedback call	Hand-in revisions	Final review	Wrap-up call
Date	24/05/2022 09h32	06/06/22 16h58	09/06/22 08h00	19/06/22 10h48	26/06/22 15h20	
Result	Invalid, unclear and significant			Valid, positive and significant		

Colofon

Author/ validator: Julia Weber
Project name: Solight Ltd
Project CIF lead: Ofer Becker, Co-Founder & CTO
Validation ID: JW0025
Published by: Impact Forecast
Date: 26 June 2022
More information: [impact-forecast.com](https://www.impact-forecast.com)

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Introduction and definitions

This Validation report documents the Validation of a Climate Impact Forecast:

Validation is a review process performed by an impartial impact expert to determine if a CIF is Valid, Positive and Significant.

The **Validation process** usually takes two weeks and includes a first review, a first feedback call between the team and validator, time for revisions if needed, a final review and a final results call. For a detailed description see www.impact-forecast.com/cif-validations

The **review** comprises a structured check using our CIF Validation tool, a sensitivity analysis and the writing of an Impact story. CIF trainers with LCA expertise are trained to perform this process in a uniform and objective way.

CIF Validations are made on the request of the project team, and possibly commissioned by an impact organisation. The results are used by teams and organisations to compare and communicate the climate impact of projects.

A **Climate Impact Forecast** or CIF is an LCA based calculation of the GHG reduction or climate adaptation potential of a project. Using our CIF tool, the project team found the net climate impact of the key differences between business as usual and their innovative solution.

The **Impact data** in this report, and in CIF in general, is calculated with information from the project team and from the CIF tool. Technical details, amounts and assumptions in the calculation are provided by the project team. Impact factors (LCI data), impact equivalents and the calculation itself are provided by the CIF tool.

The **CIF tool** is used by teams to improve their impact and support design and business decisions with impact data.

CIF results are the project's potential or actual avoided emissions in tCO₂eq.

Every CIF Validation result consists of three independent outcomes:

Valid

A CIF is valid if it is representative of the project, using appropriate data and well justified assumptions. Therefore, the CIF and its results are representative of the potential for the project to mitigate, enable or adapt to climate change.

Detailed requirements for validity are specified on www.impact-forecast.com/cif-validations. A CIF can be Valid, Plausible, Improbable and Invalid.

Positive

A CIF is positive when it shows that the project has a lower climate impact than business as usual, or improved climate resilience in the case of adaptation. A positive mitigation or enabler CIF shows the avoided GHG emissions in -tCO₂eq.

This outcome depends on a sensitivity assessment. CIF results can be Positive, Positive within limits, Unclear, Sensitive and Negative.

Significant

A CIF is significant when the project has a climate impact (positive or negative) greater than 5 tonnes of CO₂eq per year. This is roughly the global average annual CO₂ emissions per person, and the mass of a male African Elephant.

The threshold for significant impact can be set to a higher amount for a particular organisation or occasion. The result can be Significant or Marginal.

Impact story

An impact story is a summary of how a project makes a positive climate impact. It is written by the validating impact expert and contains the key impact data from the Climate Impact Forecast.

Healthy light saves also CO₂-eq

Solight Ltd manufactures a solar lighting system which is supposed to collect sunlight throughout the day and effectively channel it into healthy natural interior lighting. This technology replaces LED lighting bulbs which are usually used to produce a bright light.



Those two technologies are compared in this Climate Impact Forecast by 50 m² lightened with 30,000 Lumens Annual Daily Average which is needed for a healthy natural light (recommended in norm EN17037). In 2024, Solight Ltd plans to sell a lightening system for 1000 50 m² rooms. A lightening system for a 50 m² room required one Solis Max which is the product evaluated in this Climate Impact Forecast.

The product Solis Max consists mainly of metals as well as glas. This system replaces 87 LED bulbs with an assumed lifetime of 5 years which are needed to produce a bright light with 30,000 Lumens.

The major driver of the positive impact is the electricity which can be saved with Solight's product Solis Max instead of the lightning by LED bulbs. The system replaces artificial lights in daytime and reduces LED usage significantly when no sun is shining. How it works

Solight achieves a reduction of -858.5 CO₂ eq per lightning system for a 50 m² room with 30,000 Lumens. This saves 859t CO₂ eq at a scale of 1000 50 m² lightened which is the sales plan for 2024. This is equivalent to the combined carbon sequestration of more than 39023 trees.

The main driver of the positive impact is the replacement of the phenolic foam. This positive climate impact also overweighs the negative impact of the transportation needed to bring the material to the production site in Denmark and the final Sisaltech insulation from the production site in Denmark to the UK.

In the sensitivity analysis, we discovered that the positive significant impact of Solight is very robust. Even if we would assume that there is no energy reduction for heat, no LED bulbs are replaced in their production and the reduction of electricity use would only be 15% (1 hour and 12 minutes of collection instead of 8 hours) of what assumed, the impact would still be significantly positive.

The Climate Impact Forecast of Solight shows therefore a very robust result of a significant positive climate impact.

Climate Impact Forecast and Validation result

Solight LTD provides SOLIS Max with Natural Sunlight Indoors instead of LED Lighting. The difference in impact is calculated per year and the total impact of Solight LTD per year is calculated for 1000 times Lighting 50 sqm (30,000 Lumens Annual Daily Average).

Extraction	SOLIS MAX unit is comprised of 100 Kg Aluminum 5052 Sheetmetal, and 25 Kg Float Glass, normalized over a 20 year Lifespan. Replacing artificial LED lighting, thus extending their use as they are only used at night time. More information on calculations have been provided by an extra excel sheet.
Production	Aluminum sheet metal processing and cutting. More information on calculations have been provided by an extra excel sheet.
Transport	Transport Assumptions: 125 Kg, 1500 Km by rail; 200 Km by truck. Divided by lifetime: 20 years
Use	SOLIS replaces artificial lighting in daytime, also reduces loads of AC cooling. More information on calculations have been provided by an extra excel sheet.
Validation	By: Julia Weber, Started: Sun Jun 26 2022 14:40:21 GMT+02:00 (Mitteleuropäische Sommerzeit), Completed: Sun Jun 26 2022 15:10:50 GMT+02:00 (Mitteleuropäische Sommerzeit)
Strong points	Innovation has been modelled well. Calculations and assumptions have been presented transparently in an extra excel sheet.
Sensitivity	In the sensitivity analysis, we discovered that the positive significant impact of Solight is very robust. Even if we would assume that there is no energy reduction for heat, no LED bulbs are replaced in their production and the reduction of electricity use would only be 15% (1 hour and 12 minutes of collection instead of 8 hours) of what assumed, the impact would still be significantly positive.

Extraction

+	AlMg1 (5006)	✓	12.61 per kg	5 kg	✓	63.04
+	glass cladding and windows	✓	1.996 per kg	1.3 kg	✓	2.595
-	LED light bulb 8 watt.	✓	14.74 per p	17.4 pcs	✓	-256.5

Production

+	Rolling aluminium sheet	✓	0.8151 per kg	5 kg	✓	4.075
+	Cutting Al. laser	✓	0.1672 per m2	1 m2	✓	0.1672

Transport

+	Train, freight diesel (tkm)	✓	0.01986 per tkm	937.5 kgkm	✓	0.01862
+	Truck +trailer Euro 6 (meter)	✓	0.00109 per m	10 km	✓	10.87

Use

-	Electricity EU-27	✓	0.09389 per MJ	1669 kWh	✓	-564.1
-	Domestic Heat, General, from heat pump	✓	0.03525 per MJ	935 kWh	✓	-118.7

Solight LTD's total impact per year

eco-costs of human health euro	-19207	Impact per Lighting 50 sqm (30,000 Lumens Annual Daily Average)	-858.5 kg
eco-costs of eco-toxicity euro	-43984	Impact of 1000 times Lighting 50 sqm (30,000 Lumens Annual Daily Average)	-859t
eco-costs of resource depletion euro	-99588		
eco-costs of carbon footprint euro	-169405		

Equivalent to

Impact validation

READY FOR FINAL REVIEW

All data and assumptions are approved



39023 trees



106

times driving a car around the world



866

passengers flying London-New York



1668

barrels of oil burnt



361

EU households annual electricity



172

elephants mass (5t) of CO₂



155

hot air balloons (2900 m³) of CO₂

176 Average humans

Validation quality mark can be checked on: www.impact-forecast.com

<p>validated in June 2022 validation id:</p> <p>JW0025</p> <p>Verifiable at www.impact-forecast.com</p>	<p>SOLIGHT LTD</p> <p>Mitigates climate change with an impact reduction potential of:</p> <p>-859 tCO₂eq / year</p>	<p>Validity of forecast ■ Valid</p> <p>Impact compared to baseline ■ Positive</p> <p>Magnitude of impact ■ Significant</p>
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More information

We help companies to know, show and grow their climate impact. More information about the validation process you can find on our website: www.impact-forecast.com

