Efficient Solutions Label Standards

Solar Impulse Foundation, September 2025

Version	Date	Changes
V01	12.2018	No changes
V02	06.2019	Removed numerical rating and changed to a bi- nary system (yes/no); Removed Senior Expert Role; Removed minimum two experts assigned per solu- tion and possibility to assess < than five criteria; Rephrasing of the questions in each criterion; Up- dated Criterion 4 to include multiple selection list; Introduced clear deadline for assessments process; Introduced minimum length of characters (250) for each criteria response; Included practical Examples on Criterion 4.
V03	08.2019	Updated Criterion 4 with five bullet points where individual selection is required.
V04	02.2020	Removed possibility of reopening assessments; Re- moval of the following steps in the process: (1) solu- tion presented to the Internal Deliberation Commit- tee for a vote and (2) solution presented to Chair- man of the Foundation for final rejection; Updated deadlines around assessments process; Included Con-ceptual Considerations; Included information about EC SME2 Equivalence;
V05	10.2021	Improved Eligibility criteria and rephrased thematic and sectors; Introduction of an ad-hoc committee to evaluate eligibility for special cases; Included more clear deadlines and requirements for re-submission after rejection; Included more details about the ex- ternal reputational check; Included GDPR; Updated minimum length of characters (400) for each criteria response; Rephrasing of the questions in each cri- terion; Removed practical examples on Criterion 4; Included new feedback sections in SAF; Introduced NDA for experts; Included information about hybrid manual and automatic match-making; Introduced Label Update Program (2022); Added information about Label misuse; Introduced clear distinction la- bel on digital VS physical products (2021); Launched clear guidelines for the label on physical products; Updated information about external audit process;
V06	11.2021	Solution Explorer and information Update;
V07	06.2024	Compliance Process Update; Solution Explorer Page Corrections; Retraction Pathways Corrections; Introduction of Featured Solutions; Expert Assessment Criteria Update and Expert Guidelines; Removal of the EU equivalence and of the Label On Packaging Section; Expert Assessment Usage Rules update.
V08	10.2024	Integration of SOA collaboration and Ocean Solution Label. Update of TRL for Featured Solutions. Update of the minimum number of Char for expert justification (600)
V09	05.2025	Remove Ocean Solution Label reference. End of Collaboration with Sustainable Ocean Alliance
V10	09.2025	Modification of the assignment rules for the experts: “Not have previously assessed the parent solution (in the context of a resubmission following rejection or Label Update Program).”

Table 1: Document’s historical version

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Chapter 1 - Introduction

1.1 Context

Following the success of the first solar flight around the world, Bertrand Piccard set the challenge of selecting 1000 solutions to protect the environ- ment in a profitable way. Today, the Solar Impulse Foundation (SIF) has achieved that milestone and is now dedicated to promoting these solutions to governments, companies, and institutions worldwide. The key areas of focus for SIF include: (i) Inspiring companies and public authorities to set more ambitious environmental goals and assisting them in reaching their targets,(ii) Empowering entities and individuals to discover efficient solutions tailored to their unique needs, (iii) Promoting investment in clean technologies by connecting investors with efficient solutions providers. In addition to these ambitious initiatives, SIF is determined to expand its portfolio of efficient solutions, encompassing a wider array of geographical regions and applications.

1.2 The Efficient Solution Label

The Solar Impulse Efficient Solution Label is designed to shed light on existing solutions that are both clean and profitable. The Label is awarded to products, services, and/or processes that combine credible environmental and economic performance while outperforming mainstream options in their respective markets.The label is a trademark representing the Foundation's mission of selecting solutions that can protect the environment in a profitable way and bringing them to decision-makers to encourage the adoption of more ambitious environmental targets and policies. The decision to grant the Label is based on a rigorous assessment performed by external independent experts. The development of stringent selection criteria has resulted in the Solar Impulse label being internationally recognized and endorsed by several institutions, states, and cities around the world.

1.3 The Solution Explorer

The Solar Impulse Foundation has adopted in 2024 a new strategy to reach its goal of becoming the global reference for all existing solutions in cleantech, by adding 2 new types of Solutions in the Solution Explorer.

The first type is technical Solutions (referred to as *Featured Solutions*), which are not labelled yet but have the opportunity to become labelled in the future. Those Featured solutions have passed an internal pre-screening, based on criteria that are similar to the Solar Impulse label but less strict. Those Solutions do not have the same level of certification as the labelled ones but are given visibility and represent an important added value to the portfolio of Solar Impulse Solutions, which will become more exhaustive. Labeled Solutions will remain the pinnacle of the portfolio and are prioritized in the Foundation's various activities since they have provided more granular information than the Featured solutions and have been validated by independent experts.
The second type of Solutions added to the Solution Explorer are behavioural *& Political Solutions*. The Solar Impulse Foundation acknowledges that along with the promotion of technical solutions, it is important to promote, by adding them in the Solution Explorer, political and behavioural best practices that can either boost the technical Solutions adoption or directly contribute to sustainability whilst bringing socio-economic benefits. Displaying those initiatives accentuates the efforts done by the Foundation to help Policy Makers, Companies and Individuals bring a more positive impact, by integrating technical solutions and lifting psychological barriers.

Chapter 2 - Application & Selection Process

2.1 Process Overview

The Solar Impulse Efficient Solution Label can be granted to any solution that belongs to a member (Innovator) of the World Alliance, has been successfully featured on the Solar Impulse Solution Explorer and has been assessed in accordance with the selection process described inthe following sections.
After a Solution is successfully featured on the Solution Explorer, it can enter the Labelling Process. The evaluation process consists of three main steps: (1) an **initial internal review** (performed by the SIF team), (2) an **external review** (performed by independent Experts), and (3) a **final internal review** (performed by the SIF team).

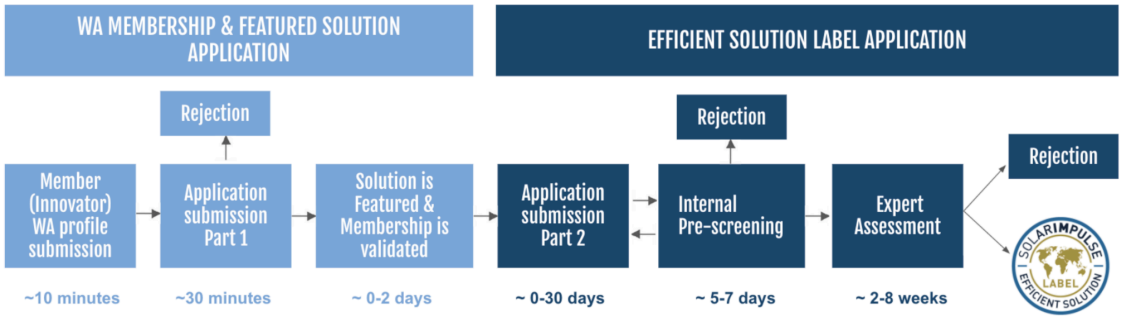

Figure 1: Application & Selection Process

In the external review phase, the application will undergo evaluation by three independent Experts based on three key criteria: Feasibility, Environmental Benefits, and Client's Economic Incentive. Following this, the final review step is designed to confirm that the Experts have conducted their assessments in alignment with the Efficient Solution Label Standards and Assessment Guidelines. The outcome of these assessments by the three independent experts will determine whether the Solar Impulse Efficient Solution Label is awarded.

2.2 Apply for the Solar Impulse Label

2. 2. 1 Company Profile and the First Part of the Submission Form

A - Specific Steps

As a first step, the Applicant is required to become a member of the World Alliance For Efficient Solutions. This step requires them to log into the Website and create a member innovator profile by completing the company profile and signing the Membership Agreement. By signing the Membership Agreement, members commit to the Charter, Statutes, and Core Values of the World Alliance. Once the profile is created, the SIF Team checks and validates the member profile. The applicant then has access to the member Dashboard, which allows them to manage the application as well as other features linked to their profile.

Figure 2: Applicant's (member) Dashboard

Once the company profile is created, after verifying that the Eligibility Criteria to be featured on the Solution Explorer above have been met (See Appendix A), applicants may proceed with their application. They can initiate the application process through the member Dashboard by selecting "Submit a Solution." This will lead them to the Solution Submission Form (SSF). They can then fill out Part 1 of the SSF and submit it. If approved by the Solar Impulse Team, the Solution will then be featured in the Solar Impulse Solutions Explorer.

Please Note: A chat feature is provided for direct questions to the Technical Team to assist during the application process. The SIF Team can also be reached via email (solution@solarimpulse.com). Once the application is submitted, it undergoes an internal review conducted by the SIF team. This review ensures that the application meets the Eligibility Criteria. If the application does not pass this review, the SIF Team provides direct feedback explaining the reasons for the rejection.

B - Name of the Solution

As a general rule, applications for the Efficient Solution Label must contain a descriptor (name of the Solution) that differs from the Name of the Company. The Solution (product/process/service) name can be based on its marketing name and must not contain abbreviations and indications about its company structure (e.g., SA, SAS, SRL). Moreover, if the name is non-descriptive (does not reveal its benefits at a single glance), or neologistic/fanciful (without drawing on existing language), it must be accompanied by a clear short sentence description (4-5 words maximum). For example, "XYZ Waste Management Platform" is more acceptable than simply "XYZ" ("XYZ" is a fictional name used as an example and does not refer to any real solution named XYZ). The name of the solution should remain short as it will be followed by a one-sentence description explaining your solution.

Exceptions: Exceptions can be made in the instance that a Company holds a unique Solution and that effectively at the time of the submission the Company and the Solution share the same name. In the case that the company holds, produces, or commercializes several products, the name must be updated according to the general rule.

C - Multiple Applications from the Same Member

Multiple applications from the same member will be judged based on their uniqueness and similarity. The new application must present one or more clear differences from previously submitted applications that received the label. A solution that is considered significantly similar cannot be considered in scope for the application process and must be grouped under the same label previously awarded. A solution that is considered significantly different can be considered a new solution and apply to potentially obtain its own Label. Applicants in this situation who would like to have the SIF team evaluate whether a new Solution can be assessed under a new label or if it should be grouped with an already labeled Solution by the same company can contact solution@solarimpulse.com

2.2.2 Complete the second part of the Submission Form - Labeled Solutions

A - Specific Steps

After being successfully featured on the Solar Impulse Solution Explorer, Applicants can initiate the label application process through the member Dashboard, inside their Solution Manager, by selecting their Featured Solution and clicking on "Apply For the Solar Impulse Label". This will lead them to their original Solution Submission Form (SSF), with additional access to questions that are related to the labeling process. Once they've started this procedure, they have 30 days to complete their application, and they can work on it in multiple sessions. All rules that are valid for Solutions to be featured on the Solution Explorer are valid for Solutions wishing to obtain the Solar Impulse

label, unless specifically stated. Some additional criteria apply to Solutions applying for the label (See Eligibility Criteria section). Once the application for the label is submitted, it undergoes an initial internal review conducted by the SIF team. This review ensures that the application meets the Eligibility Criteria and includes a background check on the company associated with the proposed solution. If the application does not pass this initial review, the SIF Team provides direct feedback explaining the specific reasons for the rejection.

Additionally, please be aware that applications that are not submitted within the allocated 30-day period or not revised within 15 days (if required) will be archived for 90 days. After this period, they will be internally rejected if not reactivated.

B - Eligibility Criteria

Before engaging in the Label Application process, it is important to check the eligibility of the Solution. To be eligible for the Solar Impulse Label, the following criteria must be met:

1. **Nature of Solution**: The Solution must be a product, a process, or a service based on a technology which is partially/fully owned by the applicant.

2. **Maturity Stage:** Solutions should at least have a fully functioning prototype at scale 1:1 to be eligible for the label (TRL >6-7). As a result, solutions must be capable of proving that they can be effectively scaled and have clear market potential, experts will evaluate their technical and commercial viability.

3. **Sectors Compatibility:** A solution must be directly linked to one or several of the 5 main Solar Impulse Foundation key sectors (Building & Construction, Industrial processes & Consumer Goods, Utilities (Water, Energy, Waste), Agrifood & Natural Environment, and Mobility) within this sectors certain thematics are not in scope by default and will be treated on a case by case basis: Nuclear Power (fission), Oil & Gas (O&G) Industry, Genetically Modified Organisms, Recreation industry, Consumerism. Solutions mainly associated in the following thematics are not in scope: Armaments & Military, Single Use Plastic.

4. **Environmental benefits** The solution's environmental impact must be quantifiable and significant compared to conventional (mainstream) alternative(s).

5. **Client economic incentive**: The solution should be capable of offering clear cost benefits to clients. The total ownership cost should be competitive with, or cheaper than, the mainstream alternative.

Important: The Mainstream Alternative is the main alternative to the Solution which currently serves a large share of the market, at least 40% in the same geographical context.

C - Confidentiality

During the application process (both when applying for the Label and being Featured), members are asked not to share any sensitive or confidential information in the SSF (Submission Form). However, if an entity feels it is necessary to disclose highly confidential information, a Non-Disclosure Agreement (NDA) can be created between the member and SIF (Solar Impulse Foundation) for the labelling process (Submission Form Part 2).

D - External Reputational Check of Entities

During the application process, members are requested to provide information on their legal entities and sign a Liability Waiver Declaration. The Solar Impulse Foundation is authorized to request any information it deems necessary for a reputational check during the submission process. The collected information is solely used to verify the member's compliance with the Charter of the World Alliance and is not considered in the selection process. By signing the Liability Waiver Declaration, members authorize SIF to perform an external reputational check based on private and public background information, documents, and/or materials provided in the Solution Submission Form and the Compliance Form (the "Background Information"). This step is mandatory for SIF to ensure that all legal entities submitting a solution for the Label comply with its Ethical Charter (already signed by the solution's provider upon registration) and all applicable laws and regulations. The reputational check involves integrated algorithms that create data points for compliance decision-making. It includes associating the company of the solutions with a risk associated with the country (AML Base Index), checking the transparency of the information provided by the innovator by matching it with the Opencorporates Database and using the Compliance form to cross-reference the names of investors and the main company with an Opensource due diligence database from the ICIJ papers and Opensanctions. It also checks for adverse news articles from around the world using AI to detect potential cases of Bribery, Money Laundering, Terrorism, & Corruption.

SIF will process the Background Information for the Reputational Check and may retain this data for a maximum of 10 years in compliance with the General Data Protection Regulation (EU) 2016/679 (GDPR). If a solution is found to be "not compliant" with SIF's Ethical Charter before, during, or after the Labeling process, the member and its solution will be removed from the portfolio of solutions and from the World Alliance for Efficient Solutions.

2.3 External Review via Independent Experts

2.3.1 Matchmaking and Experts' Assignment

The process of assigning applications, referred to as *solutions* below, involves matching them with three experts in a procedure known as matchmaking. This matching process ensures impartial assignment of experts to solutions that align with their field of expertise, thus ensuring a competent evaluation. To be considered for assignment, an Expert must:

- Have a minimum of five years of experience in the main Sector(s) and application(s) of the solution
- Have completed an e-training on the assessment guidelines.
- Not currently undertaking another assessment.
- Not have previously assessed the parent solution (in the context of a resubmission following rejection or Label Update Program).
- Not belong to the same organization as the solution.
- Be available (e.g., not on vacation or sick leave).
- Not belong to an organisation blacklisted[1] by the innovator.

2.3.2 External Review Process

Once a solution is assigned to three independent experts, the assessment process begins. The assessment methodology evaluates candidate solutions against three criteria: Feasibility, Environmental Benefits and Client's Economic Incentive. Additional information on the criteria and deliverables for experts can be found in Appendix B.

2.3.3 Information Exchange Between Experts and Members

During the assessment process, experts can use the online chat box tool via their secured profile on the Solar Impulse website. This tool allows experts to exchange information with the applicant in an anonymous format. All messages posted on the chat box are accessible to all experts assigned to the solution and are saved for potential use during the assessment review process to provide context for the experts' answers. Experts and members must refrain from contacting each other through any other means of communication (e.g., phone calls, personal email); if such contact occurs, the assessment by the expert who initiated it outside the chat box will be invalidated, and a

[1] **Blacklist:** A list of Entities, and consequently a list of experts associated with those Entities, that are not assigned to a specific solution due to potential conflicts of interest/competition

new expert will be assigned to the solution. In the event that experts/members use the Chatbox to exchange messages containing contact details, the Foundation reserves the right to delete them.

Innovators are given 3 full days to answer experts' questions. In case the innovators have not answered the expert questions after that timeframe the Solar Impulse Foundation reserves the right to archive the Solution for 6 months before allowing it to re-apply.

To support experts during the assessment process, a real-time chat is also available for direct questions to the SIF Expert Team. The SIF Team is also reachable via email (expert@solarimpulse.com) or phone call.

2.4 Final Internal Review

The aim of the final internal review is to maintain the highest standards of objectivity, impartiality, and independence in the Efficient Solution Labeling process while minimizing the Solar Impulse Foundation (SIF) Team's direct involvement in the evaluation of expert assessments. Upon completion and submission of evaluations by the assigned experts, the SIF Team will conduct a thorough review and validation process. This process is designed to ensure that all assessments adhere strictly to predefined Assessment Guidelines and maintain a high quality of insight and detail.

To confirm that each assessment correctly applies the Assessment Guidelines without any deviations, the final internal review will focus on:

- **Quality review**: Assessments will be examined for their analytical depth and originality. The review will ensure that content is not merely copied from submission materials, justifications are unique and contextually appropriate, and insights reflect expert understanding.
- **Consistency review:** Each assessment will be checked for logical coherence between the detailed comments and the yes/no decisions and for the absence of internal contradictions.
- **Language standards:** All assessments must use professional and appropriate language. Reviews will specifically look for any use of offensive language or content not in English unless otherwise permitted.

Invalidation (experts archiving) Criteria: In this regard, SIF reserves the right to fully invalidate assessments in cases where the following applies:

- Assessments that demonstrate a lack of original expert input. This includes cases where justifications are not based on expert knowledge or are simply copied from the submission materials or across different criteria. AI/Chat-GPT-generated assessments, which lack direct expert engagement, also fall into this category.
- Assessments with significant inconsistencies between the detailed comments and the yes/no decisions.
- Assessments that use defamatory, offensive, abusive language, or assessments not in English.
- Any deviations from the Assessment Guidelines that significantly affect the credibility and integrity of the evaluation.

In cases of misapplication of the guidelines, the entire assessment by the Expert is considered unusable and subsequently archived. The solution is then reintroduced into the assessment process and assigned to a new Expert.

2.4.1 Declaration of Final Outcome

Upon completion and validation of three usable assessments by SIF’s Team, a final

outcome can be determined. While the experts' comments are a crucial part of the assessment process, the decision is ultimately based on the yes/no selection. Examples of this are provided in the image below. The following deliberation rules apply:

- **Labelled:** A solution receives the Solar Impulse Efficient Solution Label when it has been evaluated by three experts and has received a minimum of two "yes" answers from two different experts on all three criteria. In other words, all three criteria must have a majority of "yes" responses.

- **Rejected:** A solution is rejected when it has been evaluated by three experts and has received at least two "no" answers from two different experts on one or more criteria.

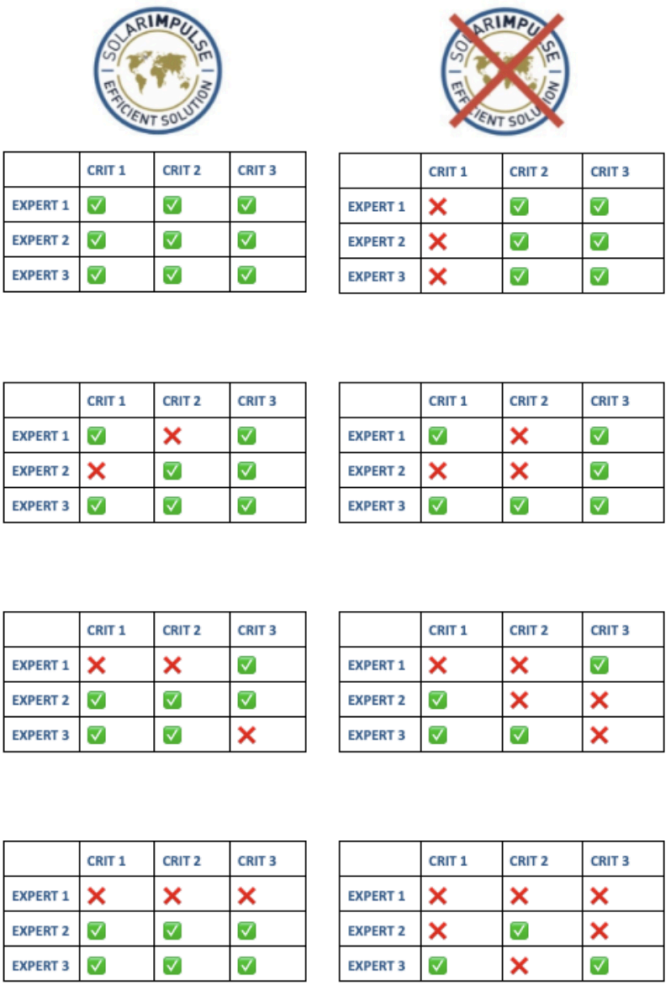

Figure 3: Examples of potential outcomes (Labeled or rejected) based on experts' evaluation. E1: Expert 1, E2: Expert 2, E3: Expert 3.

The grant date of the Solar Impulse Efficient Solution Label corresponds to the date of the final internal review. Both positive and negative outcomes are communicated to

both the member and the experts through written correspondence (via email). Both rejected and labelled solutions receive feedback in the form of an Assessment Summary Report (ASR), which consolidates the three assessments conducted by the experts assigned to the solution (the identities of the experts remain confidential). Additionally, labelled solutions are added to the Solution Explorer on the date of labelling. The Solution Explorer is a unique search engine designed to assist businesses, public authorities, and communities in navigating through more than 1000 Efficient solutions.

2.4.2 Validity and Duration

Solutions can display the SIF Efficient Solution Label logo starting from the day they are labelled (labelling date) and for up to three years. In 2022, as part of SIF's ongoing commitment to maintaining the value, credibility, and impact of its Label, the Label Update Program (LUP) was introduced with retroactive effect. The Label Update Program (LUP) establishes a process for previously labelled solutions to reaffirm their association with SIF and obtain official confirmation that their solution still aligns with SIF standards.

Figure 4: Example of label received in 2021 and updated label.

Chapter 3 - Post-Application & Selection Process

3.1 Re-submission Pathways for Being Featured

Solutions rejected after submitting the first part of the Submission Form in order to be featured in the Solar Impulse Solution Explorer are welcome to reapply, depending on the reason for rejection. For a reapplication to be considered, the Applicants must address missing information or demonstrate progress compared to the initial proposal. Applications rejected multiple times within a short time frame will be required to wait a minimum period of 6 months before re-submission.

3.2 Re-submission Pathways for the Label

3.2.1 After Rejection at the Initial Internal Review Stage

Similarly to the featured Solutions process, solutions rejected for the Solar Impulse Label after the initial Internal Review are eligible for re-application, depending on the reason for rejection. In case of re-application, applicants must address missing information or demonstrate progress compared to the initial proposal. Solar Impulse retains the right to reject a re-submission if the information is insufficient, and the previous issues have not been resolved. Furthermore, applications rejected multiple times within a short time frame will be required to wait a minimum period of 6 months before re-submission.

Those solutions will remain featured on the solution explorer except if the information provided in the part 2 questionnaire highlights the fact that the solution does not follow our featured standards (paragraph above). This will be treated on a case-by-case basis.

3.2.2 After Rejection at External Review/Final Internal Review

Solutions rejected at this stage can re-apply, depending on the reason for rejection and the number of prior rejections. During this period, the member must address all observations from the Assessment Summary Report (ASR). While reapplying, members can reuse parts of their previous submission, if relevant, but they must update the information and demonstrate progress compared to the previous submission. The information provided during reapplication will undergo a complete evaluation, including the initial internal review, external review, and final review. At this stage, SIF reserves the right to reject solutions that have not shown significant improvement or do not meet the required standards.

By default, Solutions rejected by Experts are still Featured on the Solution Explorer, but without the Label. In some very specific cases, the SIF team retains the right to remove a Solution from the Solution Explorer (and remove the Featured Status) after the expert assessment in case some serious red flags are brought up by the experts, especially on the credibility & technical feasibility of the Solution. Those Solutions will be treated on a case-by-case basis via an ad-hoc committee.

3.2. 3 After Three Years' Time

Four months before the three-year renewal date, Labeled Solutions are invited to follow the same application procedure as first-time applicants. They can partially reuse their former application to expedite the submission process. After successfully completing this process, known as the Label Update Program (LUP), they will receive an updated Label to display alongside their previously obtained Label.
If a member chooses not to accept SIF's invitation for the LUP, they will retain their original Label, along with any previously acquired Labels. However, they will not receive the majority of benefits provided by SIF to Labeled Solutions. The LUP is essential to maintain the credibility of the Label with investors, partners, and affiliated government entities. As SIF continues to grow and evolve, we are committed to ensuring our Labeled solutions continue to have a strong, positive impact on the world.

3.2.4 After Changing Company's Structure

Members undergoing company mergers or acquisitions must create a new member profile and resubmit previously existing solutions. Consequently, previously labelled solutions will be removed from the portfolio, with exceptions made for solutions whose innovators can clearly prove that the company structure change did not significantly affect the labelled solution, assessed on a case-by-case basis. This applies to both regular applications and renewals through the Label Update Program (LUP). This rule does not apply when legally registering the business under a new name for marketing purposes.

3.3 Retraction Pathways

To ensure the ongoing credibility of our portfolio of labelled solutions, the Solar Impulse Foundation (SIF) conducts regular checks. These checks confirm that labelled solutions remain active and up-to-date. Consequently, SIF reserves the right to revoke the label from solutions provided by entities that are considered inactive or unresponsive after receiving at least one warning regarding label removal. Additionally, SIF allows for a formal complaint process in cases of misconduct or misrepresentation by a labelled solution. All complaints are treated confidentially, and contact information is requested solely for follow-up purposes. Complaints should be submitted via email to solution@solarimpulse.com and must include the following elements:

- Name, Surname, Role, and Contact Information
- Details of the Labeled Solution (name and website link) of concern
- Specific details of the complaint or concern
- Any additional context, such as public records or relevant evidence related to the issue
- Supporting documentation and/or details

- Screenshots of social media activities or relevant information, if applicable

SIF will investigate credible and specific claims and concerns raised by experts, members, or external parties against a currently labelled solution or a member of the World Alliance in the following categories:

- Use of the Label by a Non-Labeled Solution: This refers to a company using the Efficient Solution Label logo without successfully passing our evaluation process. This company may already be a member of the World Alliance, but it could also be a non-member.

- Association with Out-of-Scope Themes: This pertains to a Labeled Solution whose primary business activities are related to a theme or sector considered out of scope according to the Efficient Solution Standards

- IP Infringement: This involves a Labeled Solution that has received the Efficient Solution Label without owning the intellectual property (IP) rights to the solution or without a formal agreement with the IP owner.

- Label Logo Use Infringement: This relates to a Labeled Solution using the Label logo (digital material or physical packaging) in a manner not in accordance with our standards.

- Fraudulent Activity: This refers to a Labeled Solution associated with illegal or fraudulent actions.

- Non-Credible Claims: This involves a Labeled Solution whose company, products, processes, services, or claims are not credible or aligned with the core values of the World Alliance.

- No Longer Active: This applies to a Labeled Solution whose company has been identified as no longer active or nonexistent.

- SIF Image Infringement: This includes any misuse of SIF images, logos, or other communication materials related to SIF by a company, labeled Solution, expert, member of the World Alliance, or external entity.

- Any other reasons that substantially undermine the integrity of SIF due to errors in the conduct, analysis, communication, and/or reporting related to the solution or its owner.

Upon receiving a concern, the SIF team will verify the claims and may contact the concerned member. The member will have a 30-day period to respond to the claim and provide evidence. After 60 days, if no resolution is reached, the solution may be removed from the portfolio, and the member may be removed from the World Alliance network. A statement explaining the removal will accompany the action taken. Bibliographic metadata (e.g., title and authors) will be retained for internal use in the SIF database. While SIF is committed to addressing post-publication issues promptly, investigations may take time due to the complexity of discussions and the need to consult with experts.

If a Solution wishes to have its label retracted for any specific reason. An official request to remove the label should be sent by a confirmed contact of the company to solution@solarimpulse.com.

3.4 Modification of Published Content

On the Solar Impulse Foundation's website, certain elements on a solution's profile page are eligible for correction and updates after the labelling date. These eligible categories include:

- Solution Name
- Subtitle
- Images/Video
- Identification[1]
- Company Information/Company Profile[2]
- Target Client Profile
- Tags
- Sectors - Value Chain Application
- Related Topics
- Implementation Stories
- Labeled Solutions in the News
- Activity region

Members are encouraged to submit their requests and changes through email at 1000solutions@solarimpulse.com.

Important: For labelled Solutions, please note that information related to Label Logo, Label Date, Environmental Benefits, and Financial Benefits, cannot be modified after the labelling date. These elements provide a summary of the information submitted in the solution Submission Form and have been reviewed and validated by external independent experts as part of the labelling process. Therefore, these details cannot be altered after the labelling date unless a new submission is created, either through the Label Update Program (refer to Section 3.2.3) or by submitting a new application.

[1]**Identification:** Only if the meaning or purpose is not significantly changed.
[2]**Company Information/Company Profile:** Only if the business is legally changing its name for marketing purposes. If changes result from a company merger or acquisition, the solution must reapply.

Chapter 4 - Chapter Label Use and Communication Rights

Successfully passing the application and selection process for the Efficient Solution Label allows solutions to benefit from a wide range of opportunities, including access to markets, and clients, increased visibility, enhanced credibility, and support in environmental advocacy efforts. These opportunities will be communicated through an exclusive monthly membership newsletter and the member's dashboard. In particular, labelled solutions gain access to a communication toolkit containing the Solar Impulse Efficient Solution logo in various versions. Members are encouraged to incorporate the SIF Efficient Solution Label into both digital and physical materials, adhering to guidelines provided by SIF.

4.1 Promotion on Digital Material

A set of tools for digital and social media promotion of the Label is available via the SIF member's dashboard. When using the Label Logo on digital material, ensure compliance with the following guidelines:

- Always use the version containing the date of labelling.
- Do not use it on products that have not undergone the SIF Efficient Solution Labeling process.
- Do not associate it with sub-products or derived products.
- The Label does not endorse or accredit the company; it only represents the Labeled solution.
- Do not alter the Label logo.

Figure 5: Example of a logo with the month and year of Labeling.

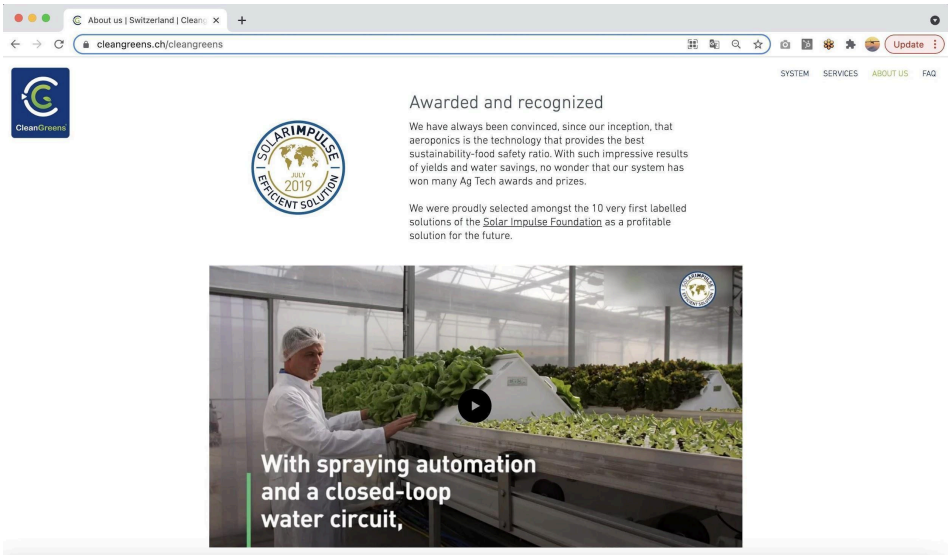

Figure 6: Example of Promotion on Digital Material with the dated version of the logo.

Chapter 5 - External Audit - *Ernst & Young (EY)*

Ernst & Young (EY) collaborates with the Solar Impulse Foundation (SIF) to provide expertise in securing the robustness of the Labeling processes, which is the backbone of the Foundation's mission to select and support clean and profitable projects worldwide. EY's contribution focuses primarily on challenging the concept behind the Label selection process (including the choice of evaluation criteria, eligibility, and expert's format of involvement) helping concretely shape and improve the future of the Efficient Solution Label.
EY performs, on a recurrent basis, a thorough review (audit) of the Labeling process, and assesses the appropriateness of the Standards regarding their relevance, exhaustiveness, reliability, objectivity, and clarity. In the context of the audit, all the various tools deployed for the implementation of the Labeling Process, are tested via a representative sample of solutions that have been through the whole process.

- Audit Oct- Dec 2018 : Assurance issued on the 2018 period.
- Audit Sept-Nov 2021 : Assurance issued on the 2019 - 2021 period.
- Audit Jan-April 2024 : Assurance issued on the 2022 - 2023 period.

Appendix

A - Featured Solutions Eligibility

Some solutions are not eligible yet for the label but can still be featured in the Solution Explorer if they meet the following criteria:

- Nature of Solution: The Solution must be a product, a process, or a service based on a technology which is partially/fully owned by the applicant.

- Solutions should at least have a fully functioning prototype at scale 1:1 to be eligible for the label (TRL >6-7).

- Sectors of Application - The Solution must contribute to the achievement of at least one of the identified sectors (Agrifood & Natural Environment, Buildings & Construction, Industrial Processes and Consumer Goods, Mobility, Utilities - (Energy, Water, Waste)).

- Thematics - Solutions mainly associated with the following thematics are not in scope by default and will be treated on a case-by-case basis: Nuclear Power (fission), Genetically Modified Organisms, the Recreation industry, and Consumerism. Solutions mainly associated with the following thematics will be considered out of scope: Single Use Plastic and Armaments & Military, Oil & Gas (O&G) Industry.

- Economic Benefits - Solutions should be able to show and quantify at least one clear and plausible economic benefit, for the client or for society, achievable in the long term.

- Environmental Benefits - Solutions should be able to show and quantify clear and plausible environmental benefits compared to the mainstream alternative.

- Overall Quality - The content provided should be aligned with the Solutions' websites and public information available online. The language should be in English, clear and with no grammatical mistakes. The photos provided should be of professional quality and directly related to the Solution.

B - Evaluation Criteria

1. **Feasibility**: This criterion focuses on the general viability of the Solution, from a technical and business point of view. The Solution should be feasible, operable, and scalable in the real world, meaning there are no insurmountable technical obstacles to its implementation in the real world and its business deployment is plausible. Responds to the question:

Is the underlying concept of the Solution technically and commercially viable? Assess whether the solution can be effectively operated and scaled —either to maintain or enhance its market relevance— from both technical and business viewpoints.

2. **Environmental Benefits**: This section captures the solution's potential to have a measurable positive impact on the environment compared to the Mainstream Alternative identified – the Mainstream Alternative is the alternative to the solution which currently serves a large share of the market (at least 40%) in the same geographical context. In order to reduce the process complexity, a simplified screening tool, the solution's Environmental Impact (SEI), is provided. While a Life Cycle Assessment (LCA) is not a strict requirement, information can be used to speed up the completion of the SEI. Responds to the question:

Does the Solution provide a net positive environmental impact compared to the mainstream alternative across its lifecycle? Assess whether the Solution, over its entire lifecycle from production to disposal, results in greater environmental benefits than its negative impacts. This includes factors such as emissions, resource usage, energy efficiency, waste production, and conservation efforts.

3. **Client's Economic Incentives**: This section captures the capacity of a solution to deliver an economic incentive for the client. It should be evaluated based on the total cost of ownership of the Solution and how it compares with the mainstream alternative. For Solutions that are not commercialized yet or fully scaled, it can be accepted to consider the future price estimation / TCO of the Solution, as long as it can be considered plausible & it is sufficiently backed up by the Applicant. Responds to the question:

Is the Solution cost-competitive compared to the mainstream alternative either today or in the medium term? Assess whether the Solution is less expensive, equally priced, or offers a positive return on investment despite a higher initial price when considering the Total Cost of Ownership (TCO). Evaluate if it has the potential to become cost-competitive or achieve cost parity in the medium term, taking into account all associated costs over its lifecycle.

C - Assessment Guidelines

Assessments are performed online via the solution Assessment Form (SAF). Each SAF (one for each of the three independent experts) needs to be completed and submitted within fifteen days after the Expert was officially assigned the solution. In addition, experts must be able to complete all three criteria, should that not be the case the Expert must decline the invitation to assess the solution within three days from the assignment date. For each of the three criteria, experts are expected to perform assessments according to the following principles:

- **Clarity and Professionalism**: Justifications should be clear and professional, written in English. Avoid open questions or expressing uncertainties directly in the comment box. Instead, use the chatbox feature to request clarifications from the applicant before submitting the assessment.

  → **Poor justification example (Expert chose YES and left a lot of uncertainties):** "*This solution seems to use some kind of standard photovoltaic technology, though I'm not totally sure if it's any good under all weather conditions. It supposedly can make about 200 watts per square meter. The submission includes some test results, but it's unclear if the technology will actually work as promised outside of a lab setting. How does it perform when it's really cloudy?*".

- **Decision Justification:** Experts must provide detailed justifications for each 'Yes' or 'No' decision, articulating the reasons behind their decision clearly with a minimum of 600 characters. These should reflect deep expert judgment, offering insightful analysis and highlighting key considerations.

  → **Poor justification example (Expert chose YES, but did not justify the answer enough):** *"The PV technology used here is credible because it's pretty common in the industry. It should work fine and meet the standards since it's like the ones used everywhere."*

- **Mainstream Alternative Assessments:** While experts are encouraged to assess solutions using the Mainstream Alternative (as defined and validated by the SIF team), they may choose a comparable alternative that better fits the mainstream definition, ensuring it represents a significant market share (at least 40%) in the same geographical context. In case they do so, they should explain why they decided to use another alternative and effectively make their in-depth comparison based on that alternative.

  → **Poor justification example (Expert did not elaborate her/his justification by his proposed alternative):** *"The Solution here was compared with using the grid, but this is irrelevant because right now the mainstream alternative can be considered other PV panels.*".

You will find below two examples of good justifications provided by experts:

- **Good justification example (expert selected "yes" to the Feasibility criterion):** *"The solution employs widely-used photovoltaic (PV) technology that is well-established in the industry. It promises reliable performance with the capability to generate approximately 200 watts per square meter, a figure that aligns with the prevailing industry standards under varied environmental conditions. This technical feasibility is supported by comprehensive testing results included in the submission, ensuring that the performance metrics are both realistic and achievable. From a technical standpoint, the modular design allows for easy integration and expansion to meet diverse market demands, while from a business perspective, the competitive cost structure and robust supply chain strategies ensure sustained profitability and market growth. "*

- **Good justification example (expert selected "no" to the Feasibility criterion):** *"Despite employing widely-used photovoltaic (PV) technology, the solution does not meet the current industry benchmarks for efficiency. The claimed capability of generating approximately 200 watts per square meter falls short under varied environmental conditions, which is a critical factor for consistent performance. The testing results provided in the submission, although comprehensive, reveal significant fluctuations in output that could affect reliability and long-term viability. Further, the PV modules used in this solution are based on older technology that has been surpassed by more recent innovations offering higher efficiency and better adaptability to environmental changes. This technological lag hinders its competitiveness in the rapidly evolving solar panel market. Therefore, based on the evidence and comparative analysis with newer technologies, the solution is not feasible from both a technical and commercial standpoint."*

In case experts have any doubt about how to assess a specific solution, they are encouraged to use the Solar Impulse Live Chat feature to get help from a SIF member, or to send an email to expert@solarimpulse.com .

D - Guidelines for the Solution Photos

In order to be considered for the Solar Impulse Efficient Solution Label application process, the applicant should be able to provide high-quality photographs that comply with the following standards. Proper visual content is the key to great communication, which is important for the Foundation to fulfil its goal of promoting its Efficient Solutions. The detailed requirements for the photos are available here.

E - Intellectual Property & Label Submission and Usage Rights

Entities applying for the Solar Impulse Label should own the IP behind the Solution they apply for. To Submit for the label or for being featured on the Solution Explorer, while not owning 100% of the IP of the Solution, the entity owning the IP should authorize the interested company by filling out this form or by sending an email to solution@solarimpulse.com . A company owning the label can also grant the right to use the label to another company (which is involved in the Solution Development, Production or Distribution for example) by sending an email to solution@solarimpulse.com .