

STANDARDS FOR THE SOLAR IMPULSE “EFFICIENT SOLUTION” LABEL V3

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*This is the third version of the Solar Impulse Efficient Solution Label standards. The standards will apply to **Solutions assigned to their first Expert from February 2020.**

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1. INTRODUCTION

1.1. CONTEXT

Following the success of the first solar flight around the world, the Solar Impulse Foundation (SIF) has launched the second phase of its action: selecting 1000 Solutions that can protect the environment in a profitable way, and bring them to decision makers to encourage them to adopt more ambitious environmental targets and energy policies.

Governments, companies and institutions must urgently adopt more ambitious environmental and energy policies. They should stop compromising for minimal targets, but rather should base their negotiations and objectives on the reality of what clean profitable technologies can offer today. Not only for future generations, but for the current benefit of people, industry and the planet.

1.2. AIM AND OBJECTIVES

The aim of SIF is to federate the actors in the field of clean technologies and shed light on existing efficient Solutions to fast-track their implementation. Therefore, the key objectives focus on:

1. Ensuring the continuous development of the **World Alliance for Efficient Solutions** an independent Swiss not-for-profit association, which gathers Members that work together to create synergies, share knowledge and build relationships that speed-up the implementation of clean and profitable Solutions which have the potential to address the environmental challenges of today.
2. To identify Solutions that are both clean and profitable and attribute them the **Solar Impulse Efficient Solution Label**; through a trustworthy and verified methodology based on a rigorous assessment performed by external independent Experts.
3. To offer support and services to the Member of **World Alliance for Efficient Solutions** free of charge, as well as foster the implementation of the Labeled Solutions, thanks to the continuous support of SIF Partners¹ who provide operational funding to the World Alliance.

1.3. CERTIFICATION OF THE STANDARDS

The standards for the **Solar Impulse Efficient Solutions Label** and its correct application, will be subjected to certification and validation by an independent external auditor.

All stakeholders involved in the labeling process (i) the Solution's providers - Members of the World Alliance, (ii) the external independent Experts, and (iii) the Solar Impulse Foundation's team should be made aware and take note of these standards.

¹ Solvay, Covestro, Nestlé, Breitling, Schlumberger, Engie, Air Liquide, BNPP, Michelin Corporate Foundation, Soprema, P&G, Schneider Electric Foundation, LVMH, Air France.

1.4. ELIGIBILITY SCOPE

For the World Alliance, Efficient Solutions are not limited to the production of renewable energy. They can encompass products, services and processes that are profitable and sustain economic growth, while protecting the environment and optimizing the use of natural resources. To enter into the scope and therefore to be considered for assessment, a Solution must:

1. Be either a physical or financial product, a technology, an industrial process, or a service;
2. Be developed or/and partially/fully owned² by a Member of the World Alliance – i.e. a Member who has been validated and who has signed the ethical charter of the World Alliance;
3. Contribute to at least one the 5 sustainable development goals (SDG) identified below:
 - **SDG 6:** Clean Water and Sanitation – Water production, water treatment, water distribution and use;
 - **SDG 7:** Affordable and Clean Energy – Clean energy production, energy from waste, renewable fuels, energy distribution and management, energy storage;
 - **SDG 9:** Industry Innovation and Infrastructure – Industrial processes, materials and chemistry, freight transportation, end-of-pipe industrial pollution management;
 - **SDG 11** – Sustainable Cities and Communities – Urban and inter-urban mobility, communities’ infrastructures, buildings and shelters;
 - **SDG 12:** Responsible Production and Consumption – Agriculture and farming for food production, circular economy of solid wastes, primary resources management.
4. Be already commercialized or aimed for commercialization by the entity owning it, meaning that the entity should be able to give a real or expected selling price for its Solution. Therefore, the Solution should belong to the minimum maturity stage of TRL 6-7, falling within the following stages of maturity:
 - a. **Prototype testing 1:1 in lab:** Solution has been conceptualized and validated /or in improvement in an experimental environment or “laboratory” at scale 1. It corresponds to TRL 6-7.
 - b. **Prototype testing in the real world:** Solution has been tested in its “final” version with a pilot/demonstration project in real life conditions. For a technology, it corresponds to TRL 7-8.

² By “owner” it means that the entities possess part of or the totality of property rights on the Solution. I cannot be an investor, a client or a retailer that has the commercialization rights of the Solution.

- c. **Initial market commercialization:** Solution has been commercialized in an initial market. For a technology, it corresponds to TRL 9.
- d. **Small scale commercialization:** Solution has been commercialized in the market and started to test its scalability in real conditions with external supports and involvements. It corresponds to TRL > 9.
- e. **Medium and large-scale commercialization:** Solution is fully market ready and widely commercialized with clear outcomes of its impact measurable. It corresponds to TRL > 9.

1.5. MISCELLANEOUS

- ✓ **A Solution can be a combination of several modules together.** In this case, the combination of all modules should be priced as well and at least every module of the Solution must have been tested in lab environment at scale 1:1 independently in combination of 2 modules³.
- ✓ **A Solution can be a financial product** (i.e. an offer of investment in positive impact Solution that creates return on investment for clients) at the condition that the financial product can prove the traceability of projects invested in with the client's money.
- ✓ **A Solution can be owned by a not-for-profit entity.** As long as the Solution effectively generates profits, it can be considered "profitable for the Seller". Indeed, the fact that the company is a social business/ non-profit (and reinvests 100% of its profits to cover its operating costs), shouldn't hamper the potential of actually generating profits – which is up to the Expert to judge.
- ✓ **An Efficient Solution might not have a direct positive impact on the environment but rely on indirect impact.** Indirect impacts on the environment are these which are not a direct result of the Solution itself, but often produced as a result of the Solution's impact pathway.
- ✓ **It is not a requirement for a Solution applying for the label to be a cutting-edge innovation** (something fundamentally new and game-changing). In these regards, a well-known state of the art Solution in Europe can represent a major breakthrough if applied in a different setting (e.g. different geographical location) and therefore bring significant environmental and social economic benefits as well as profits.
- ∅ A Solution **cannot be** a methodology explained in a document about best practices to improve an entity's activity environmental impact.
- ∅ A Solution **cannot be** a political / regulatory initiative.
- ∅ A Solution **cannot be** a consulting service (the simple provisioning of services by an independent contractor by means of consultations).

³ For instance, a combination of several interlinked systems (services and products) to produce, store and use energy more efficiently in industrial sites.

- Ø A Solution **cannot belong** to the following sectors of industry: nuclear power (fission), armament, GMOs⁴, Oil & Gas extraction industry.
- Ø A Solution **cannot be** dependent on subsidies in order to be profitable. This aspect will be evaluated at pre-screening stage on case-by-case scenario.

⁴ This condition is linked to the ethical positioning of the Foundation and its Chairman.

2. LABEL ATTRIBUTION PROCEDURE

2.1. GENERAL PRINCIPLES

The **Solar Impulse Efficient Solution Label** can be attributed to any Solution that fits within the scope defined in Section 1.4 and that has been assessed in accordance with the selection process depicted below in Section 2.4. The Solar Impulse Foundation's team reserves the right to judge if the quality and completeness of information gathered on a Solution applying for the Label are sufficient to be sent to Experts for the evaluation and start of the selection process.

Each candidate Solution will be assessed by three independent Experts on Feasibility, Environment and Profitability standpoints. The result of the three independent Expert's assessments (when completed in accordance to the Assessment Guidelines) will serve as a decision on whether or not attribute the **Solar Impulse Efficient Solution Label**.

2.2. LIMITATIONS

All Members of the **World Alliance for Efficient Solutions** have committed to the *Charter, Statutes and Core Values of the World Alliance* (Section 6). By submitting Solutions, Members expressly agree to be subjected to a reputation check to confirm that they (i) respect this commitment and that (ii) they are in compliance with the Charter of the World Alliance. To this end, the World Alliance shall be authorized (1) to request any information that it deems useful and necessary during the submission process to allow for such reputation check and (2) to share the collected information to partners companies of the **Solar Impulse Foundation** that can provide expertise on that aspect. The collected information shall solely be used to verify the compliance of the Member with the **Charter of the World Alliance** and shall not be taken into account during the selection process.

2.3. SELECTION CRITERIA

The assessment methodology is designed to evaluate candidate Solutions against five criteria grouped in three different themes that are: Feasibility, Environment and Profitability. The details of what is to be considered in the assessment of each criterion by the Experts can be found in the document [Assessment Guidelines for Experts](#).

FEASIBILITY

Credibility of concept i.e. the technology behind the Solution can be constructed and operated as designed.

Scalability i.e. the manufacturing (if a product) or distribution (if a service) of the Solution at scale is technically feasible.

ENVIRONMENT

Environmental benefits i.e. the Solution can deliver an incremental environmental benefit versus a mainstream alternative, considering the lifecycle (production, use and disposal stages) of its value chain.

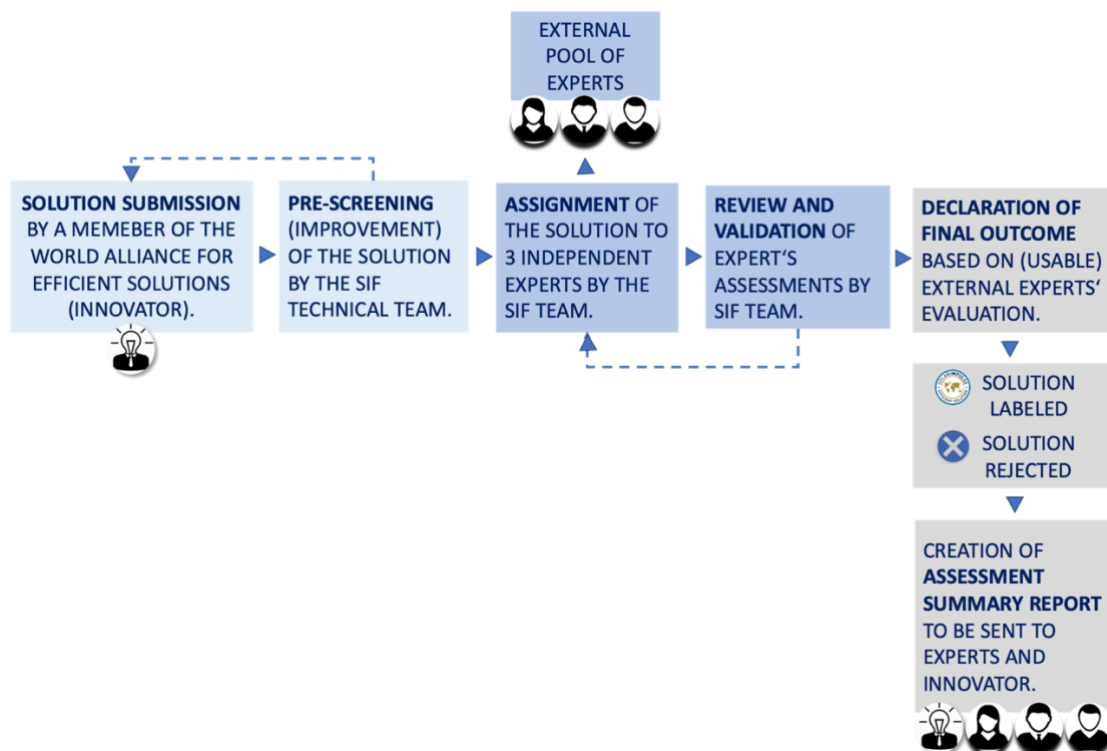
PROFITABILITY

Client's economic benefits i.e. the total cost of ownership of the Solution is the same or lower compared to the mainstream alternative. Considering potential hidden benefits for society, and foreseeable regulatory changes within 5 years. Where the mainstream alternative is considered to be the alternative to the Solution which currently serves a large share of the market (at least 40%) in the same geographical context.

Seller's profitability i.e. the Solution could be profitable for the seller within 5 years with a sale's price at which clients would buy it; regardless of the novelty of the Solution and its marketing strategy.

2.4. SELECTION PROCESS

The diagram below depicts the main steps of the assessment process, which are further detailed in the paragraphs below.


2.5. SUBMISSION PATHWAYS AND PRE-SCREENING

The requirements for an application to enter the Experts' assessment process are the following:

1. The company whose Solution has been submitted has to be registered as Member of the **World Alliance for Efficient Solutions**;
2. The Member must have created a Solution on its online account, read and agreed to the **Submission Rules and Conditions** text and signed the **Agreement**;

3. A list of relevant information must have been uploaded or filled in on the SIF's platform and linked to the applying Member's account in the format of the Solutions Submission Form (SSF).
4. The SIF's team must have reviewed and validated the file based on: (1) The eligibility of the Solution (see eligibility scope in Section 1.4); (2) The relevance and completeness of the information provided.

Step 4 is commonly referred to as the "pre-screening" of the Solution. At this stage, the SIF reserves the right to exclude (or reject) those candidate Solutions which do not meet a minimum standard of quality and are not within the eligibility scope. Candidate Solutions that do not enter into the eligibility scope and fail to pass the pre-screening stage will be directly informed of the negative outcome of their application - and of the specific reason that resulted in such outcome - by the SIF's team. To notice that the Solutions rejected at this stage are welcome to re-apply for the **Solar Impulse Efficient Solution Label** once they have amended the missing information or shown effectively that progress have been made compared to the initial proposal.

2.6. EXTERNAL REPUTATIONAL CHECK

During the online application the Member is also requested to provide information on their legal entity so as to perform a reputational check. This step is mandatory in order to ensure on the SIF side that all legal entities submitting a Solution for the Label are compliant with its Ethical Charter - which the Solution's provider already signed and agreed to when registering as a Member.

2.7. CONFIDENTIALITY AND ADDITIONAL INFORMATION REQUEST

At the first step of the Solution's submission process, when signing in the **Agreement**, Members are requested to not disclose any sensitive / confidential information in their SSF.

Once the SSF is assigned to external independent Experts for evaluation, the Member can be asked to provide further elements regarding specific aspects (e.g. business model, materials used...) that may be sensitive. This complementary information requested by the Experts can be answered via the anonymous online chat in the World Alliance web platform. All the information shared through this online chat will be subject to the same confidentiality rules mentioned in the **Agreement** (first step of the online application).

Special cases: If an entity considers appropriate and to disclose more confidential information, a Non-Disclosure Agreement (NDA) can be drafted between the Member and the SIF, as well as between the SIF and the Experts involved in the assessment process. In such case, only Experts who have agreed to sign an NDA will be assigned to the Solution. It is important that the Member remains aware that adding this step might cause significant delays in the process.

2.8. MATCH-MAKING AND ASSIGNMENT TO EXPERTS

Solutions vary greatly in their field of application and need to be assessed in a competent, balanced, and impartial manner under the five criteria stated in Section 2.3. Indeed, ensuring that the Experts possess the right expertise to evaluate the Solution, that they remain impartial and avoid conflicts of interest is crucial.

When the SSF is considered complete and accurate by the SIF's team, it is validated and assigned to appropriate Experts according to the following principles:

1. **Expertise:** The assigned Expert must have a minimum of 5 and 3 years of experience in the SDGs and sectors respectively to which the Solution belongs to. The Expert should also ideally match the sub-sector(s) of applications and countries of expertise.
2. **Availability:** The assigned Expert must be available and able to complete the assignment within the deadline (15 days from assignment date).
3. **Impartiality:** Experts who belongs to the candidate Solution's organization will be ruled out of the pool of Experts who can be assigned the Solution. In addition, Members can indicate (at submission stage) any additional entity that they wish to exclude from assessing their Solution.

2.9. EXPERTS' EVALUATION PROCESS

2.9.1. DELIVERABLES FOR EXPERTS

1. 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 Solution⁵.
2. Experts must be able to complete all the five criteria, should that not be the case the Expert must decline the invitation to assess the Solution **within five days** from assignment date.
3. For each of the five criteria Experts are expected to perform Assessments according to the following principles:
 - The answer YES/NO must be coherent and properly justified in the comment box.
 - The justification in the comment box must be of sufficient length – minimum 250 characters (approx. 40 words).
 - The comment box should not contain open questions and/or uncertainties about the Solution. Experts must ask any additional information to the Innovator via chatbox.

⁵ Official assignment starts once the Expert has received the complete Solution Submission Form. If an Expert does not assess a Solution they were assigned within the allotted time and does not react to reminders, they will be withdrawn from assessing this Solution, which will be assigned to another expert.

- The justification to the answers should provide a clear, fair, and unbiased statement, which is accessible and meaningful to the readers of the report.
- The comment box should contain enough justification to be considered a valuable feedback to the Member (Solution's provider).

Details of the questions asked as well as general SAF instructions can be found in the **Assessment Guidelines for Experts**.

2.9.2. USE OF THE ONLINE SECURED CHAT

If an Expert, while performing the assessment, believes that the information provided are not sufficient to perform the evaluation with confidence, he/she must ask additional details directly to the Member. The communication between the Expert and the Solution's provider must occur within and is confined to the online chat, accessible via their secured profile on the Solar Impulse website. Each party will visualize the messages anonymously, which will become an integral part of the SAF, and therefore accessible to all Experts assigned to the Solution.

Conversations are saved and could be used during final deliberations as to the attribution of the **Solar Impulse Efficient Solution Label**. The Experts and the Member must not enter in contact via any other communication mean (phone calls, personal email etc.), should that not be the case the assessment from the Expert who infringed the rule will be invalidated and a new Expert will be assigned to the Solution.

2.9.3. CASES OF UNUSABLE EXPERT'S ASSESSMENT ACTIONS TAKEN

Once all the three Experts assigned to the Solution have completed and submitted their assessments, the SIF's team will review and validate their work. In order to ensure that the labeling process remains totally objective, unbiased, and completely independent, the evaluative process of reviewing Expert's work (carried out by SIF's team) is maintained to the minimum. Indeed, this step is purely used to verify whether the Experts correctly apply the **Assessment Guidelines**. In these regards, SIF retains the right to fully invalidate assessments where:

- Inappropriate language (defamatory, offensive or abusive) has been used;
- The Expert(s) clearly highlight in his comments that the Solution falls out of his/her area of expertise (e.g. Experts writes "Disclaimer: I am not an expert in biological processes");
- The Expert(s) left open questions that clearly highlight his lack of knowledge/expertise.
- The Expert's justification is an obvious copy-and-paste of what the Solution provider has written in the Solution Submission Form (SSF);
- The Expert(s) copy-and-pasted his justification across different criteria (e.g. Expert provide the exact same justification -comment - for Criterion 1 and Criterion 2).

In case of assessment invalidation, the Expert's entire assessment is considered unusable (and consequently archived) and the Solution is re-inserted into the process and consequently re-assigned to a new Expert.

2.10. FINAL SELECTION

In order to be evaluated each submitted Solution, which have successfully passed the prescreening stage, is assigned to three independent Experts at all times. Once three usable assessments are completed and validated by SIF's team, the following deliberation rules are applied:

- **Labeled:** A Solution is Labeled (awarded the **Solar Impulse Efficient Solution Label**) when the Solution received a minimum of two "YES" answers from two different Experts on all five criteria; meaning that all five criteria must have a majority of "YES".
- **Rejected:** A Solution is rejected when the Solution received two "NO" answers from two different Experts on the same criterion.



2.11. OUTCOME AND PUBLICATION

The grant date of the **Solar Impulse Efficient Solution Label** is the date when the candidate Solution is officially Labeled by the SIF's Team. Prior the official publication date, and therefore communication of the outcome to the Solution's provider, the legal information have to be checked and approved by an External entity (refer to **2.6**).

Both rejected and Labeled Solutions receive a feedback in the form of **Assessment Summary Report (ASR)** which compiles the three usable assessments performed by the Experts assigned to the Solution. In addition, the Labeled Solutions will have their public fact sheet displayed on the **SIF Website** page <https://solarimpulse.com/efficient-Solutions>.

IMPORTANT: both labeling and rejection outcomes are attributed to the Solution itself and NOT to the entity submitting the Solution (the company). As a result, the name attributed to the Solution must not be identical to the name of the entity submitting the Solution.

2.12. DATE AND DURATION OF THE LABEL

The **Solar Impulse Efficient Solution Label** has no expiration date, but rather is linked to the month and year of its attribution. For example, if a Label is attributed on 24 June 2019, it is assumed that labeling date correspond to June 2019. With that in mind, it is to note that Labeled should always be viewed through the lens of the version of the standards for its month of attribution. It is not in the scope to automatically review Solutions that have already been Labeled as Solar Impulse Efficient Solutions. It is the Member's voluntary responsibility and decision whether to re-submit, or not, their Solution at any given point. **Finally, if the Solution's provider ceases to be a Member of the World Alliance, SIF retains the right to withdraw the Solar Impulse Efficient Solution Label attributed to that Member with immediate effect.**

2.13. EXTERNAL AUDIT OF THE LABELING PROCESS

The SIF collaborated with EY, one of the world's largest consulting firms, in order to perform a thorough review of the first version of the labeling process (December 2018). EY assessed the appropriateness of the Standards regarding its relevance, exhaustiveness, reliability, objectivity and its clarity. An external audit was performed. EY reviewed all the various tools deployed for the implementation of the labeling Process, tested a sample of 10 Solutions that had been through the whole process and concluded that the labeling process was implemented in accordance with the principles and operating rules described in this document (Standards). SIF will continue to closely collaborate with EY to ensure updated standards are maintained and well applied and expects EY to perform further audit reviews in the future.

3. INFORMATION FLOW AND COMMUNICATION

3.1. INTERNAL AND EXTERNAL COMMUNICATION SUPPORT TOOLS

All the information exchanged and communicated by the World Alliance on the different support tools for the Efficient Solution Label is described below:

Documents accessible to all the World Alliance Members

- The Standards for the Label Solar Impulse Efficient Solutions
- The Solar Impulse Foundation Statutes
- An Example of Solution Submission Form
- An Example of Solution Assessment Form
- FAQs for Innovators
- A pre-screening checklist

Documents accessible to all the registered Experts

- The Standards for the Label Solar Impulse Efficient Solutions
- The Assessment Guidelines for Experts
- The Experts Rules and Conditions
- An Example of Solution Submission Form
- An Example of Solution Assessment Form
- FAQs for Experts

3.2. COMMUNICATION RIGHTS AND DELIVERABLES FROM THE SIF TOWARDS THE LABELED SOLUTIONS

The Member will receive a personalized **Solar Impulse Efficient Solution** logo with the month and year of attribution of the Label to his/her Solution, which will stand and as long as they remain a Member of the World Alliance. The Member is allowed to communicate around the Label within the guidelines provided by the SIF, and they may continue to use it as long as they see fit.

In addition, the Solar Impulse Foundation will offer - on an individual and tailor-made basis - communication and matchmaking/networking opportunities within the Foundation's network of Partners, as well as towards targeted governments, companies and institutions collaborating with the SIF and the World Alliance.

4. TERMINOLOGIES

This section contains the definitions of all acronyms used and of all terms that have a specific meaning within the context of the World Alliance and this document.

4.1. ENTITIES

The Pool of Experts: Independent external Experts that are working on volunteering basis with the World Alliance to assess the Solutions that are submitted for the Label.

The SIF Team: This team is responsible for providing support for the submission of Solutions to be assessed, as well as ensuring that submissions are of the requisite quality before being passed on to Experts for assessment. The team is also in charge of assigning the Solution to the Experts, reviewing the work of Experts and deliberate on whether the Solution is Labeled or rejected. This team also recruits, engages and gives feedback to Experts on their assessments.

4.2. LIST OF SUPPORTING DOCUMENTS

Assessment Summary Report (ASR): The final report containing the answers (YES/NO) and comments from the Experts who have assessed the Solution. This report is systematically shared with the Solution's owner and the three Experts involved in the evaluation.

Solution Assessment Form (SAF): The online document completed by each Expert when evaluating a Solution. It includes YES/NO answers to the five criteria, as well as justifications in support of the conclusions they have drawn during the evaluation.

Assessment Guidelines for Experts: A document provided to the Experts to support them during the evaluation. It includes a description of the five criteria, as well as deliverables expected and an overview of how to use the online platform assessment page.

Experts Rules and Conditions: A document explaining in detail the roles and responsibilities of Experts, as well as information on how to register to become a volunteer Expert for the World Alliance.

ANNEXES

5. EQUIVALENCE BETWEEN SOLAR IMPULSE LABEL AND EUROPEAN INNOVATION COUNCIL (EIC) ACCELERATOR PILOT PHASE-2 / SME INSTRUMENT PHASE-2

In the scope of its collaboration with the European Commission (EC), the **Solar Impulse Foundation** seeks to leverage the network and expertise of the **European Innovation Council (EIC) Accelerator Pilot Phase-2 / SME Instrument Phase-2** to create an equivalence between the EC selection process and criteria of the **Solar Impulse Efficient Solution Label**.

There is evidence that the evaluation performed by the Experts from European Commission for the EIC Accelerator program is highly similar to the evaluation performed by the Experts from the Solar Impulse Foundation. Indeed, the former addresses 4 out of 5 the main criteria that the Solar Impulse Label embodies in its definition of “Efficient Solution” including technical, environmental and economic performances of products, processes and services.

Therefore, the purpose of this section is to (1) explain and justify a partial equivalence between a Solution selected by the EIC Accelerator Pilot Phase-2 / SME Instrument Phase-2 and the Solar Impulse Efficient Solution Label; (2) present an adapted procedure for those projects entering the selection process of the **Solar Impulse Efficient Solution Label**.

5.1. EIC ACCELERATOR BACKGROUND INFORMATION

The European commission EIC Accelerator program provides grant-only support as well as support in the form of blended finance for the selected applicants. The companies able to apply are individual for-profit SMEs established in an EU Members State or a Horizon 2020 associated country. The EIC Accelerator Pilot Phase-2 builds on the previous SME Instrument Phase-2 program of the EC and follows the same selecting rules. For the purpose of this section, we will refer to the SME Instrument Phase II official documentation. All the selected Solutions that reached a certain score after Experts’ examination receive either funds or the Seal of Excellence of the EC if no funds are available.

Awardees of the EIC Accelerator Seal of Excellence or funding recipients are both complying with the minimum rating requirements for which the equivalence with the Solar Impulse Label seeks to be established.

5.2. EQUIVALENCE– ELIGIBILITY SCOPE

To apply for the Phase-2 of the EIC Accelerator Pilot:

- The applicants must be for-profit SMEs, including young companies and start-ups, from any sector.
- They must be established in an EU Member State or a Horizon 2020 associated country. Following the cut-off date of 5 June 2019, only

individual for-profit SMEs established in an EU Members State or a Horizon 2020 associated country can apply.

- Regarding the Solution, there are no set topics, but it says that negative impacts on climate and the environment should be avoided.
- If the activity concerns a primarily technological innovation, a Technology Readiness Level (TRL) of 6 or above is required for primarily technological innovation or the equivalent for non-technological innovation [1].

In light of the elements stated above, the Solar Impulse Label's eligibility scope demonstrated to be:

- More selective in terms of (1) type of Solution (a service, physical or financial product, industrial process, technology which must be commercialized by a Member of the World Alliance), (2) areas of applications (see Section 1.4 Eligibility) and (3) maturity level (prototype at scale in lab can be not yet reached with an early stage TRL 6 technology);
- Less selective in terms of (1) the origin of the company submitting the Solution (worldwide with small shortcomings versus EU countries, (2) the size of the company submitting the Solution (for-profit individual SMEs versus all-size for-profit entities).

As a result, no strict equivalence can apply in this step. Thus, the eligibility should be evaluated systematically for Solutions coming from EIC Accelerator Pilot program as for any of the applying Members of the World Alliance.

5.3. EQUIVALENCE– SELECTION CRITERIA

EIC Accelerator Pilot Phase-2 proposals are evaluated based on three criteria which are **Excellence, Impact and Implementation** [2]. The criteria are divided in several sub-criteria that are separately evaluated and rated by the Experts. Amongst them, seven are of interest to explain possible equivalence with **Solar Impulse Efficient Solution Label**:

- (1) The included feasibility assessment demonstrates the technological / practical / economic viability of the innovation.
- (2) The expected performances of the innovation are convincing and have the potential to be relevant from a commercial point of view (Value for money). It is potentially better than alternatives.
- (3) The proposal reflects a very good understanding of both risks and opportunities related to a successful market introduction *of the innovation, both from a technical, commercial point of view.*
- (4) The targeted users or user groups of the final product/application and their needs, are well described and the proposal provides a realistic description of why the identified groups will have an interest in using/buying the product/application, compared to current Solutions available.

- (5) The proposal indicated in a convincing way that there will be demand/market (willing to pay) for the innovation when the product/Solution is introduced into the market.
- (6) It is described in a realistic and relevant way how the innovation has the potential to boost the growth of the applying company.
- (7) The proposal provides a realistic description of the current stage of development (TRL 6 - see note 1- or similar for non- technological innovations) and added value of its innovation as well as very good understanding of the competing Solutions. Includes good comparison with state-of-the-art, known commercial Solutions, including costs, environmental benefits, gender dimension- see note 2-, ease-of-use and other features [3].

Considering the five criteria of the **Solar Impulse Efficient Solution Label** assessed by the Experts and described in Section 2.3 of this document, the following equivalence of covered notions are made with the EIC Accelerator Pilot's sub-criteria that are numbered above.

- Criterion 1. **The credibility of concept** is addressed by sub-criterion (1), where the EC evaluators assess, based on the proposal's feasibility study, if the Solution can demonstrate a technological and practical viability. Assuming that it relies on a sound concept and can be operated as designed in the real world, and thus, covering the notions of this Solar Impulse Label's criterion.
- Criterion 2. **The scalability** is addressed by sub-criterion (3), where the EC evaluators assess the ability of the innovator to take the Solution to market from a technical point of view. This is understood as the Solution being able to be implemented technically at scale in the targeted market, and thus, it covers the notions expected to be verified in this Solar Impulse Label criterion.
- Criterion 3. **The environmental benefits** are briefly raised in sub-criterion (7) as an appreciation of the innovator's ability to describe thoroughly the benefits (social, environmental, technical etc.) of its Solution compared with state-of-the-art reference Solutions. *Thus, it does not cover the notions of demonstrated incremental environmental benefit that is expected to be evaluated in this criterion in the context of the Solar Impulse Efficient Solution Label.* However, it informs on the relevance of using the innovator's EIC Accelerator Pilot Proposal Submission Form as a valuable and complete set of information on the potential environmental impact of the Solution compared to a set of mainstream alternatives.
- Criterion 4. **The client's economic incentive** is addressed jointly by sub-criteria (2) and (4), where the evaluators assess the ability of the Solution to provide value for money and an interest in clients to buy it compared to alternatives (i.e. references). This fits with the Solar Impulse fourth criterion, where a Solution is required to be (1) cheaper, in the short or (2) long terms compared to alternatives, or (3) to provide value for money / economic incentive for clients or society by (for instance) improving air quality, opening new markets etc., or

(4) to become cheaper than the reference after a change in regulation that is reasonably foreseeable in the next five years in the targeted region(s) and sector(s) of implementation.

Criterion 5. **The seller's profitability** is addressed by sub-criterion (3), (5) and (6), where the EC evaluators assess the potential success of a market introduction of the Solution and the fact that the price at which the Solution would be commercialized could respond to the target customers' willingness to pay. Finally, the notion of potential profits made from commercializing the Solution is translated as a potential to boost the growth of the applying company evaluated in sub-criterion 6. This is understood as the Solution being able to be commercialized profitably at a credible price at which customers would be willing to purchase it, and this verifies the notions covered in this Solar Impulse criterion.

As a result, four out of the five **Solar Impulse Efficient Solution Label's criteria** can be considered as common between the two assessment processes (namely: credibility of concept, scalability, client's economic incentives and seller's profitability), while environmental benefits shall be further evaluated to ensure the Solution is analyzed under the same aspects to be able to deliberate on the Solar Impulse Efficient Solution Label's attribution.

5.4. EQUIVALENCE - SELECTION OF EXPERTS/EVALUATORS AND MATCH-MAKING

In the EIC Accelerator Pilot Phase-2 program, proposals are evaluated remotely by 4 Expert-evaluators with different complementary profiles (missing expertise type - business or technical, geographies, genders). Amongst the pool of 2,500 experts in the EC database, are chosen the ones with at least five years of experience in the main sector of the Solution, and minimum of three years of experience in the specific field of the proposal. (This selection is done through a keywords matchmaking where experts select and rate three keywords in a list of fields, the innovator (applicant) also selects and rate three keywords regarding the core of its proposal). Each Expert evaluates all the criteria independently [2]. As a result, an equivalence with the Solar Impulse Efficient Solution Label can be made based on the following common grounds:

- Minimum three evaluators assessing the Solution remotely and independently under each criterion;
- Minimum of five years in overall sectors (water, energy, industry, cities, circular economy) and minimum of three years in specific field (sub-sectors) relate to the Solution (CCS, electric drive, desalination etc....);
- Solutions-Experts matchmaking based on their own choices of fields of application and areas of expertise respectively.

5.5. DELIVERABLES FROM THE EXPERTS/EVALUATORS

In the EIC Accelerator Pilot Phase-2 assessment process, evaluators are asked to score proposals strictly as they were submitted. When an evaluator identifies significant shortcomings, he or she must reflect this by awarding a lower score for the sub-criterion concerned [4]. There is no possibility to request further information or clarification once the proposal is assigned to the evaluator. For each sub-criterion, the proposals are given scores of zero (0) to five (5) with a resolution of one decimal, as follows:

Scores	Meaning	Rationale
0	-	the proposal fails to address the criterion or cannot be assessed due to missing or incomplete information (unless the result of an 'obvious clerical error').
1	Poor	the criterion is inadequately addressed or there are serious inherent weaknesses.
2	Fair	the proposal broadly addresses the criterion but there are significant weaknesses.
3	Good	the proposal addresses the criterion well but with a number of shortcomings.
4	Very good	the proposal addresses the criterion very well but with a small number of shortcomings.
5	Excellent	the proposal successfully addresses all relevant aspects of the criterion; any shortcomings are minor.

The main difference between the two processes deliverables is that the experts of EIC Accelerator Pilot Phase-2 provide ratings whereas Solar Impulse Label experts provide YES/NO answers. Following the meanings of the ratings from the EIC Accelerator Pilot, *we consider that the ratings above or equal to three over five (3/5) are sufficient to be worth a YES in the Solar Impulse Efficient Solution Label process.*

5.6. OUTCOME OF THE EIC PROPOSALS' ASSESSMENT

In the EIC Accelerator Pilot Phase-2 assessment process, the score from an evaluator for each criterion is the mean of the different ratings he gave to the sub-criteria. Then, four ratings are obtained for each criterion, one per evaluator. The final rating for each criterion for the proposal is the arithmetic mean of the two "middle" scores (for instance, if the ratings are 1;3;4;5, the final rating is $[(3+4) / 2 = 3,5]$).

To receive the Seal of Excellence or obtaining funding, the proposal must verify two conditions:

- Each criterion final score must be above the quality threshold which is 4 out of 5.

- The sum of the three criteria final score must be above the overall quality threshold which is 13 [4].

The innovator receives at this point the **Evaluation Summary Report** in which for each criterion a final score over a total of five points is provided. Moreover, for each sub-criterion a range of rating that contains the median of the four evaluators scores is provided.

- Very Good to Excellent (4.5 – 5)
- Good to Very Good (3.5 – 4.49)
- Fair to Good (2.5 – 3.49)
- Insufficient to Fair (1.5 – 2.49)
- Insufficient (0-1.49) [3]

As the rating for each sub-criterion is calculated with the median of the 4 independent Experts' ratings, we consider - for the purpose of the equivalence - that the proposal has been assessed by a consortium that agreed on one range of ratings. As a rating of three (3) or above results in the validation of the question, both the ranges Good to Very Good (3.5 – 4.49) and Very Good to Excellent (4.5 – 5) allow the proposal to validate the sub-criterion.

5.7. CONCLUSION

In the context of the SIF Label and EIC-SME2 equivalence, a Solution will be granted the **Solar Impulse Efficient Solution Label** under the following conditions:

- ✓ The Solution was granted funding or a Seal of Excellence in the scope of the European Innovation Council (EIC) Accelerator pilot Phase-2 / SME Instrument Phase-2 programme within the past 5 years;
- ✓ The Solution is owned by an entity Member of World Alliance for Efficient Solutions;
- ✓ The Solution fits in the Solar Impulse Efficient Solution Label eligibility scope at the time of the European Innovation Council (EIC) Accelerator pilot Phase-2 / SME Instrument Phase-2 programme application;
- ✓ The Solution obtained an overall rating of 3,5/5 minimum to the seven sub-criteria presented in section "Criteria" given by the EC evaluators.

Meaning: The Solution successfully validates four criteria (Feasibility, Scalability, Client's Economic Incentive, Seller's profitability) out of the five Solar Impulse Label criteria through the up mentioned equivalence, without further need of Solar Impulse voluntary Expert's assessment;

- ✓ The Solution successfully validates the Solar Impulse Label Environmental Benefits criterion after assessment by three independent Solar Impulse voluntary Experts.

5.8. EQUIVALENCE PROCEDURE

As a result of the previous paragraphs, the following procedure in three steps can be applied for Solutions that were granted funding or a Seal of Excellence in the scope of the European Innovation Council (EIC) Accelerator pilot Phase-2 / SME Instrument Phase-2 programme:

1. The entity must become a Member of the World Alliance and send its (1) Seal of Excellence Proof or the pages of the Grants Agreement Document with EC ID number, (2) its Proposal Submission Form and (3) its Evaluation Summary Report to the Solar Impulse Foundation
2. The entity has to create a solution online and fill-in part of the section 1, 2, 4 and 6 of the SSF;
3. The SIF's team has to verify:
 - a. Whether the proposal fits the Solar Impulse Efficient Solution Label's eligibility scope (equivalent to pre-screening step);
 - b. Whether the Evaluation Summary Report displays a minimum overall rating of 3,5 out of 5 to the seven sub-criteria presented in section "Criteria" given by the EC evaluators. It implies that the 7 sub-criteria shall be rated with a score range of Very Good to Excellent (4.5 – 5) or Good to Very Good (3.5 – 4.49) in assessment report;
4. The Proposal Submission Form must be assigned to three independent Solar Impulse voluntary Experts in order to evaluate the environmental benefits criterion. This evaluation is performed through a YES/NO question and justification in line with the regular Solar Impulse Efficient Solution's evaluation process. The Solution automatically validates the other four remaining criteria (Feasibility, Scalability, Client's Economic Incentive, Seller's profitability) of the Solar Impulse Efficient Solution Label as per equivalence.

6. WORLD ALLIANCE FOR EFFICIENT SOLUTIONS CHARTER

The World Alliance for Efficient Solutions was created at the initiative of the Solar Impulse Foundation following the success of the first solar airplane flight around the globe to federate the main actors in the field of sustainability and clean technologies and promote profitable Solutions to protect the environment. It benefits from the media, political and institutional relations developed over the course of the Solar Impulse project.

This Charter lays out the principles and values which guide the World Alliance. All its Members accept to comply with this Charter and are held accountable to it, for as long as their relationship with the World Alliance exists.

6.1. CORE VALUES OF THE WORLD ALLIANCE

All Members agree and accept to be held accountable to the following principles and values carried by the World Alliance:

- To work to improve the quality of life on Earth for all by tackling the challenges facing global society;
- To support Solutions that are logical, more than just ecological; i.e. efficient Solutions that would make sense even if climate change was not a factor;
- To embody a pioneering spirit, embrace new ways of thinking and doing to push back the boundaries of what is possible; and
- To recognize the World Alliance as an independent group of global actors, not bound by the interests of any nation, government, institution or industry.
- To adhere to the United Nations Sustainable Development Goals.

6.2. UNITED NATIONS GLOBAL COMPACT PRINCIPLES

All Members agree to conduct their professional activities to the highest standards of honesty, integrity and fairness, in accordance with the United Nations Global Compact and its principles:

HUMAN RIGHTS

Principle 1: Businesses should support and respect the protection of internationally proclaimed human rights; and
 Principle 2: make sure that they are not complicit in human rights abuses.

LABOUR

Principle 3: Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;
 Principle 4: the elimination of all forms of forced and compulsory labor;
 Principle 5: the effective abolition of child labor; and
 Principle 6: the elimination of discrimination in respect of employment and occupation.

ENVIRONMENT

Principle 7: Businesses should support a precautionary approach to environmental challenges;
 Principle 8: undertake initiatives to promote greater environmental responsibility; and
 Principle 9: encourage the development and diffusion of environmentally friendly technologies.

ANTI-CORRUPTION

Principle 10: Businesses should work against corruption in all its forms, including extortion and bribery.

All Members confirm that their executive management team Members support the above commitment.

6.3. INTELLECTUAL PROPERTY COMPLIANCE

All Members confirm that they commit to respect intellectual property rights of others.

6.4. COMPLIANCE WITH LAWS

All Members acknowledge that the World Alliance is committed to carrying out its activities and promoting efficient Solutions in compliance with all applicable laws and regulations, including anti-bribery, anti-corruption, counter-terrorism financing and anti-money laundering laws and regulations, as they may apply to the World Alliance; and that the World Alliance is committed to operating in conformity with economic or trade sanctions, restrictive measures, embargoes and asset freezing measures that are enacted, administered, imposed, or enforced by the Swiss Government, the European Union, the U.S. Department of the Treasury's Office of Foreign Assets Control and any other authority, by which the World Alliance is bound.

All Members understand that the World Alliance will not enter into relations or will terminate any relations with a Member whose activities or affiliation with would put the World Alliance in breach of any applicable laws and regulations by which it is bound.

6.5. DECISIONS OF THE WORLD ALLIANCE

All Members understand that all decisions and resolutions made by the World Alliance, in particular all decisions made by the Presidency and/or the Committee pursuant to the Articles of the Statutes of the World Alliance, shall be final, conclusive and binding on all persons, including the relevant Member(s) and that the World Alliance will in particular decide, in its sole discretion, whether to retain a proposed efficient Solution or not. The Members undertake to comply with all decisions and resolutions made by the World Alliance.