

# SOLAR-ERA.NET Cofund 2 Joint Call 2021

**Guidelines for Proposers** 

Version 2021\_12\_01



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# **1. Introduction**

The SOLAR-ERA.NET Cofund 2 Joint Call 2021 is carried out by national / regional research and technology development (RTD) and innovation programmes and national / regional funding agencies in the field of photovoltaic solar electricity generation.

The Joint Call is commonly carried out by the following countries and regions: Austria, Belgium-Flanders, Israel, The Netherlands, Switzerland and Turkey. The specific funding budgets provided by the funding agencies are listed in the Annex "National and Regional Requirements".

#### Important dates:

- Official opening of the Joint Call: 6 October 2021
- Opening of the Electronic Submission System: 3 November 2021
- Deadline for submitting preproposals: 12 January 2022, 16:00 CET
- Full proposal round: from 23 February to 4 May 2022
- Feedback on funding decisions early July 2022 and project starts from September/October 2022 on

# 2. Participating States, Organisations and Programmes

The participating national SOLAR-ERA.NET partners / contact points are listed in Table 1. Applicants are strongly encouraged to check the project idea and specific requirements with the national / regional contact point as early as possible in the preproposal phase.



Figure 1: Organisations involved in promoting the SOLAR-ERA.NET Cofund 2 Joint Call 2021 and providing support and funding to innovative transnational projects.



Table 1: National / Regional Contact Points in SOLAR-ERA.NET Cofund 2 Joint Call 2021			
Area	Funding Organisation	Contact(s)	
Austria	Austrian Research Promotion Agency (FFG)	Anita Hipfinger: anita.hipfinger (at) ffg.at, +43 5 7755 5025	
Belgium- Flanders	Vlaams Agentschap Innoveren en Ondernemen	Geert Carchon: geert.carchon (at) vlaio.be, +32 2 432 42 94 Bart De Caesemaeker: bart.decaesemaeker (at) vlaio.be, +32 2 432 42 49	
Israel	Ministry of Energy	Gideon Friedmann, Acting Chief Scientist and Head of R&D -, +972-74-768-1913 (Office), +972-74-768-2073 (Fax), +972-58-5337565 (Mobile), gideonf (at) energy.gov.il	
Netherlands	RVO	Otto Bernsen, otto.bernsen (at) rvo.nl	
	Top Sector Energy	Robin Quax Robin (at) tki-urbanenergy.nl	
Switzerland	Swiss Federal Office of Energy (SFOE)	Stefan Oberholzer: stefan.oberholzer (at) bfe.admin.ch, +41 58 465 89 20	
Turkey	Türkiye Bilimsel ve Teknolojik Araştırma Kurumu (TÜBİTAK)	Kaan Karaöz: kaan.karaoz (at) tubitak.gov.tr, +90 312 2989466	

# 3. Scope and Topics of the SOLAR-ERA.NET Cofund 2 Joint Call 2021

SOLAR-ERA.NET Cofund 2 Joint Call 2021 topics are based on priorities identified in the Strategic Energy Technology (SET) Plan resp. in the subsequent Implementation Plan for PV that is available on the solar-era.net website and on SETIS. The **strategic targets** are as follows:

The overarching goals are to re-build European technological leadership in the sector by pursuing high-performance PV technologies and their integration in the European energy system and to bring down the levelized cost of electricity from PV rapidly and in a sustainable manner to allow competition in electricity markets all over Europe. This will be achieved by:

1. Major advances in efficiency of established technologies (Crystalline Silicon and Thin Films- c-Si and TFs) and new concepts:

• Increase PV module efficiency by at least 35% by 2030 compared to 2015 levels, including the introduction of novel PV technologies;

2. Reduction of the cost of key technologies:

• Reduce turn-key system costs by at least 50% by 2030 compared to 2015 levels with the introduction of novel, potentially very-high-efficiency PV technologies manufactured at large scale;

3. Further enhancement of lifetime, quality and sustainability:

• Maintain proven system energy output per year at least 80% of initial level for 35 years by 2025;

• Minimise life-cycle environmental impact along the whole value chain of PV electricity generation (e.g. heavy-metal and hazardous substances free concepts), increase recyclability of module components (in particular of modules);



4. Enabling mass realisation of "(near) Zero Energy Buildings" (NZEB) by Building-Integrated PV (BIPV) through the establishment of structural collaborative innovation efforts between the PV sector and key sectors from the building industry:

• Develop BIPV elements, which at least include thermal insulation and water protection, to entirely replace roofs or facades and reduce their additional cost by 75% by 2030 compared to 2015 levels, including flexibility in the production process;

• Recognise the importance of aesthetics in the activities of the implementation of NZEB;

5. Major advances in manufacturing and installation:

• Make available GW-scale manufacturing technologies that reach productivity and cost targets consistent with the capital cost targets for PV systems;

• Develop PV module and system design concepts that enable fast and highly automated installation, to reduce the installation costs of both ground-mounted arrays and PV building renovation solutions.

The strategic targets are translated into a set of topics for the SOLAR-ERA.NET Cofund 2 Joint Call 2021 and are based on the Implementation Plan developed by the Temporary Working Group for PV published end of 2017 (available on the solar-era.net website)

The SOLAR-ERA.NET Cofund 2 Joint Call 2021 comprises four topics:

A) Advanced industrial PV technologies

B) Emerging PV technologies

C) Building and infrastructure integrated PV

D) Operation, diagnosis, system integration and environmental impact of PV plants



Figure 2: The topics of the SOLAR-ERA.NET Cofund 2 Joint Call 2021



#### **Topic A – Advanced industrial PV technologies**

<u>Scope</u>: Proposals aim at developing and implementing from advanced laboratory technologies to high-throughput industrial manufacturing processes, materials and equipment. Areas addressed should therefore contribute to the further development of advanced industrial PV technologies.

Envisaged time to market for technologies supported: 2 - 4 years

#### Areas / subtopics:

A1. Passivated emitter and rear cell (PERC), heterojunction (HJT) technologies and advanced passivating concepts for crystalline silicon solar cells

- A2. High-performance silicon-based cells (>24%) and modules
- A3. Advanced thin film technologies, in particular copper indium gallium diselenide (CIGS)
- A4. Advanced and new interlayers, metallization, transparent conductive oxides, etc.
- A5. Manufacturing issues and next generation processing equipment for advanced solar cells
- A6. Cell interconnection methods and equipment
- A7. PV module encapsulation technologies and equipment
- A8. New inline characterization methods and tools
- A9. Industry 4.0 ("smart factory") approaches to advanced PV manufacturing

TRL: 4 to 7

#### Topic B – Emerging PV technologies

<u>Scope</u>: Proposals aim at raising emerging solar cell technologies with high efficiency / low cost potential to the industrial scale and beyond.

#### Envisaged time to market for technologies supported: 3 - 5 years

Areas / subtopics:

- B1. Silicon-based tandem technologies, namely with perovskites and III/V semiconductors
- B2. Thin film tandem and multiple junction technologies
- B3. Perovskite solar cells
- B4. Organic solar cells
- B5. Dye-sensitized solar cell (DSC)
- B6. Concentrator photovoltaic (CPV) and high concentration photovoltaics (HCPV)
- B7. Ultra-high efficiency concepts

<u>TRL</u>: 3 to 5



# Topic C – Building and infrastructure integrated PV

<u>Scope</u>: Proposals aim at developing a market pull approach for innovative and integrated PV solutions that will allow a faster and broader market uptake of new PV technologies and more intensive and multi-functional use of the available surface on buildings and infrastructure (also including floating PV, agri-PV and other dual use of land technologies) both for new constructions and renovations, while enhancing quality, reliability and lifetime of the products and reducing costs.

#### Envisaged time to market for technologies supported: 2 - 4 years

Areas / subtopics:

C1. Innovative BIPV module technologies, e.g. lamination, colours, shapes, reflectivity, bifacial, etc.

- C2. Customized industrial processes for BIPV solutions
- C3. New concepts and solutions for building and (urban) infrastructure integrated PV
- C4. Advanced integration of PV into standard building components and systems
- C5. PV as part of advanced highly energy efficient building concepts
- C6: Agri-PV and other dual use of land technologies

TRL: 4 to 7

# Topic D – Operation, diagnosis, system integration and environmental impact of PV plants

<u>Scope</u>: Proposals aim at developing and demonstrating technical solutions, business processes and business models that can support high plant performance, availability and income at reasonable costs for advanced monitoring, operations and maintenance (O&M) over the expected lifetime of the PV plant. The combination of localised PV electricity, storage or local supply and demand management provides the possibility to develop ancillary services and control systems for grid-feeding, self-consumption or local storage and standardisation of the interoperability of such ancillary services and control systems.

#### Envisaged time to market for technologies supported: 2 - 4 years

Areas / subtopics:

D1. Advanced and automated functions for data analysis, fault detection, diagnosis, maintenance planning and/or reporting

D2. Interoperability, standardization and auto-configuration of sensors, data acquisition, module electronics, inverters and communication systems within PV plants and between PV plants and central monitoring systems (Industry 4.0 / Internet of Things)

D3. System integration through ancillary services, e.g. solutions for a combination of load management / self-consumption, decentralised electrolysis, power management of the distributed PV generators and storage systems and dispatchable flexible capacities, which altogether assure a stable grid in spite of fluctuations of demand and generation, including energy communities. D4: Environmental impact of solar parks

TRL: 5 to 7



Eligible topics and areas / subtopics are shown in Table 2 for each funding organisation participating in the SOLAR-ERA.NET Cofund 2 Joint Call 2021. Further information can be found in the Annex with specific national and regional requirements (accepted TRL's, type of organisations and RDI supported, etc.). IMPORTANT: Not all programmes / funding agencies will accept applications in all topics (see Table 2 and in the Annex "National / Regional Requirements") and for all Technology Readiness Levels (TRL's), and some will prioritise some topics over others. Lower TRL research activities necessary to support demonstration and validation activities might be potentially in scope for SOLAR-ERA.NET Cofund 2 funding, where they are a minor but integral part of wider projects which progress a technology though to TRL's of this topic.

Table 2: Matrix of Eligible Topics and Subtopics per Country / Region resp. Funding Agency						
	Austria	Belgium- Flanders	Israel	Nether- lands	Switzer- land	Turkey
A) Adv	vanced industr	ial PV technol	ogies		-	-
A1	x	x	x	x	x	x
A2	x	x	x	x	x	x
A3	x	x	x	x	x	x
A4	x	x	x	x		x
A5	x	x	x	x	x	x
A6	x	x	x	x	x	x
A7	x	x	x	x	x	x
A8	x	x	x	x	x	x
A9	x	x	x	x	x	x
B) Em	erging PV tech	nologies				
B1	x	x	x	x	x	x
B2	x	x	x	x		x
B3	x	x	x	x		x
B4	x	x	x	x		x
B5	x	x	x	x		x
B6	x	x	x	x	x	x
B7	x	x	x	x		x
C) Bui	lding and infra	structure integ	grated PV			
C1	x	x	x	x	x	x
C2	x	x	x	x	x	x
C3	x	x	x	x	x	x
C4	x	x	x	x	x	x
C5	x	x	x	x	x	x
C6	x	x	x	x	x	x
D) Ope	eration, diagno	sis and syster	n integration a	Ind environme	ntal impact of	PV plants
D1	x	x	x	x	x	x
D2	x	x	x	x	x	x
D3	x	x	x	x	x	x
D4	x	x	x	x		x

# 4. Application Issues

## 4.1 Timeline and Process

The call is set up as a two-step submission procedure, consisting of a preproposal phase and a full proposal phase. Further information is available with the Guidelines for Users of the Electronic Submission System (example) available on the solar-era.net website. It is a pre-screen of what will be required in the application. Applicants shall not fill in this PDF but enter data online in the Electronic Submission System (ESS). The most relevant dates and deadlines are given in Table 3.

Table 3: Dates and Deadlines for the SOLAR-ERA.NET Cofund 2 Joint Call 2021			
Date	Activities		
6 October 2021	Launch of the SOLAR-ERA.NET Cofund 2 Joint Call 2021		
3 November 2021	Opening of electronic submission system		
12 January 2022, 16:00 CET	Deadline for submission of preproposals		
23 February 2022	Communication on applications selected for full proposal round		
4 May 2022, 16:00 CET	Deadline for submission of full proposals		
Early July 2022	Final funding decisions communicated to proposers		
From September/October 2022	Start of first projects funded		

- 1. Before submitting a preproposal, all project partners are strongly encouraged to contact their respective national / regional programme funding organisations in order to discuss the project line-up and funding conditions (contacts listed in Table 1).
- A preproposal is mandatory. It has to be submitted by the coordinator and partners through an online application form accessible via <u>www.solar-era.net</u> within the deadline set. Applicants are invited to register in the Electronic Submission System as early as possible (opening on 3 November 2021).
- 3. National / regional organisations will then carry out their eligibility check (and pre-evaluation for some funding agencies) based on the preproposal and the respective national / regional funding rules. Applicants will be provided with feedback after the review of their preproposal, including the information on whether or not they are selected for submitting a full proposal. More specifically, the Joint Call secretariat will inform the coordinator of the application by e-mail on 23 February 2022. If the coordinator has not received any e-mail, he / she shall contact the Call secretariat. Recommendations for the full proposals according to the national / regional rules and principles may then be provided.
- 4. The full proposal has to be submitted by the applicants (invited for the full proposal phase) through an online application form accessible via <u>www.solar-era.net</u> within the deadline set. Additionally, national / regional funding applications may have to be submitted separately according to their specific rules (see Annex – National / Regional Requirements).
- 5. Full proposals meeting all national / regional requirements will be evaluated by independent international experts according to the evaluation criteria specified in the call. Based on the result of the international evaluation and funding budget available, proposals will be selected (or not) for funding.



#### 4.2 Eligibility Issues

Different eligibility aspects have to be considered:

- Applications have to be submitted in English through the Electronic Submission System within the deadline set.
- The project consortium has to involve at least 2 partners from 2 different countries participating
  in the SOLAR-ERA.NET Cofund 2 Joint Call 2021 and providing funding to the project selected.
  At least one partner in the consortium has to be from industry. Partners from countries that do not
  participate in SOLAR-ERA.NET Cofund 2 Joint Call 2021 (see Table 1) can join a project
  consortium as additional partners providing added-value to the project. However, these additional
  partners have to finance their activities from other sources, as each funding agency will only fund
  eligible partners from their own country / region. A letter of commitment must be included as an
  annex to the full proposal including the commitment of this partner to the project.
- All applicants have to fulfil (additional) eligibility criteria of their respective national / regional programme / funding organisation and are therefore strongly encouraged to contact their agency as early as possible in the process to understand if their project is within scope / eligibility.
- SME, large companies, non-profit research organisations, higher education institutions, public research organisations and public organisations may participate according to their national / regional financing regulations (see Annex National / Regional Requirements).
- The project duration is limited to max. 36 months.

#### 4.3 Funding Rules

Within this SOLAR-ERA.NET Cofund 2 Joint Call 2021, the funding rules of the national / regional agencies apply. Prior to submitting a preproposal, all project partners seeking funds are strongly encouraged to contact their funding agency / contact point. The level of funding available will be determined by the rules of the relevant funding agency. Information about the specific funding rules and applicable topics will be provided via the person in charge of the respective national / regional agencies (see Table 1). Some relevant information is provided in Annex – National / regional Requirements. Each eligible project partner will receive funds from his / her national / regional agency. Each project partner will be responsible for the preparation and submission of all necessary reports required by their respective funding agency in order to obtain funding in full accordance with national / regional rules.

#### **4.4 Confidentiality**

Project proposals and any information relating to them shall be kept confidential in accordance with the applicable national / regional legislation. Project proposals shall not be used for any purpose other than the evaluation of the applications, making funding decisions and monitoring of the project. International experts, which will be invited to evaluate the proposals, are required to sign a confidentiality agreement prior to evaluating proposals. Successful projects have to provide a non-confidential project summary that will be published on the SOLAR-ERA.NET website in the interests of knowledge exchange and contributions for the transnational reporting (details of projects are strictly kept confidential, see section 5).



## 4.5 Consortium Agreement

A consortium agreement between the project partners will be required. In order to accelerate the selection and contract offer process, a statement on the signature of the consortium agreement should be submitted with the full proposal. Models for consortium agreements can be obtained from national / regional funding agencies or from the EC IP Helpdesk. The project proposal has to be the foundation for the consortium agreement. The purpose of the consortium agreement is to clarify the responsibilities of the partners, decision processes inside the project, management of any change of partners, how to exploit and/or commercialise the results (for each partner) and IPR issues.

## 4.6 Evaluation

The evaluation is carried out on a national / regional level for some funding agencies and by independent international experts. The international evaluation criteria are listed in Table 4.

	Table 4: Set of International Evalution Criterion Used
Main criterion	Sub-criterion
Excellence	<ul> <li>Clarity and relevance of the project's objectives;</li> <li>Credibility of the proposed technology/concept – including trans-disciplinary considerations, where relevant;</li> <li>Credibility of the proposed project approach;</li> <li>Ambition and innovation potential - e.g. beyond the current state of the art.</li> </ul>
Impact	<ul> <li>Expected contribution to the reduction in the cost of solar power, low carbon energy system and other relevant Strategic Targets / Key Performance Indicators (section 3);</li> <li>Expected ability of the project to enhance innovation capacity and integration of new knowledge in the European solar power industry;</li> <li>Future market deployment potential of the proposed innovation;</li> <li>Project's ability to strengthen the competitiveness and growth of European companies by developing innovations that meet the needs of European and global solar power markets and, where relevant, deliver these innovations to the market;</li> <li>Strength of the proposed research data management, exploitation and dissemination plans (including IPR management proposals, where relevant);</li> <li>Any other environmental or socially important impacts.</li> </ul>
Quality and Efficiency of Implementation	<ul> <li>Coherence and expected effectiveness of the project plan, including the appropriateness of task and resource allocation;</li> <li>Strength of management structures and governance procedures, including risk management;</li> <li>Consortium strengths and complementarity of project partners.</li> <li>Added-value through the transnational consortium</li> </ul>

Please consider that depending on the national / regional support scheme, certain evaluation criterion have to be met and impact indicators quantified. Applicants are strongly encouraged to follow the instructions specified in the annexes in these Guidelines and related documents and websites on the national / regional level as well as to check with their national / regional contact points whether the project idea fits within the national / regional constraints.

#### 4.7 Funding Recommendation

Based on the evaluation results and funding budget available, projects will be recommended / selected for funding. The outcome of this process will be communicated by the Call secretariat to the coordinator of the full proposal. The coordinator will then inform all project partners.

Formal funding decisions are made by the participating funding organisations. The funding recommendation of the call consortium is irrevocable and therefore no redress procedure is possible.

After a positive funding recommendation, the project partners must directly contact their national / regional contact points in order to start the contract negotiation and accomplish the remaining steps until the research project can start. The project coordinator is responsible for synchronising the project start with his/her partners.

# 5. Funding and Reporting

#### 5.1 Contract

Funding contracts for successful applications are dealt with directly between the project partners and their national / regional funding agencies.

#### **5.2 Start and Instalments**

Depending on the national / regional regulations, a pre-condition for transferring the first funding instalments is the existence of a consortium agreement that also includes IPR related issues.

As the national / regional funding contracts may not all become effective at the same time, the project partners i) usually do not receive the instalments and ii) usually are not reviewed / monitored on national / regional level at exactly the same time. The national / regional funders will however aim to agree a common start date for recommended projects.

#### **5.3 Monitoring**

Each project partner will be responsible for the necessary reporting to their funding agency according to national / regional rules in order to obtain and maintain funding during the lifetime of their portion of the project. Apart from the national / regional project review, the transnational cooperation aspects will be monitored on the SOLAR-ERA.NET level. The project coordinator on behalf of the consortium is responsible for reporting according to the requirements (reporting at the start, during the course and at the end of project with a publishable summary and further information for internal reporting, participation in questionnaires and dedicated workshops, provide the Consortium Agreement signed).



Any substantial change in an on-going project has to be reported immediately to the involved funding organisations and the Call secretariat. The project partners should be aware that changes might have effects on funding.

## 5.4 Dissemination and Data

Project partners are required to refer to SOLAR-ERA.NET Cofund 2 in their publications, exhibitions, lectures and press information concerning results of the SOLAR-ERA.NET Cofund 2 projects. Acknowledgement should be: Project [your project] is supported under the umbrella of SOLAR-ERA.NET Cofund 2 by [list of all national agencies supporting your project]. SOLAR-ERA.NET is supported by the European Commission within the EU Framework Programme for Research and Innovation HORIZON 2020 (Cofund ERA-NET Action, N° 786483).

To demonstrate the added value of transnational cooperation projects, results from the call shall be disseminated. This process can be tackled via different channels, e.g.:

- Conferences and webinars with relevant stakeholders to inform about the project results.
- Publication of a short outline of funded projects on the SOLAR-ERA.NET and national / regional websites. This information may also be used by SOLAR-ERA.NET for further dissemination. Further details of projects are strictly kept confidential. They can be published only in agreement with the project partners and where there is value in doing so.
- Press conferences and workshops.

The funding agencies will check if a declaration on compliance and/or authorisation is required under national law for collecting and processing personal data as described in the Annex 1 of the Grant Agreement N° 786483. If yes, the declaration on compliance and/or authorisation must be kept on file. If no declaration on compliance or authorisation is required under the applicable national law, a statement from the designated Data Protection Officer that all personal data collection and processing will be carried out according to EU and national legislation will be kept on file.



# **Annex – National and Regional Requirements**

Tables including national / regional requirements are listed in alphabetical order for the following countries / regions and funding agencies.

Austria Belgium – Flanders Israel The Netherlands Switzerland Turkey

Applicants are invited to carefully read this annex and are strongly encouraged to contact their funding agencies in order to seek further information, to check their proposal with respect to scope and eligibility and to make sure that they comply with the respective national / regional procedures, requirements, rules and regulations.



## Austria

Agency	Austrian Research Promotion Agency (FFG) – Austria
Contact	Anita Hipfinger: anita.hipfinger (at) ffg.at, +43 5 7755 5025
Topics	The Agency potentially supports projects in the following topics and TRL's:
	Topic A: TRL 4-7
	Topic B: TRL 3-5
	Topic C: TRL 4-7
	Topic D: TRL 5-7
Type of RTD	The Agency potentially supports Industrial Research und Experimental Development.
Eligible	The Agency potentially supports all private and public applicants, namely:
applicants	Private – SME
	Private – large companies
	Private – Non-profit research organisation
	Non-Profit-Organisations
	Public research organisation
	The national rules on eligible costs for Austrian participants are available from the FFG at
	www.ffg.at/kostenleitfaden.
	For further Information (possible Instruments, usual funding rules) please go to
	www.ffg.at/SOLARERANETCOFUND2/jointcall2021
Budget	EUR 430'000
Further	Applicants are strongly encouraged to contact FFG before submitting a preproposal.
specification	In parallel to the submission of the joint proposal by the coordinator, a simplified national
	application is to be submitted via the FFG electronic submission system eCall by participants
	requesting funding by FFG (both in the preproposal and in the full proposal stage).
	FFG conducts a formal review of all nationally relevant project proposals including the
	examination of the application formalities, especially the fulfilment of prerequisites specific
	to the offered funding instruments; reporting on relevant projects previously funded by FFG
	programmes; examining the financial aspects of the proposal; financial audit of applicants;
	available funding budget vs. requested budget by individual partners; relevance to the call
	goals.



# **Belgium - Flanders**

#### Specifications for SOLAR-ERA.NET Cofund 2 Joint Call 2021

Agency	Vlaams Agentschap Innoveren en Ondernemen		
Contact	Geert Carchon: geert.carchon (at) vlaio.be, +32 2 432 42 94		
	Bart De Caesemaeker: bart.decaesemaeker (at) vlaio.be, +32 2 432 42 49		
Topics	The Agency potentially supports all topics that are of relevance for the Flemish		
	community.		
Type of RTD	The Agency potentially supports the following types of RTD, namely:		
	support to R&D by companies: research projects, development projects.		
Eligible	All companies with operational activities in Flanders can be funded.		
applicants			
Budget	EUR 500'000 (regional budget)		
Further	• The national rules on eligible costs for Flemish participants are available from the VLAIO		
specifications	website https://www.vlaio.be/nl/subsidies-financiering.		
	• Some specific pages dedicated to the SOLAR-ERA.NET Cofund 2 Calls will be foreseen		
	on the VLAIO website (www.vlaio.be) as soon as the calls are opened.		

#### Israel

Agency	Ministry of Energy		
Contact	Gideon Friedmann. gideonf (at) energy.gov.il		
Topics	The Agency potentially supports projects all eligible topics and subtopics.		
Type of RTD	The Agency potentially supports all types of RTD.		
Eligible	The Agency potentially supports all private and public applicants, namely:		
applicants	Private – SME or large companies		
	<ul> <li>Private – Private persons (must incorporate before signing the contract)</li> </ul>		
	Private – Non-profit research organisation		
	Higher education institution		
	Public research organisation		
	Public organisation		
	Municipalities		
Budget	EUR 800'000 (national budget)		
Further			
specification			



## The Netherlands

Agency	Netherlands Enterprise Agency RVO (Team Energy Innovation), Netherlands
Contact	Otto Bernsen, otto.bernsen (at) rvo.nl
Topics	The Agency potentially supports projects in the following topics but in different subsidy
	schemes this year and 2022. At this moment the following national subsidy schemes have
	been published HE (Renewable Energy) and DEI (Demonstration energy Innovation) plus
	the Mission Driven Research, Development and Innovation subsidy called "MOOI", see
	https://www.rvo.nl/subsidie-en-financieringswijzer/mooi and midst January 2022 more
	details will be published at the RVO site:
	A) Advanced industrial PV technologies
	B) Emerging PV technologies
	C) Building and infrastructure integrated PV
	D) Operation, diagnosis and system integration of PV plants
	Further topics of interest are floating PV and PV integrated into the landscape and agri- cultural systems.
Type of RTD	The following RTD activity types are eligible for Dutch subsidies.
	At this moment there is only certainty about the availability of the published budgets for the
	generic subsidy schemes HE, DEI and MOOI, see links below for outlines.
	They MOOI subsidy scheme aims at larger integrated projects that will contribute directly to
	the climate goals of the Netherlands. Both the HE and DEI subsidy scheme aim at higher
	TRL levels which is a major change with previous years (see links below for a 2019
	description of these schemes:
	• Last phases of industrial / applied research PV technologies (only the he subsidy
	Scheme)
	Experimental development (for both HE and DEI subsidy schemes)
	Demonstration (ioi both ne and bei subsidy schemes)     Det arciacte (anty DEL subsidy achome)
Elizible	Pilot projects (only DET subsidy scheme)      The Assessy setentially supports all private and public applicants, namely:
annlicants	Drivete SME
approxime	Private - large companies
	<ul> <li>Private – Non-profit research organisation</li> </ul>
	Higher education institution
	Dublic research organisation
Budget	Public research organisation     Contract PVO for more exact information and numbers about the national calls in 2021
Buuyei	In 2021 an additional call MOOI SIGOHE was launched (just closed). The MOOI budget
	for 2022 is not vet known
	In 2022 is not yet known. In 2021 the DFI max, subsidy 15 million € will be for an individual projects while the total
	amount is € 126.6 million. It is first come first serve based.
Further	Dutch consortium partners in the SOLAR-ERA NET project proposals, that wish to receive
specification	subsidy for financing their national part of the project budget, additionally need to submit
0,000	the project proposal in 2021 with a specific budget for only the Dutch partners in the
	project, in the national DEI or MOOI subsidy scheme. Since the Solar Eranet call is not
	aligned with the national calls anymore, two separate proposals will have to be filed, one
	for the Solar Eranet and another one for one of the nationals calls DEI or MOOI.
	The RVO site will updated regularly: https://www.rvo.nl/subsidie-en-
	financieringswijzer/subsidies-energie-innovatie-topsector-energie



MOOI Mission Driven Research, Development and Innovation: https://www.rvo.nl/subsidie-en-financieringswijzer/mooi
The MOOI subsidy schemes focuses on larger and integrated project divided in relevant categories: Renewable Energy at Sea, at Land and in the Build Environment.
DEI subsidy scheme to be updated in December 2021: https://www.rvo.nl/subsidies-regelingen/demonstratie-energie-en-klimaatinnovatie
The DEI focuses on innovative developments and demonstrations that accelerate the renewable energy deployment.
All information about these two Dutch subsidy tenders, including eligibility criteria, can be found following these links (with changes possibly pending for the 2021 tenders).
Project cost according to the guidelines laid down GBER and the "Kaderbesluit Nationale EZ subsidies"; including personnel cost, cost of instruments and equipment, cost of buildings and land, cost for contractual research, knowledge and patents from outside sources, additional operating expenses, directly related to the project. See also <u>www.rvo.nl/subsidiespelregels</u>
The TKI Urban Energy invites all Dutch project consortium partners to discuss the content of their SOLAR-ERA.NET project proposal before submission. More information about the TKI Urban Energy can be found on <u>www.tki-urbanenergy.nl</u> Contact: Robin Quax TKI Urban Energy, robin (at) tki-urbanenergy.nl



## Switzerland

Agency	Swiss Federal Office of Energy (SFOE)			
Contact	Stefan Oberholzer, stefan.oberholzer (at) bfe.admin.ch			
Topics	The Office (or other agencies) potentially supports projects in the following topics:			
	Innovative and low-cost PV manufacturing issues			
	Advanced PV products and applications			
	• Topic D.3: only very specific PV-related proposal can be considered. For grid-topics in			
	general, Switzerland participates in the Smart Energy Systems Era.net			
	(https://www.eranet-smartenergysystems.eu)			
Type of RTD	The Office potentially supports the following types of projects, namely:			
	• Pilot- and demonstration projects, including industrial processes and pilot manufacturing			
	Industrial / applied research			
Eligible	The Office potentially supports all private and public applicants, namely:			
applicants	higher education institution, public research organisation, public organisation, private – SME			
	(Industry), private – large companies (Industry), private – Non-profit research organisation			
Budget	EUR 400'000 (national budget, provided by SFOE pilot and demonstration funds, R&D			
	funding only in exceptional cases)			
Further	• The SOLAR-ERA.NET proposal forms / electronic submission system can be used for			
specifications	the preproposal stage.			
	• A <i>direct</i> contact with SFOE is mandatory before any electronic submission (direct			
	contact with SFOE before 10 December 2021).			
	• Funding is primarily provided for pilot and demonstration project with TRL>5			
	(exceptionally TRL4) which underlie the national rules for such projects:			
	- Funding is limited to 40% of the eligible project costs, which are the additional project			
	costs that cannot be amortized over the expected lifetime of the developed installation			
	or solution. Additional project costs are the additional costs compared to the costs of			
	implementing an equivalent, conventional technology or solution.			
	- Eligible funding recipients are private and public sector entities (companies, research			
	institutes, municipalities, or communities consisting of several of the former).			
	- Project topic contributes to increasing energy efficiency or use of renewable energy;			
	<ul> <li>High application and success potential;</li> </ul>			
	<ul> <li>Project topic in line with the Swiss energy policy;</li> </ul>			
	- Gathered results are publically accessible and disseminated.			
	- More criteria might be added depending on the topic / adjudication mode.			
	In exceptional cases, research type projects can be supported through the SFOE			
	research programme application rules. The maximum funding rate for applied research			
	is max. 80% of total costs for non-profit research organisations, max. 50% of total costs			
	for SMEs and LEs; for experimental development is max. 50% of total costs for non-			
	profit research organisations and max. 50% of total costs for SMEs and for LEs.			
	• Preproposals selected for the full proposal round: Applicants have to use <i>both</i> SOLAR-			
	ERA.NET and national SFOE full proposal forms. If the national SFOE full proposal is			
	not submitted in time, SOLAR-ERA.NET full proposals cannot be evaluated.			



# Turkey

Agency	ТÜВİТАК		
Contact	Kaan Karaöz: kaan.karaoz (at) tubitak.gov.tr, +90 312 2989466		
Topics	Advanced industrial PV technologies		
	Emerging PV technologies		
	Building and infrastructure integrated PV		
	Operation and diagnosis of PV plants		
Type of RTD	The Agency potentially supports the following types of RTD, namely:		
	Industrial / applied research		
	Experimental development		
	Fundamental / basic research		
Eligible	The Agency potentially supports all private and public applicants, namely:		
applicants	Private – SME		
	Private – large companies		
	Higher education institution		
	Public research organisation		
Budget	EUR 750'000 (national budget)		
Further	All operative documents are obtainable from <u>http://www.tubitak.gov.tr</u> .		
specifications			