

## Commemoration of 150<sup>th</sup> Birth Anniversary of Mahatma Gandhi

### National Grand Challenge Awards for Designing User Friendly Smart Solar Cooking Solutions

To commemorate 150<sup>th</sup> birth anniversary of Mahatma Gandhi, Govt. of India has planned to conduct several activities throughout the year to uphold his ideals. To promote Gandhiji's idea of self-sufficient rural villages, Department of Science and Technology has instituted Grand Challenge Awards for designing the user friendly smart solar cooking solutions.

The objective of the award is to design an efficient user friendly solar cooking solutions suitable for (a) household cooking (5 persons), (b) small community cooking (50 persons) and (c) large community cooking (300 persons). The selection of the design for award will be technology agnostic, which should address the following criteria.

Sr. No	Criteria
1.	Ability to work in diffused light or no light for at least 2 hrs
2	Ability to be used for all processes meeting Indian style of cooking (boiling, steaming, frying, chapatti making)
3	Should be reliable in all weathers
4	Cooking volume should meet the requirements
5	Temperature control and range should cater to the cooking requirements
6.	Better mountings and ease of mobility
7.	Ability to be mass produced to achieve good quality control and economies of scale
8.	Ability to be used independently or in conjunction with grid power from the grid
9	Affordability and value for money
10	Accessories requirement cost (e.g. without special utensils and with special utensils)
11	Ease of installation, operation maintenance, maintenance costs and safety of handling.
12	User friendly features (such as accessibility at cooking place, faster cooking etc.)

**Eligibility:**

The applicant should be an Indian citizen affiliated to academic institute or R&D organization or Indian company/Industry recognized under Company's Act/ DSIR recognition.

**Evaluation Process**

The selection will be based on the recommendations of a jury of experts constituted by the DST.

**Documents required:**

- Duly filled in application form in prescribed format.
- Complete Solar Cooker Design document with specification.
- Bio-data with full details of achievements, publications and contribution in the area of solar energy utilisation specifically solar cooker.

**Awards**

- a. The Citation and certificate shall be awarded to the finalist in each of the 3 identified cooking segments viz. household, small community and large community.
- b. DST may provide financial support for development /pilot demonstration of the selected units, based on the requirements assessed by the Expert Committee.

**General Guidelines, Terms and Conditions**

- Participant should submit design solutions/products owned by them or to which they have right to claim and use as owned by them. Suitable documents to this effect must be submitted along with the entry.
- Participant shall ensure that any submission made in the Challenge does not violate any of theirs or any third party's intellectual property rights, confidentiality, trade secret and violate any statutory provisions.
- Expert Panel and Innovation Committee shall in no event be liable for any violation of IPR, or license or permits etc. required from third party.
- DST, members of Expert Panel, Selected Jury, NIF, supporting organizations or any employee or agent shall not be liable for any costs incurred or loss or liability or loss in expectation of profits or loss due to failure of understanding the terms and conditions of the challenge or of any expected benefit of the participant in relation to entry and submission in the challenge.

- DST/NIF shall make reasonable efforts to maintain confidentiality and will not sign any Non-Disclosure Agreement (NDA) with Participants.
- At any Stage while evaluating the entries, DST/organiser shall be free to contact the Participants and carry out discussions on the matter submitted by the Participants for the purpose of understanding only. Any solicitation by participants in whatever form in respect of their entries shall not be entertained and entries of such participant shall be disqualified from the Innovation Challenge.
- DST/NIF may change the Terms and Conditions of participation at any time without prior notice. Kindly refer to organiser website from time to time.
- DST/NIF may disqualify a Participant/s from the Challenge for breach of any of the conditions of this Challenge, or discontinue this Challenge.
- In cases of any difference of views, decision of Secretary, DST shall be final and binding.
- Disputes, if any, are subject to the jurisdiction in the courts of Delhi only.

The expected deliverables of this grand challenge are as follows:

1. Design a Solar Cooker for a family (5 people)
2. Design a Solar Cooker for small community cooking (50 people)
3. Design a Solar Cooker for large community cooking (300 people)

#### **Desirable requirements**

- a. Bills of materials with supporting documents in claim to the declared cost of the system.
- b. Claimed performance of the system should be in normal sunny day (direct beam radiation above 700 Watts/sqm and ambient temperature more than 25 degree C).
- c. If any special utensils are required to enhance its performance, it must be clearly indicated in the proposal along with its cost.
- d. Critical components used in the proposed design should have life of at least 5 years.
- e. If reflectors are used in design, it should have minimum reflective life of 5 years and its reflectivity does not go down below 75%.

#### **Evaluation criteria (Indicative):**

- i. Design Innovation (especially user friendly features)
- ii. Performance parameters

- iii. Cost of solar cooker
- iv. Sturdiness, operating convenience, credentials of participant as evident from documents furnished.

The jury will have the flexibility to select the next best design(s) for Grand Challenge awards if none of the entries meet the criteria for smart cooking solution fully. In such case, entries meeting the requirement partially can be considered.

### **Call Dates**

**Call Opening Date:** 02.10.2018 (October 02, 2018)

**Call Closing Date:** 31.03.2019 (March 31, 2019)

### **Application Format and Submission:**

Duly filled in applications should reach National Innovation Foundation - India, Grambharti, Amrapur, Gandhinagar - Mahudi Road, Gandhinagar, Gujarat Pin: 382650 before the closing date of the call. Soft copy is also to be emailed to [scdawards2018@gmail.com](mailto:scdawards2018@gmail.com). The envelope should be superscribed with the **“National Grand Challenge Awards for Designing User Friendly Smart Solar Cooking Solutions, Name of Applicant”**.

**National Grand Challenge Award for Designing  
User Friendly Smart Solar Cooking Solutions**  
DEPARTMENT OF SCIENCE AND TECHNOLOGY  
GOVERNMENT OF INDIA

**COVER SHEET**

**Title of the proposed design:**

**Design Category :**

(Tick the appropriate)

Household Cooking

Small Community Cooking

Large Community Cooking

**Submitted by:**

**Name of the Proposer:**

**Designation :**

**Official Postal Address:**

**Phone:**

**Mobile:**

**Email:**

**Send to :**

(Organizer's Address)

## 1.0 Technical Design Document

*(To be attached as Annexure)*

It is desirable to cover the following aspects in the document:

- (i) Brief summary of proposed solar cooking solution (not to exceed 150 words)
- (ii) Description of science behind the design/innovation
- (iii) Description of working of the design/ approach/innovation (use sketch/drawing, patent, photographs, video to explain the working)
- (iv) Technological challenges in manufacture of proposed smart solar cooking solution.
- (v) Novelty of the design
- (vi) Indicate how your design/approach is better than the currently available approaches
- (vii) Cost details of the system including bill of materials

## 2.0 Details of work done on solar cooking solutions so far:

- i) Development work done so far, including involvement of agencies, consultation with experts
- ii) Patenting of the design/innovation, if any
- iv) Tie-up for design, fabrication etc with any external agencies, if any
- iii) Techno-economic / market feasibility studies /reports, if any
- iv) Consumers / users feedback, if any
- v) Any other information.

### 3.0 Declaration

I / We declare that all the statements made in this application are true, complete and correct to the best of my/our knowledge and belief. In the event of any information, found false or incorrect, my/our candidature will stand cancelled and all my/us claims will be forfeited. I / We have read all the terms and conditions for participating in the design competition.

**Place:**

**Signature of the proposer**

**Date:**

#### Co-proposers

Name	Designation	Mobile Number	Signature

### 4.0 Endorsement from the Head of Organization

Certified that the Institute/ R&D Organization/ Industry welcomes participation of \_\_\_\_\_ as the Proposer and \_\_\_\_\_ as the Co-Proposer in the Grand Challenge Design of Solar Cooking Solutions Competition.

**Signature**  
**(Designated Authority with seal)**

**Place:**

**Date:**

## 5.0 BIOGRAPHICAL SKETCH

To be submitted separately for the Proposer and Co-Proposer/s from Institute/ R&D Institutions/Industry

Name :

Designation :

Name of the Institute or Industry :

Telephone No:

Mobile No:

Email:

Date of Birth :

Gender (M/F) :

### Education (Graduation onwards)

SI No.	Institution	Degree Awarded	Year	Field of Study

### Professional Career (Starting with the most recent employment)

SI No.	Institution	Position	From (Date)	To (Date)



**Proof of Experience Related to Solar Cooking Solutions**

**Achievement Details related to solar cooking , if any (Provide complete details and list all)**

1. Research Papers :                      2. Patents :                      3. Prototypes and working models:  
4. Others (Please specify):

**List of three selected publications/patents relevant to the Solar Cooking Solutions (in chronological order) and attach copies of the same**

1.  
  
2.  
  
3.

**It is certified that the above particulars submitted are true and correct.**

Place:

Signature :

Date :