

Clean Energy Technology - Motivation

Advances in custom-designing and producing materials for energy-efficient technologies, electrification of the U.S. economy including the transportation sector and the chemical industry, as well as developing new approaches to harnessing energy from renewable sources in green and sustainable ways, are critical for developing practical approaches to achieving a carbonneutral and equitable economy.





Clean Energy Technology - Definition

For the purposes of these Dear Colleague Letters (DCLs), clean energy represents new efficient technology based on novel fundamental concepts, the energy saved through increased energy efficiency and conservation measures for existing technologies, as well as energy derived from renewable sources.





Participating NSF Directorates

- Engineering Directorate (ENG)
- Mathematical and Physical Sciences Directorate (MPS)
- Biological Sciences Directorate (BIO)
- Computer and Information Science and Engineering Directorate (CISE)
- Geosciences Directorate (GEO)
- Social, Behavioral and Economic Sciences Directorate (SBE)
- STEM Education Directorate (EDU)
- Technology, Innovation and Partnerships Directorate (TIP)



NSF - Clean Energy Technology DCLs

- EAGER proposal call (NSF 23-109)
 - Concept outline due: 6/14/2023
 - Full proposal due (after invitation only): 8/2/2023
- Conference proposal call (NSF 23-108)
 - Concept outline due: 6/30/2023
 - Full proposal due (after invitation only): 8/16/2013
- RAISE proposal call (NSF 23-109)
 - Concept outline due: 7/12/2023
 - Full proposal due (after invitation only): 9/29/2023



NSF 23-109

Dear Colleague Letter: Clean Energy Technology RAISE or EAGER Proposals

RAISE and EAGER Proposals

- Interdisciplinary groups of Principal Investigators (PIs)
- Potentially transformative, convergent, fundamental research proposals in the area of clean energy technologies
- New research that advances Clean Energy Technologies and increases the use of clean energy sources to benefit all sectors of the economy, to ensure social justice, and to contribute to the public good
- One difference between the two proposal types is the size of the budget and the duration of the project.



EArly-concept Grants for Exploratory Research (EAGER)

EAGER is a type of proposal used to support exploratory work in its early stages on untested, but potentially transformative, research ideas or approaches. This work may be considered especially "high risk-high payoff" in the sense that it, for example, involves radically different approaches, applies new expertise, or engages novel disciplinary or interdisciplinary perspectives

EAGER proposals are NOT:

- projects that are appropriate for submission as "regular" NSF proposals
- for planning grants
- to support the collection of preliminary data



Research Advanced by Interdisciplinary Science and Engineering (RAISE)

RAISE is a type of proposal that may be used to support bold, interdisciplinary projects whose:

- Scientific advances lie in great part outside the scope of a single program or discipline, such that substantial funding support from more than one program or discipline is necessary
- Lines of research promise transformational advances
- Prospective discoveries reside at the interfaces of disciplinary boundaries



Research Advanced by Interdisciplinary Science and Engineering (RAISE)

RAISE proposals submitted to NSF 23-109 will be reviewed externally

- RAISE is not intended to be used for projects that can be accommodated within other types of proposals or that continue well established practices.
- NSF will not accept a RAISE separately submitted collaborative proposal from multiple organizations. A collaborative proposal must be submitted as a single proposal from one organization, with any collaborators identified as subawardee organizations.



NSF 23-109 Research Topics

- a) Hydrogen, fusion, and/or geothermal technologies
- b) Industrial heat and/or energy efficiency technologies
- c) Fundamental challenges of enabling offshore wind/wave technologies
- d) Critical materials for clean energy technologies their recovery, reuse, and recycling
- e) Net-zero fuels and bioenergy
- f) Education and workforce development efforts



NSF 23-109

- Proposals that address barriers and opportunities for technology adoption, economic and societal impacts of technology development, social justice considerations, or social and environmental sustainability of clean energy technologies
- Research related to computational, simulation, and data-science tools that can provide new insights in clean energy technology development



NSF 23-109 - EAGER Submission

Concept outline due 6/14/2023



Invitation to submit EAGER proposal



EAGER proposal due 8/02/2023

- 3 pages (plus a half-page justification of the estimated budget; 4 pages incl. references)
- Budget request: up to \$300,000
- Duration: 2 years
- Email concept outline to CET_DCL_EAGER@nsf.gov

approx. 2 weeks after submission deadline

- Submit via Research.gov to the coordinating program Electrochemical Systems (PD 23-7644)

An individual may appear as PI, co-PI, Senior Personnel, or Consultant on no more than one proposal (EAGER or RAISE)



NSF 23-109 - RAISE Submission

Concept outline due 7/12/2023



Invitation to submit RAISE proposal



RAISE proposal due 9/29/2023

- 3 pages (plus a half-page justification of the estimated budget; 4 pages incl. references)
- Budget request: up to \$1,000,000
- Duration: max. 5 years
- Email concept outline to CET_DCL_Raises@nsf.gov

approx. 2 weeks after submission deadline

- Submit via Research.gov to the coordinating program Electrochemical Systems (PD 23-7644)

An individual may appear as PI, co-PI, Senior Personnel, or Consultant on no more than one proposal (EAGER or RAISE)



NSF 23-108

Dear Colleague Letter: Conference Proposals on Clean Energy Topics

NSF 23-108 - CET Conference Proposals

- Hydrogen, fusion, and/or geothermal technologies
- Industrial heat and/or energy efficiency technologies
- Fundamental challenges of enabling offshore wind/wave technologies
- Critical materials for clean energy technologies their recovery, reuse, and recycling
- Net-zero fuels and bioenergy
- Education and workforce development efforts
- Other emerging topics in clean energy will be considered



NSF 23-108 - CET Conference Proposals

- Increase the use of clean energy sources to benefit all sectors of the economy, to ensure social justice, and to contribute to the public good
- Present promising new ideas and a vision for advancing NSF's investments in fundamental convergent research in the chosen clean energy topic
- In addition to research and technological advances the workshop should emphasize: discussions on understanding barriers and opportunities for technology adoption; understanding the economic and societal impacts of technology development; social justice considerations; and/or understanding social and environmental sustainability of clean energy technologies

NSF 23-108 - CET Conference Proposals

- Address themes of convergence science and engineering
- Workshops should establish new collaborations among academic institutions, or among academic institutions and FFRDCs to advance Clean Energy Technologies
- Inclusion of research ideas related to computational, simulation, and data-science tools is encouraged
- Enhance diversity, e.g. participants from a diverse set of institutions, including non-R1 institutions, minority serving institutions of higher education, institutions in EPSCOR states, and primarily undergraduate institutions
- White Paper to NSF is an outcome of conference/workshop



NSF 23-108 - Submission

Concept outline due 6/30/2023



Invitation to submit conference proposal



Conference proposal due 8/16/2023

- 3 pages (plus a half-page justification of the estimated budget; 4 pages incl. references)
- Budget request: up to \$100,000
- Email concept outline to CET_DCL_Workshop@nsf.gov

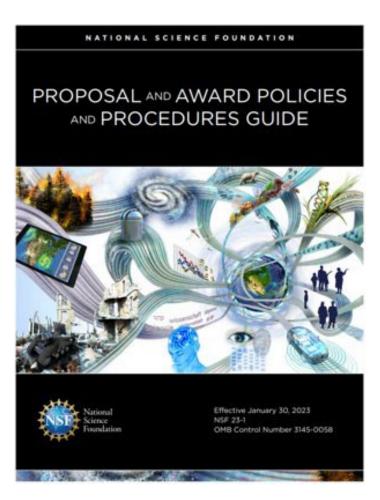
approx. 2 weeks after submission deadline

- Submit via Research.gov to the coordinating program Electrochemical Systems (PD 23-7644)





Resources and Program Officers are Available to Answer Questions



- Be sure to fully read the Dear Colleague Letter(s)
- Be sure to fully read the PAPPG
- PAPPG Part 1 Chapter 2 Proposal preparation guide
- PAPPG Exhibit II-1: Proposal Preparation Checklist

NSF 23-1



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Q&A

- Please use the Q&A panel in Zoom to submit questions.
 - After the webinar, email your questions to

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CET_DCL_EAGER@nsf.gov,
CET_DCL_Raises@nsf.gov or
CET_DCL_Workshop@nsf.gov
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Thank you!

