



U.S. DEPARTMENT OF
ENERGY

Office of
Science

Basic Energy Sciences Update

Basic Energy Sciences Advisory Committee Meeting

July 14, 2022

Linda Horton, Gail McLean, and Andy Schwartz

Office of Basic Energy Sciences

Updates --

- ▶ Post-COVID Return to Work
- ▶ BES staffing changes...
- ▶ FY 2022 funding and funding opportunity announcements
- ▶ Strategic Planning
- ▶ FY 2023 funding request

BES – Evolution towards a New “Normal”

▶ **Staff have largely returned to the office**

- ❖ Telework agreements to continue work from home on a part-time basis
- ❖ A few staff are “remote,” doing full-time telework, some temporarily due to ongoing COVID concerns
- ❖ Important to schedule time for in-person visits...

▶ **First in-person visits and staff travel have occurred!**

- ❖ Some additional requirements are in place since COVID
- ❖ Plan visits to DOE well in advance
- ❖ Could be impacted by local COVID Risk status (currently medium)

▶ **User Facilities are largely hosting in-person users as well as continuing remote user options**

Office of Basic Energy Sciences

Associate Director
Linda Horton

BES Budget and Planning

Kara Beles, Financial Management
Donetta Herbert, Financial Management
Thomas Russell, Senior Technical Advisor
(Vacant, Senior Technical Advisor)

BES Operations

Teresa Crockett, Program Analyst
Robin Hayes, Program Manager
Kerry Hochberger, Program Analyst / BESAC*
Andy Schwartz, Senior Technical Advisor for EFRCs** (A)
(Vacant, Program Support Specialist)

* Basic Energy Sciences Advisory Committee
** Energy Frontier Research Centers

Materials Sciences and Engineering Division

Andy Schwartz, Director

Shawn Chen, AAAS Fellow

Scientific User Facilities Division

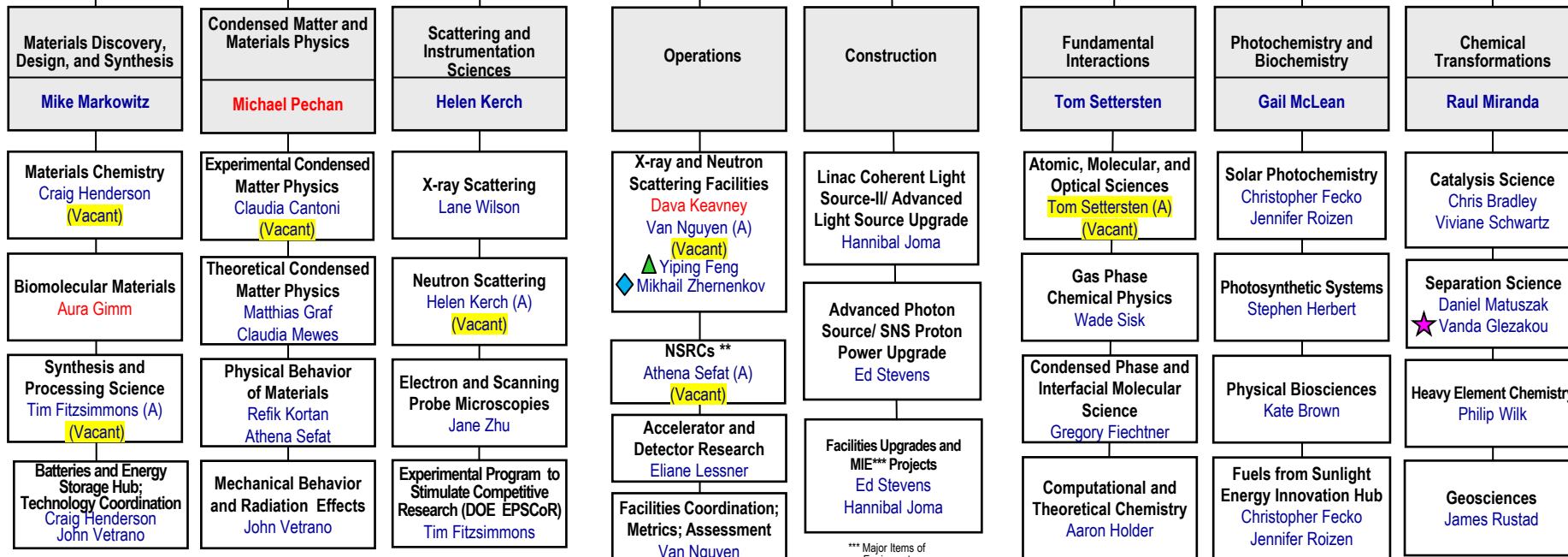
Linda Horton, Acting Director

Rocio Meneses, Program Support Specialist

Chemical Sciences, Geosciences, and Biosciences Division

Gail McLean, Acting Director

Brandon Rohnke, AAAS Fellow



*** Major Items of Equipment

** Nanoscale Science Research Centers

LEGEND

- ◆ Detailee (75%) from BNL
- ▲ Detailee (100%) from SLAC
- ★ Detailee (50%) from ORNL
- (A) Acting

July 2022
Posted July 5, 2022

Acting Division Director, Chemical Sciences, Geosciences and Biosciences



Dr. Gail McLean

Team Lead, Photochemistry and Biochemistry
Chemical Sciences, Geosciences and Biosciences Division

Expertise

- ▶ Plant biochemistry and molecular and cell biology
- ▶ Broad leadership in federal service, including previous service as the acting CSGB Division Director

Experience

- ▶ Joined BES in 2008
- ▶ Program manager for Photosynthetic Systems, now Team Lead for Photochemistry and Biochemistry
- ▶ National Program Leader for Plant Biology, U.S. Department of Agriculture (USDA)
- ▶ American Association for the Advancement of Science (AAAS) Fellow
- ▶ Research in the Biochemistry Department at the University of Maryland-Baltimore Medical School and in the Plant & Microbial Biology Department at the University of California, Berkeley
- ▶ Ph.D., Molecular Genetics, University of Georgia

<https://science.osti.gov/bes/csgb/About/Staff/Dr-B-Gail-McLean>

New Hire - Program Manager for X-ray Light Sources & Neutron Scattering Facilities, Scientific User Facilities Division



Dr. Dava Keavney

Program Manager for X-ray Light Sources and Neutron Scattering Facilities
Scientific User Facilities Division

Expertise

- ▶ Magnetic spectroscopy, imaging, and time-resolved techniques, focusing on magnetic materials, multifunctional oxides, and semiconductors
- ▶ Beamline operations, user support, instrument development, and upgrade activities

Experience

- ▶ Department of Energy's Office of Energy Efficiency and Renewable Energy, Advanced Manufacturing Office (AMO) focused on decarbonization, energy efficiency, and greenhouse gas emissions reductions in industry
- ▶ American Association for the Advancement of Science Fellow, Bureau of Energy Resources of the U.S. Department of State
- ▶ Instrument scientist, Advanced Photon Source (APS) at Argonne National Laboratory
- ▶ Ph.D., experimental condensed matter physics, Johns Hopkins University

New Condensed Matter and Materials Physics Team Lead



Dr. Mick Pechan

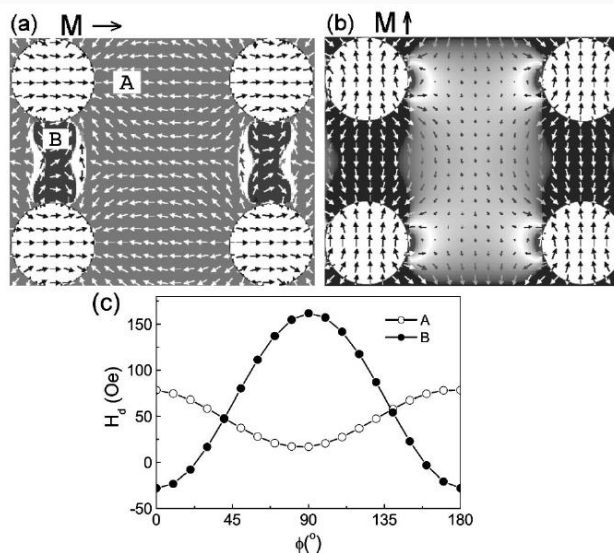
Team Lead, Condensed Matter and Materials Physics Team
Materials Sciences and Engineering Division

Expertise

- ▶ Condensed matter magnetism
- ▶ Magnetodynamics and magnetostatics in nanoscale and spintronic materials
- ▶ Magnetic resonance techniques

Experience

- ▶ Program Manager, Experimental Condensed Matter Physics
- ▶ Professor of Physics, Miami University (Ohio)
- ▶ Physics Ph.D., Iowa State University



Nanoscale magneto-dynamics enabled by ECMP support: Combined ferromagnetic resonance and micromagnetic simulation study identified highly localized magnetic excitations in antidot (hole) arrays. *Appl. Phys. Lett.* 83, 3948 (2003)

New Hire – Biomolecular Materials



Dr. Aura Gimm

Program Manager, Biomolecular Materials
Materials Sciences and Engineering Division

Expertise

- ▶ Biomaterials, nanobiotechnology, and engineering design

Experience

- ▶ Director for Biological Sciences in the Office of Under Secretary of Defense for Research and Engineering
- ▶ Program manager positions in Department of Defense basic research offices (AFOSR, ARO)
- ▶ Science policy in the Basic Research Office, Office of Assistance Secretary of Defense for Research and Engineering
- ▶ Duke University, faculty in biomedical engineering
- ▶ Postdoctoral fellowship in biomedical engineering/engineering physics, UW-Madison
- ▶ Ph.D., bioengineering, UC-Berkeley



BES Staffing Transitions – Congratulations to Retirees!



▶ **Thiyaga Thiyagarajan** – Neutron Scattering PM in MSE and PM for Neutron and X-ray (acting) Scattering Facilities, retired from federal service (2008-2021). Before becoming a Federal Program Manager, Thiyaga was a staff scientist at the Argonne National Laboratory during 1985-2008, he led in the pioneering development of two world-class Time-of-Flight Small Angle Neutron Scattering instruments at the Intense Pulsed Neutron Source, grew a vibrant user program in materials research, collaborated with several leading scientific groups, and carried out a research program in the areas of block copolymer self assembly, polymer composites, and supramolecular assembly of peptides.

▶ **Helen Kerch** (Scattering and Instrumentation Sciences team lead) is filling the NS PM role on an interim basis



▶ **Mike Sennett** – Materials Chemistry program manager, retired from federal service (1982-1995; 1998-2022). As a partner with Craig Henderson, his leadership and vision for Materials Chemistry has left the program in a very strong position as a funder of innovative science in support of DOE's mission. Before joining BES in 2011, Mike served as Chief Scientist for the US Army Research, Development and Engineering Command International Technology Center-Atlantic (UK). He was a research chemist with the US Army Natick Soldier Research and Development Center (1998-2008) and with the US Army Research Lab (1982-1995). He also had industrial experience as a senior staff scientist with Abiomed, Inc. (1995-1998).

** Vacancy announcements posted for both positions in June

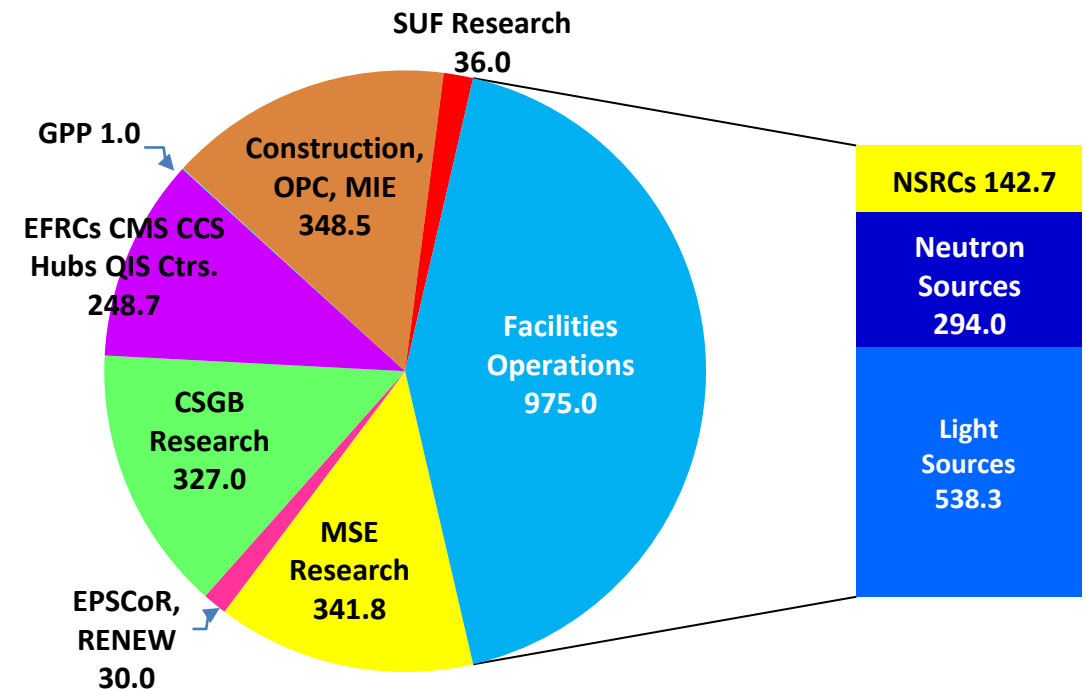
FY 2022 Enacted: \$2,308M (+\$63M or +2.8% above FY 2021)

Research programs $\Delta = +\$117.2M$

- ▶ Research (\$696.8M, +\$99.5M) includes new and expanded investments in research for clean energy, manufacturing, microelectronics, critical materials and minerals, BRaVE, and RENEW (\$3M, Reaching a New Energy Sciences Workforce)
 - ❖ EPSCoR continues (\$25M)
- ▶ Computational Materials and Chemical Sciences, Energy Innovation Hubs, and National QIS Research Centers continue (\$118.7M, +\$2.7M)
- ▶ Energy Frontier Research Centers continue (\$130M, +\$15M**)

Scientific user facilities $\Delta = +\$15.8M$

- ▶ Operations of 12 facilities continue at ~97% of historic optimal (\$975.0M)
- ▶ Facilities research (\$36M) continues AI/ML; increases accelerator R&D; plus RENEW +\$2M



Construction/MIE* $\Delta = -\$70M$

- ▶ APS-U (\$106M); LCLS-II (\$32.4M); LCLS-II-HE (\$53M); ALS-U (\$75.1M); PPU (\$17M); STS (\$32M); CRMF (\$3M)
- ▶ MIEs: NSRC Recap (\$15M); NEXT-II (\$15M)

*includes OPC, **includes SBIR

FY 2022 Special Topic FOAs Focus on Administration Priorities

- ▶ **Early Career:** Support the development of individual research programs of outstanding scientists early in their careers and to stimulate research careers in the areas supported by SC; all BES core research areas and facilities operations.
 - ❖ 38 awards (31 university, 7 Lab); 5-year funding: \$40.75M
 - ❖ 20 states; 8 new BES Early Career institutions; 3 minority serving institutions; 8 EPSCoR
 - ❖ SC-wide Awards list available at <https://science.osti.gov/early-career>
- ▶ **Computational Chemical Sciences:** Basic research by teams to develop validated, open-source codes that can effectively use exascale computing capabilities to model and simulate complex chemical systems.
 - ❖ 8 awards for \$18.3M announced on July 7 with out-year funding contingent on congressional appropriations.
 - ❖ Funding totals ~\$6M in FY 2022 for 3-year awards
 - ❖ Award teams are led by universities (6) and national laboratories (2); award list is available at <https://science.osti.gov/-/media/bes/pdf/BES-CCS-2608-Awards-List-2022.pdf>

FY 2022 FOAs (continued)

- ▶ **Clean Energy and Manufacturing:** Basic research to advance priorities for clean energy and low-carbon manufacturing.
 - ❖ Includes hydrogen, solar energy, carbon dioxide removal, energy storage, nuclear energy, science for decarbonization and sustainable manufacturing, and critical materials (crosscutting, enabling topic)
 - ❖ Up to \$50M/year for 3-year awards; ~50 awards anticipated
 - ❖ Mix of single-PI and team awards
 - ❖ Proposals under review
 - ❖ August award announcement expected

FY 2022 FOAs (continued)

- ▶ **EPSCoR**: Early-stage, fundamental scientific and engineering research to advance the geographic diversity of researchers conducting energy-related research through collaborative partnerships with DOE National Labs. Coordinated with SC, EERE, NE, FECM, and OE
 - ❖ ~\$19M for 3-year awards (fully-funded); ~25-30 awards anticipated
 - ❖ Proposals under review; August award announcement expected
- ▶ **EFRCs**: Multi-disciplinary teams performing discovery science and use-inspired basic research that addresses priority research directions and opportunities identified by BES workshop and roundtable reports.
 - ❖ Emphasis on science for clean energy and advanced manufacturing, as well as other priority areas including quantum information science and quantum materials
 - ❖ Up to \$100M/year for 4-year awards; 30-35 awards anticipated
 - ❖ Proposals under review; August award announcement expected

Listening Sessions for Under-represented Groups – What did we learn?

- ▶ In December 2020, SC initiated listening sessions and discussions for community input on barriers to participation – and how to overcome those barriers – by individuals and institutions historically underrepresented in SC-sponsored opportunities.
- ▶ Synthesis of session comments found the most frequent comments were in areas of:
 - Systemic barriers
 - Lack of awareness of opportunities
 - Implicit bias
 - Solicitation processes
 - Access to equipment
 - Recruitment
 - Promoting DEI
 - Mentoring
- ▶ Response includes:
 - ❖ New FOA Program Policy Factors emphasizing importance of diversity
 - ❖ Expanded outreach including FOA webinars
 - ❖ Enhanced user facility actions to engage underrepresented groups
 - ❖ RENEW Initiative – FOA issued
 - ❖ Proposed FAIR Initiative

RENEW: Reaching a New Energy Sciences Workforce

▶ BES Goals for RENEW:

- ❖ Increase participation of **underrepresented groups** in **BES's clean energy research portfolio**,
- ❖ Advance a **diverse, equitable**, and **inclusive research community**, which is key to providing the scientific and technical expertise for U.S. scientific leadership,
- ❖ Leverage partnerships with **BES's world-class national laboratories** and **user facilities**,
- ❖ Provide training (i.e., internships) and research opportunities for students, postdoctoral researchers, and faculty from **non-R1 minority serving institutions (MSIs)**, including **Historically Black Colleges and Universities (HBCUs)**, currently underrepresented in the BES portfolio.

BES RENEW FOA

- ▶ **FOA Issued:** 05/25/2022 – Outreach Webinar held on 06/13/2022
- ▶ **Estimated funding:** Subject to availability of funds, a total of up to \$15 million in current and future fiscal year funds will be used to support awards under this FOA.
- ▶ **Period of performance:** DOE anticipates making awards with a project period of **3 years**, with an option to **renew** for **3 additional years**, subject to the availability of future funds.
- ▶ **Minimum/maximum award size:**
 - ❖ **Floor:** \$500,000 per year
 - ❖ **Ceiling:** \$750,000 per year
- ▶ **LOI due date:** 08/02/2022, by 5:00PM Eastern Time
- ▶ **Application due date:** 08/23/2022, by 11:59PM Eastern Time
- ▶ DOE anticipates that **award selection** will be completed by the 1st quarter of FY 2023 (Oct – Dec 2022)

BES RENEW Teaming

Teaming Arrangements:

- ▶ Teams must consist of **one** or **more non-R1 MSIs** in partnership with a **single DOE national laboratory**.
- ▶ One **non-R1 MSI** must be identified as the **lead institution**.
- ▶ The **lead PI** must be affiliated with the **lead institution**.
- ▶ The **lead institution** must receive the **largest fraction** of the **proposed budget**.
- ▶ **15-25%** of the **proposed budget** must be allocated to the **lab partner** to ensure active participation and mentorship.
- ▶ Multi-institutional teams must submit one application from a designated lead institution with all other team members proposed as subrecipients.

Partnership Exploration:

- ▶ Non-R1 MSI institutions should contact the National Laboratory Points of Contact (POCs) with a **short description** of the **proposed research** and **potential lab PI(s)**, if known.
- ▶ National Laboratory POCs: <https://science.osti.gov/bes/Funding-Opportunities>

Defining Research Priorities: Basic Research Needs Strategic Planning Workshops and Roundtables

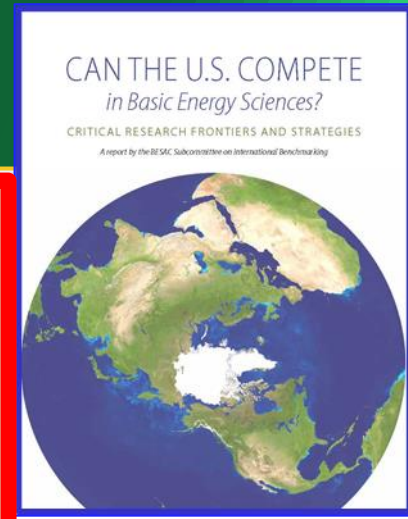
Foundational Science for Biopreparedness & Response roundtable (co-sponsored by SC Advanced Scientific Computing (ASCR), Biological and Environmental Research (BER), BES) – brochure posted, full report expected soon

<https://science.osti.gov/Initiatives/Biopreparedness/Community-Resources>

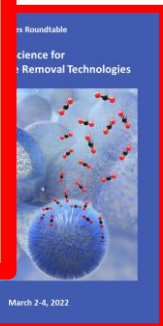
DOE Energy Sciences computer network (ESnet) Requirements Review for BES – report expected in Fall 2022 – high speed computer network that connects DOE labs and research sites

Roundtable in planning: Sustainable Aviation Bio-based Fuels RT, led by BER with Energy Efficiency and Renewable Energy's Bioenergy Technologies Office, ASCR, and BES

Additional roundtable/workshop topics under consideration:
Critical elements in energy? Energy efficiency? Others?



BES Advisory Committee: International Benchmarking Report



Priority Research Opportunities to Advance Foundational Science for Carbon Dioxide Removal Technologies

- ▶ Master Interfacial Processes of CO₂ Transport and Reactivity Across Multiple Length and Time Scales
- ▶ Create Materials that Simultaneously Exhibit Multiple Properties for CO₂ Capture and Release or Conversion
- ▶ Discover Unconventional Pathways and Materials for Energy-Efficient CO₂ Capture, Release, and Conversion
- ▶ Control Multiphase Interactions Required for CO₂ Conversion into Molecules, Minerals, and Materials
- ▶ Achieve Predictive Understanding of Coupled Processes in Complex Subsurface Geologic Systems for Secure Carbon Storage

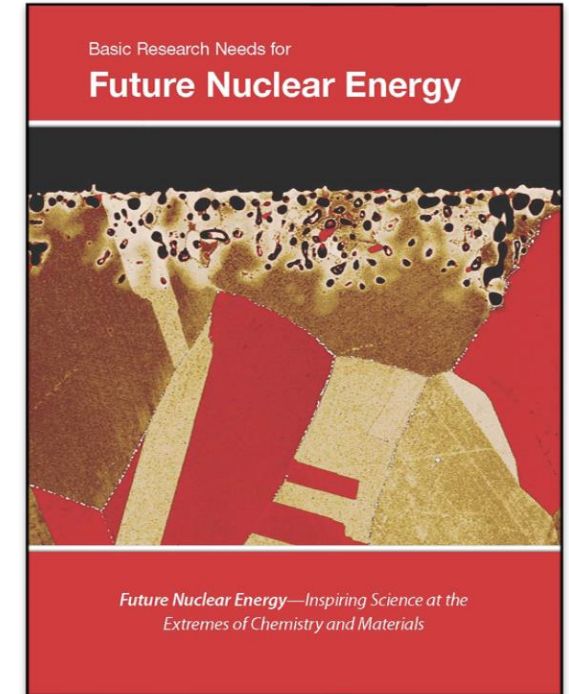


DOE Carbon Negative Shot Summit: July 20, 2022
<https://www.energy.gov/fecm/carbon-negative-shot-summit>

Brochure available at <https://science.osti.gov/bes/Community-Resources>

Roundtable to Identify Priority Research Opportunities for Fundamental Science to Accelerate Nuclear Energy Innovation

- ▶ Complement the research priorities in the 2017 BES Workshop report on Basic Research Needs for Future Nuclear Energy
- ▶ Will consider the impact of new technological innovations such as the growing use of artificial intelligence and machine learning tools
- ▶ Will address challenges that have emerged for nuclear energy including materials, coolant, and fuel challenges for advanced reactor concepts
- ▶ Co-organized by BES, Advanced Scientific Computing Research, Fusion Energy Sciences, and Nuclear Energy
- ▶ Virtual format – July 20-22, 2022
- ▶ Co-chairs: Rebecca Abergel (LBNL/UCB); Blas Uberuaga (LANL); Marianne Walck (INL)



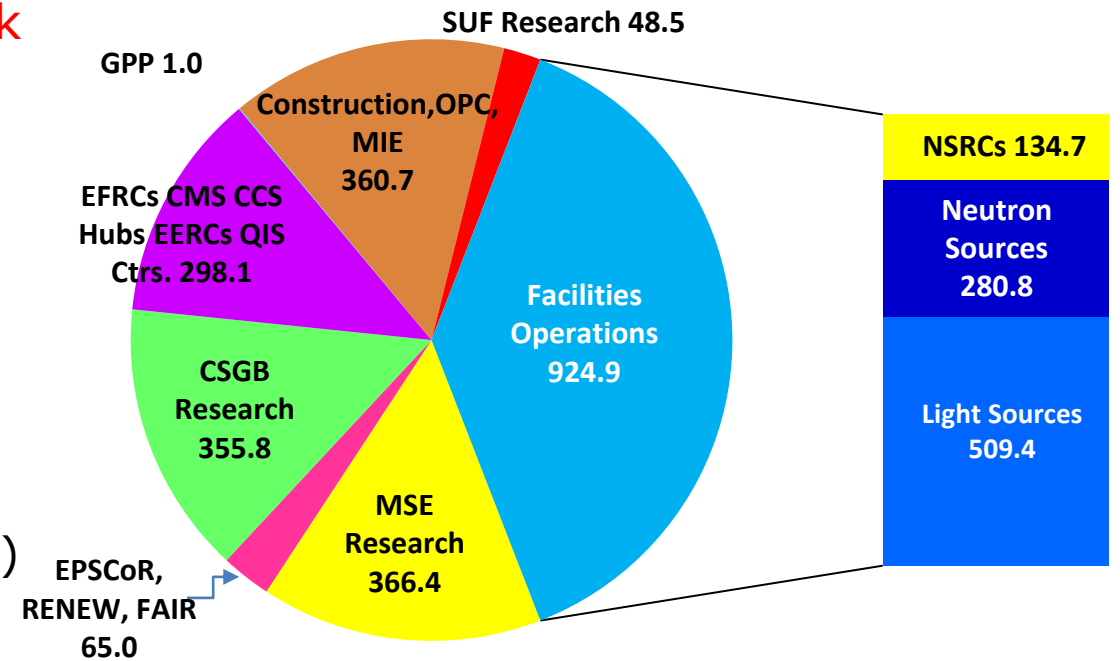
FY 2023 House Mark compared to the FY 2023 Request

- ▶ FY 2023 House Mark: \$2,495M
 - ❖ +\$74.6M or 3.1% above FY 2023 Request
 - ❖ +\$187M or 8.1% above FY 2022 Enacted
- ▶ Facility operations increased by \$121M: ~13% increase
- ▶ SC Energy Earthshots Initiative (new) reduced from \$104.25M to \$50M (all other initiatives unchanged from the Request)
 - ❖ Within that, EERCs reduced from \$50M to \$25M; other reductions spread across core research areas

FY 2023 Request: \$2,420.4M (+\$112.4M or +4.9% above FY 2022 Enacted) – House Mark in red

Research programs $\Delta = +\$137.8M \rightarrow +\$83.5M$ Mark

- ▶ Research (\$785.2M, +\$88.4M $\rightarrow +\$59.1M$ Mark) includes new and expanded investments in research for BRaVE, manufacturing, AI/ML, FAIR, ACCELERATE, SC Energy Earthshot, and RENEW
 - ❖ EPSCoR continues (\$35M, +\$10M)
- ▶ Computational Materials and Chemical Sciences, Energy Innovation Hubs, and National QIS Research Centers continue (~\$118M)
- ▶ Energy Frontier Research Centers continue (~\$130M)
- ▶ Energy Earthshot Research Centers initiated (+\$50M $\rightarrow +\$25M$ Mark)



Scientific user facilities $\Delta = -\$37.6M \rightarrow +\$91.2M$

- ▶ Operations of 12 facilities continue at ~90% of optimal (\$924.9M $\rightarrow \$1,046M$ Mark)
- ▶ Facilities research increases for AI/ML, BRaVE, and accelerator R&D (\$50.5M)

Construction/MIE* $\Delta = +\$12.2M$

- ▶ APS-U (\$14.2M); LCLS-II-HE (\$94M); ALS-U (\$135M); PPU (\$17M); STS (\$37M); CRMF (\$10M); HPVR (\$2M); NEXT-III (\$1.5M)
- ▶ MIEs: NSRC Recap (\$25M); NEXT-II (\$25M)

*includes OPC

FY 2023 SC Energy Earthshots Initiative (Request +\$104M; House Mark +\$50M)

- ▶ Addresses key research challenges at the interface between basic research and applied research and development activities to bridge the R&D gap and realize the stretch goals of the DOE Energy Earthshots
- ▶ BES, with other SC Offices, will initiate a new research modality of Energy Earthshot Research Centers (EERCs)
 - ❖ Modeled on the Energy Frontier Research Centers, BES will support large teams that are multi-investigator, multi-disciplinary, and multi-institution (academic, national laboratory, industrial) to advance foundational knowledge and enabling capabilities in experimental and computational chemical and materials sciences to address Earthshot goals
 - ❖ BES will coordinate closely with the Energy Technology Offices and existing research consortia/demonstration projects, to establish teams that span the R&D continuum and accelerate both science and technologies – providing a strong bridge between BES and technology research
- ▶ BES will complement EERCs with small group awards
 - ❖ Focus on use-inspired fundamental research to address knowledge gaps that limit achievement of the Energy Earthshot goals

Hydrogen Shot



1 Dollar



1 Kilogram



1 Decade

Long Duration Storage Shot



Reduce storage costs by 90%*...

*from a 2020 Li-Ion baseline



...in storage systems That deliver 10+ hours of duration



...in 1 decade

Carbon Negative Shot



<100 Dollars



1 Ton

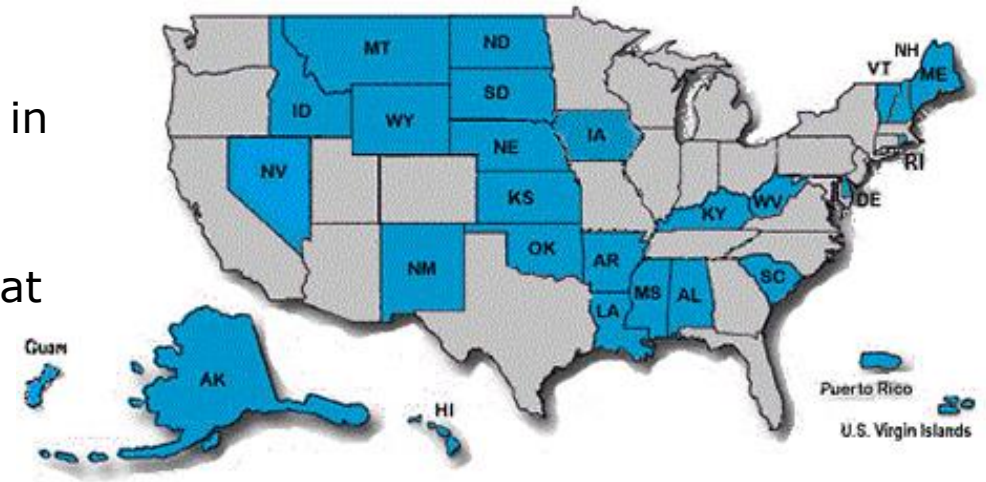


1 Decade

Research Opportunities for Underrepresented Communities

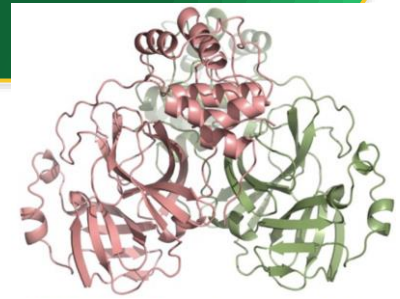
BES will build stronger programs with underrepresented institutions and regions, including strengthening awareness to address environmental justice issues

- ▶ **FAIR (+\$20M) - Funding to Accelerate Inclusive Research.** Enhancing research on clean energy, and related topics at minority serving institutions (MSIs). The activities will improve the infrastructure, capacity, capability, and expertise of MSIs to perform and propose competitive research and will build beneficial relationships between MSIs and DOE National laboratories and facilities, complementing the RENEW workforce initiative.
- ▶ **RENEW (+\$5M)** – Doubling the FY 2022 investment, BES increases support for the SC-wide RENEW initiative that leverages SC’s world-unique National laboratories and user facilities to provide internships for students at academic institutions currently under-represented in the BES research portfolio, focused on clean energy topics.
- ▶ **EPSCoR (+\$10M)** - The increased funding in the DOE EPSCoR program will support clean energy and climate-related research in U.S. states and territories that do not have large federally-supported academic research programs. The FY 2023 funding opportunity will focus on larger-team implementation awards that facilitate development of research infrastructure in the EPSCoR jurisdictions.

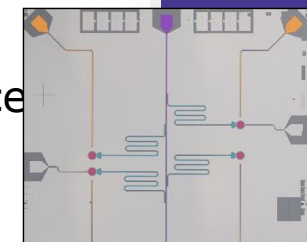
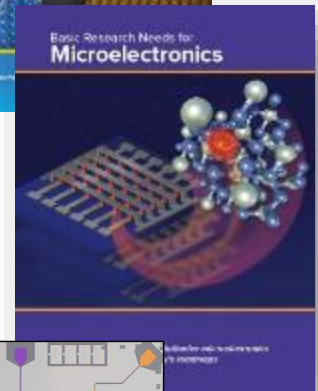


FY 2023 National Competitiveness

- ▶ **Accelerate Innovations in Emerging Technologies (Accelerate, +\$15M):** BES will support research to accelerate the transition of science advances to clean energy technologies, including future-generation microelectronics, low-carbon manufacturing, and emerging technologies to move from laboratory to industrial prototypes.
- ▶ **Biopreparedness Research Virtual Environment (BRaVE, +\$9M):** BES will support critical analytical capabilities foundational to responses for future emergencies, focusing on advanced end stations at DOE light and neutron user facilities plus cryoelectron microscopy and related imaging techniques.
- ▶ **Manufacturing and Microelectronics:** BES will continue to support multi-disciplinary basic research to advance new materials, chemistry, synthesis, and fabrication research that accelerates the advancement of low-carbon manufacturing and microelectronic technologies in a co-design innovation ecosystem.
- ▶ **Quantum Information Science (QIS):** BES will continue research to understand and control quantum coherence and entanglement in atomic, molecular, and materials systems; develop systems with properties needed for quantum computing and sensing; advance approaches and algorithms to harness quantum computers for BES research; and establish the QIS infrastructure needed to support the nation's research efforts.
- ▶ **Artificial Intelligence and Machine Learning (+\$9M):** BES will support data science to accelerate BES discovery science, and to aid in effective user facility operations and interpretation of massive data sets



LCLS - SARS-CoV-2 structure



Superconducting multiqubit chip

Small Business Innovation Research (SBIR) and Technology Transfer (STTR)

- ▶ By Congressional statute, SBIR/STTR is supported by 3.65% of the BES research budget line – SBIR 3.20%, STTR 0.45%
- ▶ **Phase I awards:** Maximum \$200K for 1 year; **Phase II awards:** Maximum \$1.1M for 2 years
- ▶ **FY 2023 Phase I Release 1 FOA: Required Letters of Intent due August 29, 2022; Applications due October 11, 2022**
 - ❖ **Topics:** Download details from <https://science.osti.gov/sbir/Funding-Opportunities>
Topics Webinar: July 20, 2022, 2:00-4:00 EDT, Registration: <https://science.osti.gov/sbir/Funding-Opportunities>
Solicitation for Phase I: to be posted **August 8, 2022**
 - ❖ **Accelerator and Detector Research topics:** (1) Cryostat for testing superconducting undulator magnets, (2) Novel instruments and techniques for detection and removal of contamination particulates in high-power proton superconducting linac radio frequency cavities, (3) High repetition rate sample delivery system for superconducting-RF and multi-bunch x-ray free electron laser
 - ❖ **Nanoscale Science Research Centers topics:** (1) Time resolved ultrafast circular dichroism spectroscopy, (2) Advanced electron microscopy – precision controls
 - ❖ **Neutron scattering topic:** Enhancement of scattering instrumentation technology used at pulsed and continuous neutron sources
 - ❖ **Data topic:** Development of tools for integrating and utilizing complex data from chemical sciences, geosciences, and biosciences
 - ❖ **Technology Offices topics funded by BES:** High performance materials for nuclear application (NE), Advanced subsurface energy technologies (EERE/FECM), Advanced fossil energy and carbon management technology research (FECM)
 - ❖ **Technology transfer opportunity funded by BES:** Refractive polymer-based x-ray optical components (ANL)
- ▶ **FY 2023 Phase II Release 1 FOA: Will be issued October 17, 2022**

Coming Activities --

- ▶ User facilities: Clean energy webinars
- ▶ Assessment of supply chain, inflation, and other post-COVID challenges for facility operations and construction
- ▶ Strategic planning: Workshop and roundtable topics...
- ▶ International benchmarking reports from other SC offices – building on the BESAC process and report
- ▶ Refresh for SC webpages...
- ▶ BES staff travel to meetings!
- ▶ Continued job postings for staff vacancies

Questions? Feedback?



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