APS Advocacy & You

DPF-PHENO

University of Pittsburgh/Carnegie Mellon University
May 2024

Mark Elsesser
Director of Public Affairs
American Physical Society

1. **The US Government plays an important role in physics research, including HEP.**

1. **The US Government plays an important role in physics research, including HEP.**

2. **APS and its members (read: you) can influence decisions made by Congress.**

1. **The US Government plays an important role in physics research, including HEP.**

2. **APS and its members (read: you) can influence decisions made by Congress.**

American Physical Society Government Affairs Team

Julie Davis
Federal Relations Senior Associate

Francis Slakey
Chief External Affairs Officer

Nico Hernández Charpak
Science Policy Manager

Mark Elsesser
Director of Public Affairs

Charlotte Selton
Member Advocacy Senior Associate

APS Approach to Advocacy

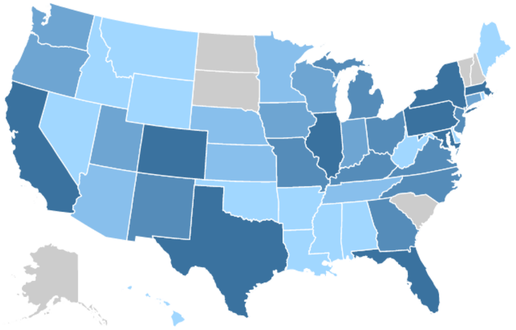
APS Approach to Advocacy

We don’t just sign letters

APS Approach to Advocacy

We take action

APS Approach to Advocacy



The New York Times

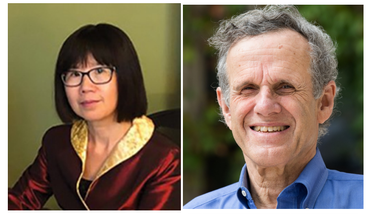
Opinion

Nothing on Earth Can Replace Helium — and It's in Peril

Liquid helium has helped build billion-dollar industries and generate multiple Nobel Prizes. Now our supply is running low.

By Joseph DiVerdi
Dr. DiVerdi is a chemistry professor.

Sept. 4, 2019



We take action

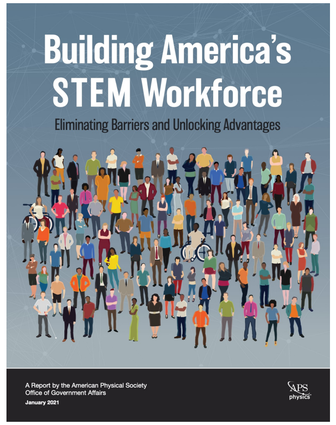
APS Forum on Diversity & Inclusion
FDI

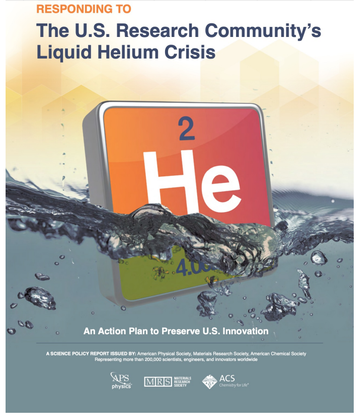
FECS FORUM FOR Early Career Scientists

ENERGY SCIENCES COALITION

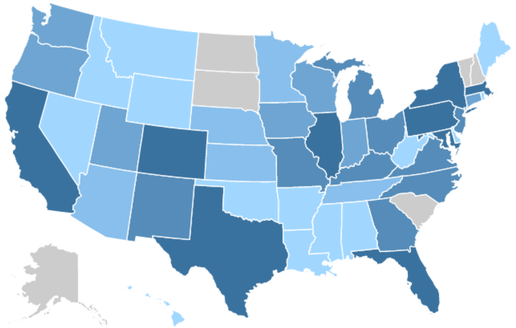
TFAI

CNSF COALITION FOR NATIONAL SCIENCE FUNDING





APS Approach to Advocacy



The New York Times

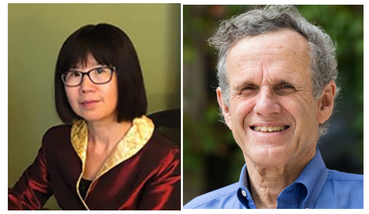
Opinion

Nothing on Earth Can Replace Helium — and It's in Peril

Liquid helium has helped build billion-dollar industries and generate multiple Nobel Prizes. Now our supply is running low.

By Joseph DiVerdi
Dr. DiVerdi is a chemistry professor.

Sept. 4, 2019



We take action

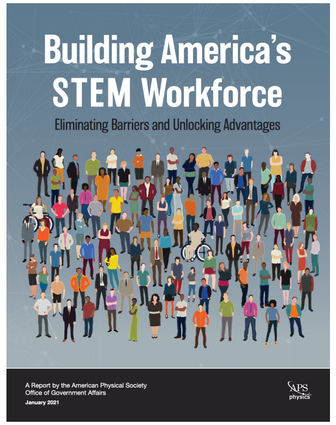
APS Forum on Diversity & Inclusion
FDI

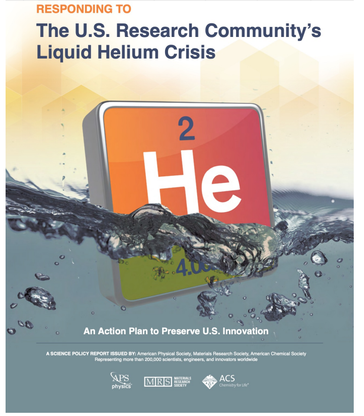
FECS FORUM FOR Early Career Scientists

ENERGY SCIENCES COALITION

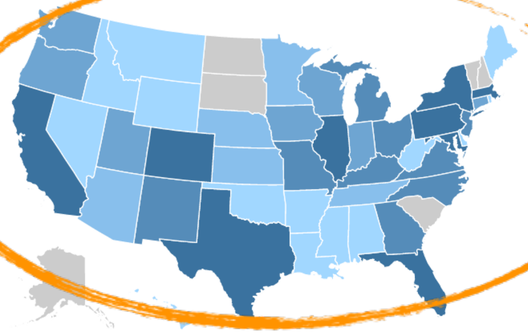
TFAI

CNSF COALITION FOR NATIONAL SCIENCE FUNDING





APS Approach to Advocacy



The New York Times

Opinion

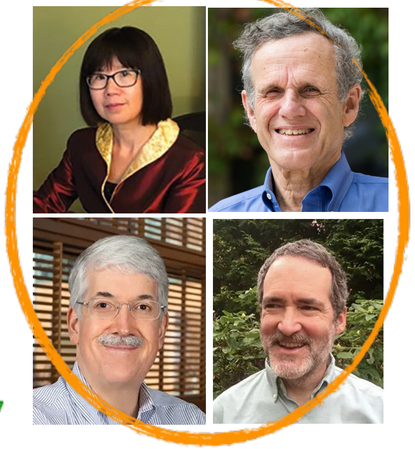
Nothing on Earth Can Replace Helium — and It's in Peril

Liquid helium has helped build billion-dollar industries and generate multiple Nobel Prizes. Now our supply is running low.

By Joseph DiVerdi

Dr. DiVerdi is a chemistry professor.

Sept. 4, 2019



We take action

APS Forum on Diversity & Inclusion

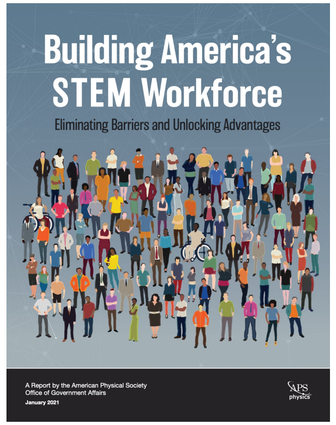
FDI

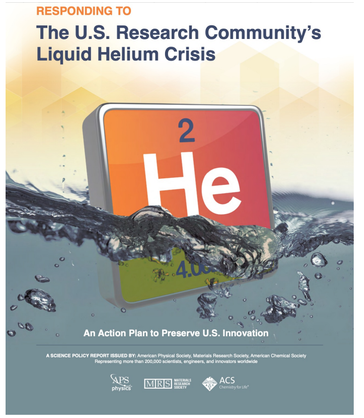
FECS FORUM FOR Early Career Scientists

ENERGY SCIENCES COALITION

TFAI

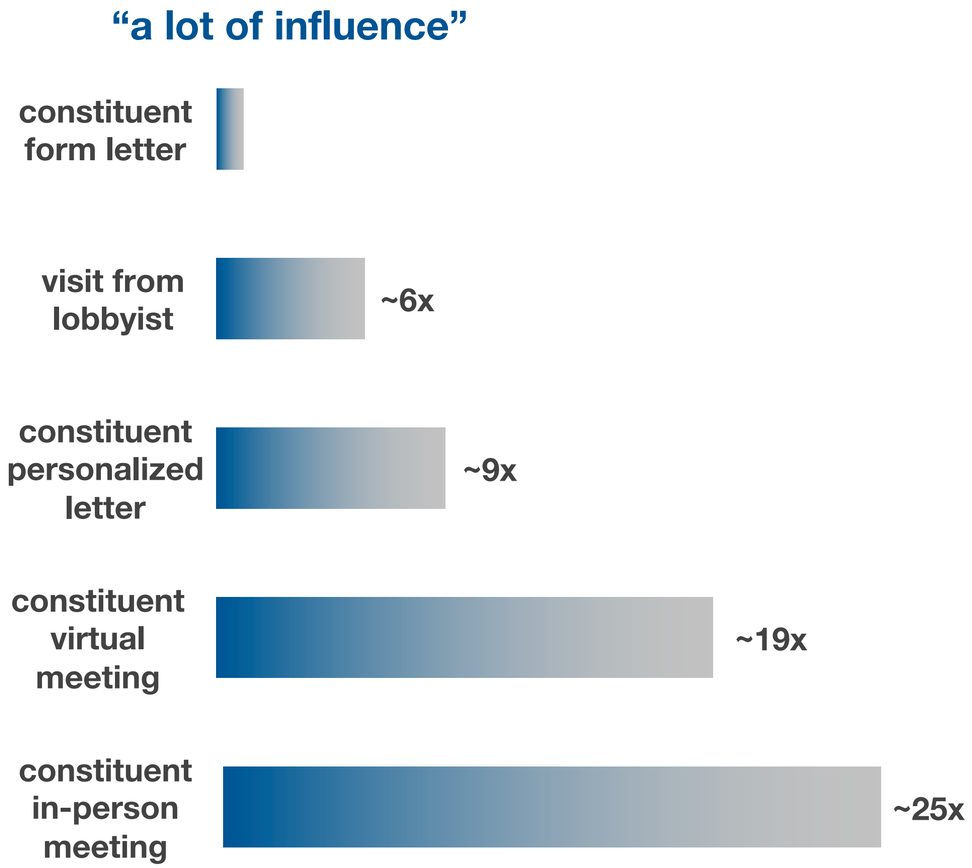
CNSF COALITION FOR NATIONAL SCIENCE FUNDING



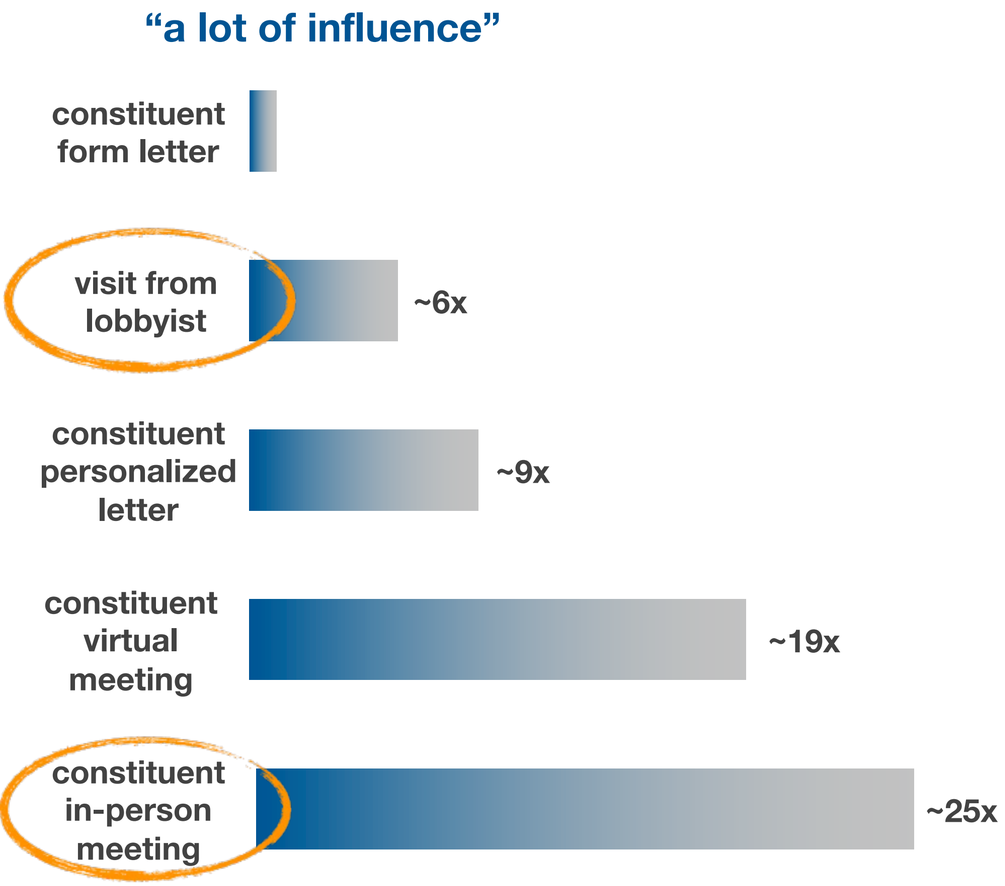


If your Representative/Senator hasn’t already arrived at a firm decision on an issue, how much influence might the following advocacy strategies have on their decision?

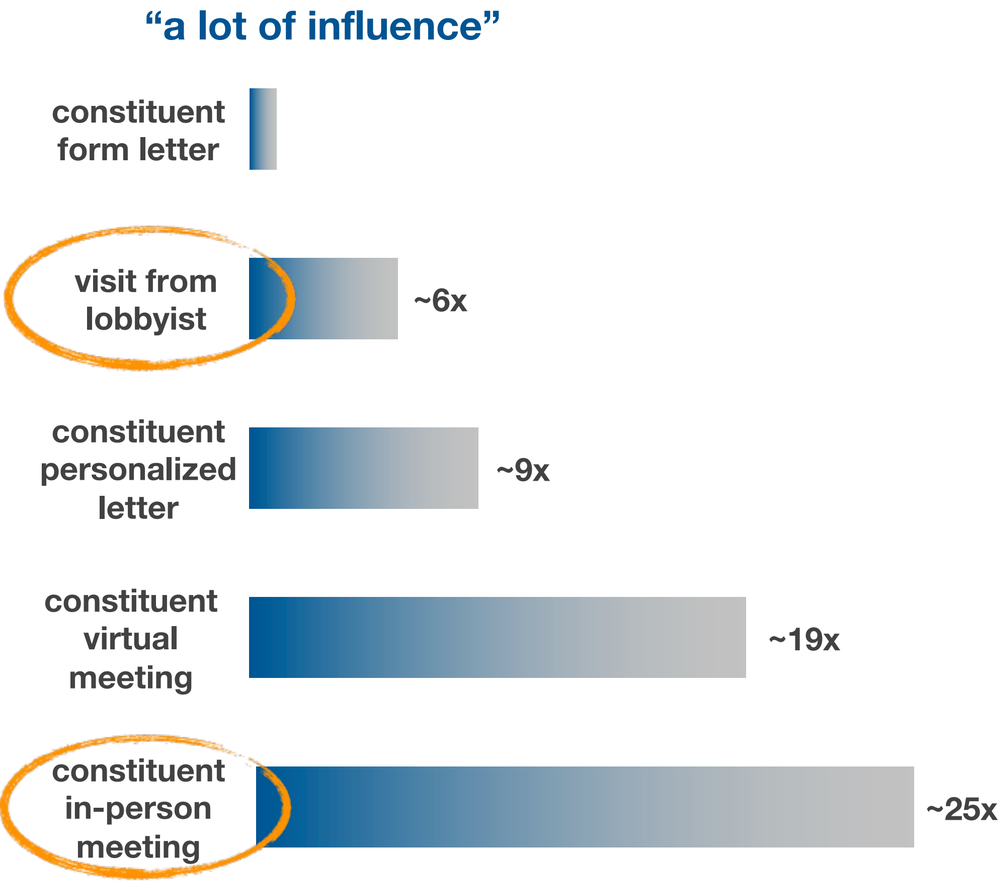
If your Representative/Senator hasn't already arrived at a firm decision on an issue, how much influence might the following advocacy strategies have on their decision?



If your Representative/Senator hasn't already arrived at a firm decision on an issue, how much influence might the following advocacy strategies have on their decision?



If your Representative/Senator hasn't already arrived at a firm decision on an issue, how much influence might the following advocacy strategies have on their decision?



You** can be more influential than a **lobbyist

August 9, 2022

August 9, 2022

CHIPS and Science Act

August 9, 2022

CHIPS and Science Act

Subtitle D—Combating Sexual Harassment in Science

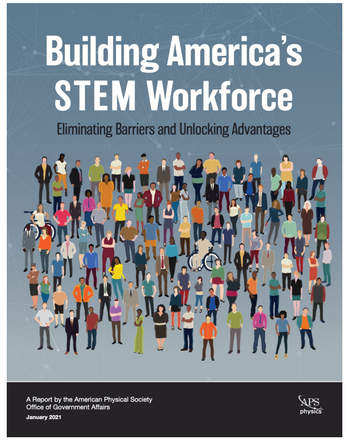
SEC. 10531. FINDINGS.

Congress makes the following findings:

(1) According to the report issued by the National Academies of Sciences, Engineering, and Medicine in 2018 entitled "Sexual Harassment of Women: Climate, Culture, and Consequences in Academic Sciences, Engineering, and Medicine''—

(A) sexual harassment is pervasive in institutions of higher education;

(B) the most common type of sexual harassment is gender harassment;



(c) PARTNERSHIPS WITH EMERGING RESEARCH INSTITUTIONS.—

(1) IN GENERAL.—The Director shall establish a five-year pilot program for awards to research partnerships that involve emerging research institutions and may involve institutions classified as very high research activity by the Carnegie Classification of Institutions of Higher Education at the time of application.

The New York Times

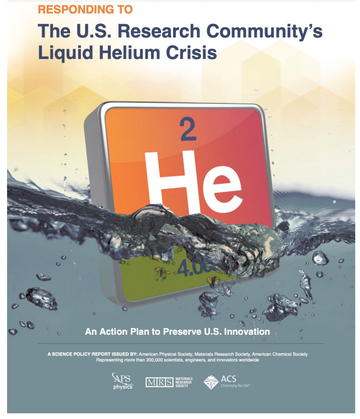
Opinion

Nothing on Earth Can Replace Helium — and It's in Peril

Liquid helium has helped build billion-dollar industries and generate multiple Nobel Prizes. Now our supply is running low.

By Joseph DiVerdi
Dr. DiVerdi is a chemistry professor.

Sept. 4, 2019



SEC. 10373. HELIUM CONSERVATION.

(a) MAJOR RESEARCH INSTRUMENTATION SUPPORT.—

(1) IN GENERAL.—The Director shall support, through the Major Research Instrumentation program, proposal requests that include the purchase, installation, operation, and maintenance of equipment and instrumentation to reduce consumption of helium.

August 9, 2022

CHIPS and Science Act

APS was the leading voice on these three issues

- **House Science Committee Professional Staff (Majority & Minority)**

Thank you

(please save questions until the end)

elsesser@aps.org

HEP Government Relations + The DC Trip in the 2023 P5 Era

Kiley Kennedy, Princeton University

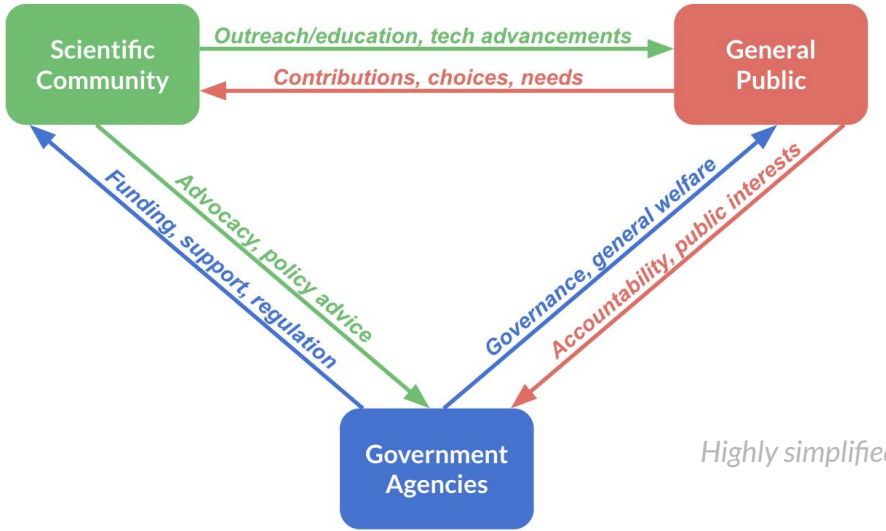
DPF-PHENO, 14 May 2024

Is High Energy Physics “Political”?

Is High Energy Physics “Political”?

Not really, but…

- ➔ We (scientists) are embedded in a complex web of varying interests, understanding, and power
- ➔ Funding levels can depend on the interplay of a variety of evolving factors, reflecting the dynamic nature of the government budgeting processes



Highly simplified

P5 Budget Scenario Breakdown (2 Examples)

Less Favorable Scenario

Baseline Scenario

More Favorable Scenario

*Highly simplified

P5 Budget Scenario Breakdown (2 Examples)

Less Favorable Scenario

Baseline Scenario

More Favorable Scenario

DUNE and PIP-II:
Phase I, ACE-MIRT, FD3,
upgraded near-detector complex

R&D for 10 TeV pCM Collider:
Vigorous R&D, FNAL accelerator
complex development

**Highly simplified*

P5 Budget Scenario Breakdown (2 Examples)

Less Favorable Scenario

Defer ACE-MIRT and MCND

US reputation as a host damaged

Reduced support

Baseline Scenario

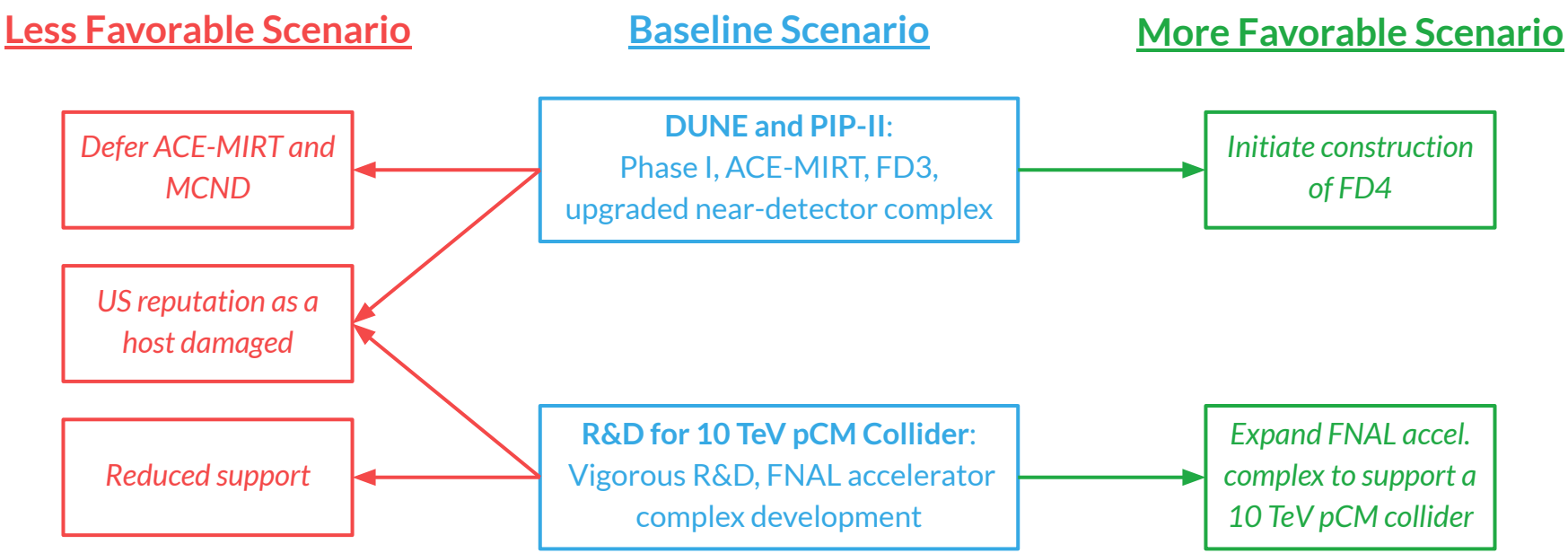
DUNE and PIP-II:
Phase I, ACE-MIRT, FD3, upgraded near-detector complex

R&D for 10 TeV pCM Collider:
Vigorous R&D, FNAL accelerator complex development

More Favorable Scenario

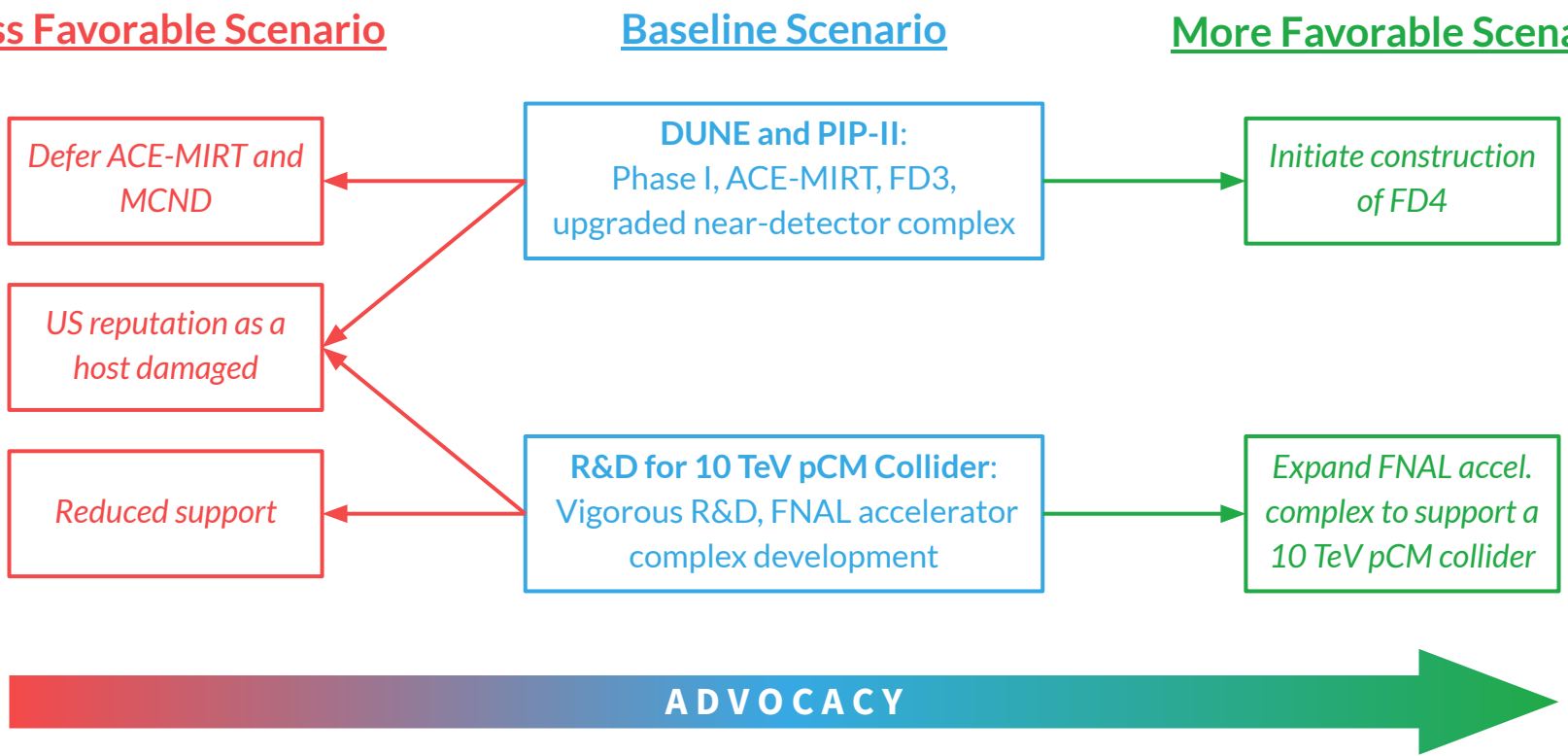
**Highly simplified*

P5 Budget Scenario Breakdown (2 Examples)



*Highly simplified

P5 Budget Scenario Breakdown (2 Examples)



*Highly simplified

HEP Annual Advocacy Effort – The “DC Trip”

- Joint effort between UEC, USLUA, and SLUO, with support from APS DPF, **on behalf of entire US HEP Community**
  - Recent uptick in support from ANL, BNL, LBNL
- Team of ~40-70 volunteers travel to DC for ~3-5 days of meetings with legislative and executive offices

Image: David Yu

HEP Annual Advocacy Effort – The “DC Trip”

- Joint effort between UEC, USLUA, and SLUO, with support from APS DPF, **on behalf of entire US HEP Community**

Prof. Breese Quinn: ***“We have worked hard to successfully earn the reputation of being the ‘gold standard’ of program planning, not just in science, but more broadly. We have profited from that reputation immensely.”***

- Team of ~40-70 volunteers travel to DC for ~3-5 days of meetings with legislative and executive offices

Image: David Yu

Our Advocacy Goals

"The Ask" for FY2025

The U.S. particle physics community asks for your support of the P5 Report's strategic plan by providing FY2025 appropriations that include:

$1.385B for High Energy Physics within a budget of
$9.5B for the Department of Energy's Office of Science,
and $11.9B for the National Science Foundation,
consistent with the bipartisan CHIPS and Science Act

This level of funding will advance HEP's highest priority large-scale projects, sustain operations of existing and recently constructed facilities, and promote a portfolio of small and medium-sized projects. This funding level is especially important to increase support for scientific researchers at universities and national laboratories across the country who are exploring our quantum universe through the Higgs Boson, dark matter, dark energy, neutrinos, and new particles and forces that govern the origin and evolution of the cosmos.

Our Advocacy Goals

"The Ask" for FY2025

The U.S. particle physics community asks for your support of the P5 Report's strategic plan by providing FY2025 appropriations that include:

$1.385B for High Energy Physics within a budget of $9.5B for the Department of Energy's Office of Science, and $11.9B for the National Science Foundation, consistent with the bipartisan CHIPS and Science Act

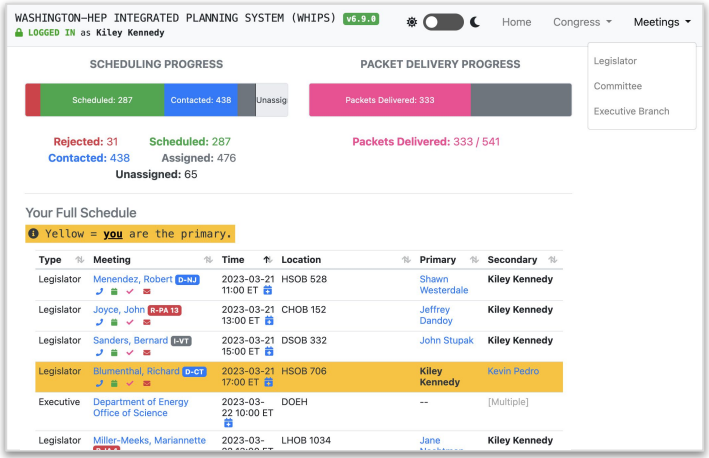
This level of funding will advance HEP's highest priority large-scale projects, sustain operations of existing and recently constructed facilities, and promote a portfolio of small and medium-sized projects. This funding level is especially important to increase support for scientific researchers at universities and national laboratories across the country who are exploring our quantum universe through the Higgs Boson, dark matter, dark energy, neutrinos, and new particles and forces that govern the origin and evolution of the cosmos.

- ➔ Funding priorities set by the latest P5 Report
- ➔ Convey the nature, excitement, and importance of the physical sciences, and HEP in particular
- ➔ Establish and build relationships with every congressional office

Organization + Materials

WHIPS – ***Washington-HEP Integrated Planning System***

- ➔ Centralized platform for planning, executing, and documenting HEP advocacy efforts
- ➔ Logistics, Institutional Memory, Materials

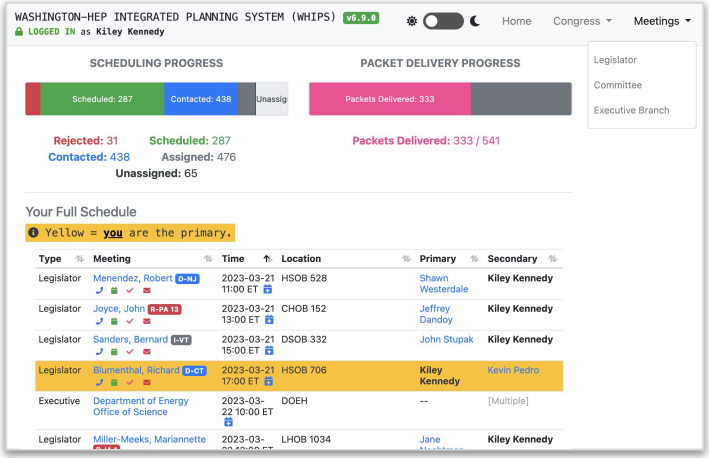


Developed and maintained by Justin Vasel + Fernanda Psihas

Organization + Materials

WHIPS – *Washington-HEP Integrated Planning System*

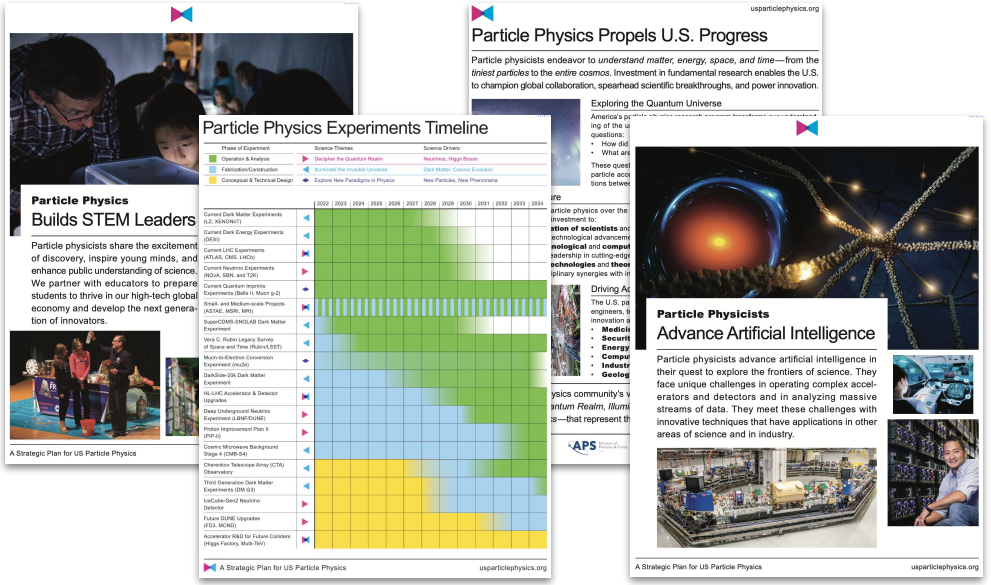
- ➔ Centralized platform for planning, executing, and documenting HEP advocacy efforts
- ➔ Logistics, Institutional Memory, Materials



Developed and maintained by Justin Vasel + Fernanda Psihas

Materials – *"The Packet"*

- ➔ P5 priorities, physics motivations, experiments, facilities, applications, outreach, and much more
- ➔ Adapt materials for each meeting



Led by Michael Cooke (DOE) + the UsParticlePhysics.org Content Group

On the Ground in DC

Legislator Meetings *(most common)*

In pairs, meet with up to 541 legislative offices in House and Senate

Committee Meetings

In small groups, meet with relevant Appropriations Subcommittee offices

Executive Meetings

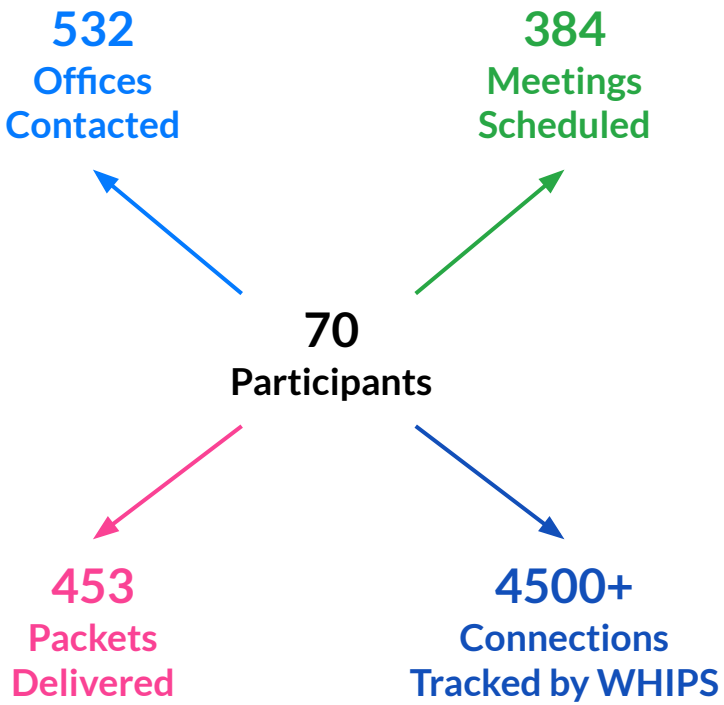
In groups of ~10-15, meet with OMB, OSTP, DOE (OSC + HEP), NSF, State

2024 DC Trip By the Numbers

2024 DC Trip By the Numbers

70
Participants

2024 DC Trip By the Numbers



2024 DC Trip By the Numbers

532
Offices Contacted

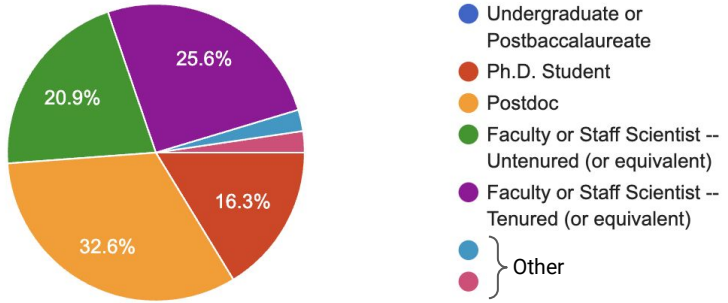
384
Meetings Scheduled

70
Participants

453
Packets Delivered

4500+
Connections Tracked by WHIPS

Participant Career Stage Breakdown:



2024 DC Trip By the Numbers

532
Offices Contacted

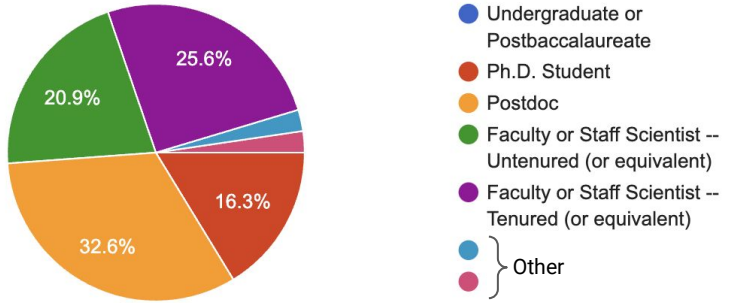
384
Meetings Scheduled

70
Participants

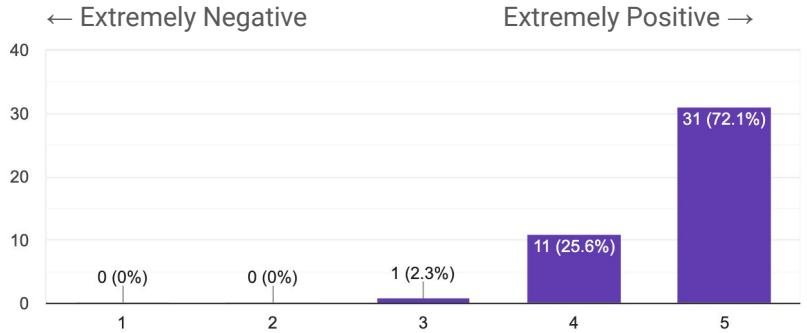
453
Packets Delivered

4500+
Connections Tracked by WHIPS

Participant Career Stage Breakdown:



Participant Rating of Overall Experience on the Trip:



Takeaways From the 2024 DC Trip

- ➔ Phenomenal effort of 70+ particle physicists and accelerator physicists!
  - ◆ Successfully back to pre-COVID levels and higher
- ➔ Widespread enthusiasm for HEP across the political spectrum
- ➔ Productive meetings with the agencies, including a first ever meeting with Science and Technology Adviser to the Secretary of State
- ➔ However, given current political climate, we should not expect significant increases in HEP budget
  - ◆ Anticipate another continuing resolution
  - ◆ Core research is continuing to get squeezed

Challenges + Opportunities

- ➔ Continue to hone congressional messaging and materials
- ➔ Collaborate with other scientific societies (including APS) in areas where we share common interests
- ➔ Recruit an enthusiastic cohort of early career researchers skilled in science communication to join experienced advocates
- ➔ Expand advocacy strategy beyond “appropriations season”
  - ◆ Off-season advocacy can help solidify connections
  - ◆ Express support to Congress for LC-130 fleet replacement to support P5’s recommendation of CMB-S4

Outlook

The 2023 P5 Report sets up an ambitious, bold, and exciting trajectory for HEP, and is built on the successful legacy of the 2014 P5 Report

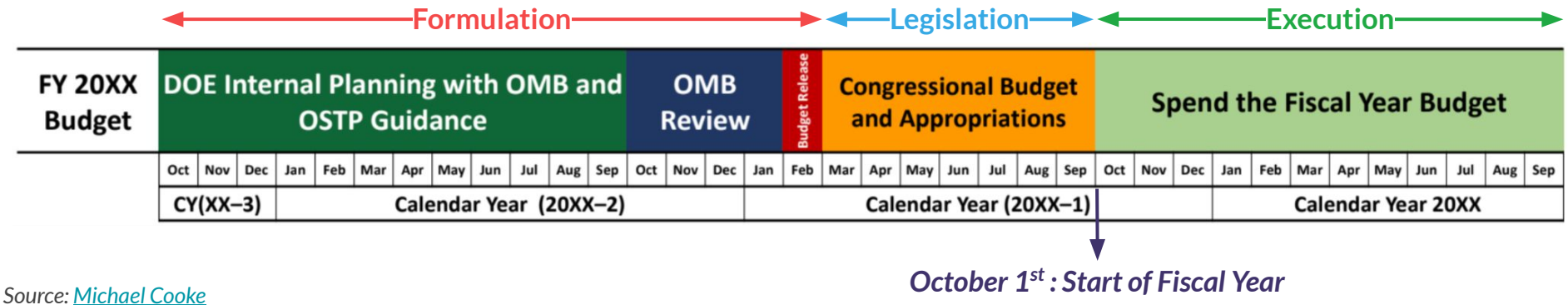
Advocacy by our community is critical for the continued robust funding of our field. We can (and should) aspire to a physics program built on the "**more favorable**" scenario

There are active efforts by members of our community to continue to build on and improve our communication strategy with congress

Thank You!

Federal Budgeting and Funding in a Nutshell

- ➔ **Formulation**: Executive Branch prepares the President's Budget Request (PBR)
  - White House Office of Management and Budget (OMB) works with executive branch agencies (DOE, NSF) to develop budget proposals based on funding levels and priorities
- ➔ **Legislation**: Congress enacts laws that control spending
  - Each chamber develops its own budget resolutions and bills, which may differ from PBR
  - Bill must be passed by both chambers and signed by the President
- ➔ **Execution**: Executive Branch agencies carry out program



Source: Michael Cooke

Recent Legislation Impacting HEP Funding

- ➔ CHIPS and Science Act of 2022 – **Authorizes but does not appropriate funding**
  - ◆ Doubles NSF budget over five years
  - ◆ Expands fundamental research at the DOE Office of Science
- ➔ Inflation Reduction Act of 2022
  - ◆ > $300M for high energy physics construction → significant portion to HL-LHC
- ➔ Fiscal Responsibility Act of 2023
  - ◆ Holds non-defense FY24 spending at FY2023 levels with a 1% percent *reduction* if there is a continuing resolution in place on January 1, 2024 (this is currently the case)
  - ◆ Rescinds some unspent IRS and COVID relief funding, including those related to DOE science programs
- ➔ Further Continuing Appropriations and Other Extensions Act, 2023-2024
  - ◆ Continuing resolution provides funding at FY23 levels until ~mid-January for most programs

Constrained funding will lead to increased pressure on science + research budgets

P5 Budget Assumptions + Considerations

Less Favorable Scenario

Assumes budget increases of 2% per year during FY24-33

Current budget is ~worse than this

Baseline Scenario

Assumes the following budget for HEP:

FY23-27 – specified in the CHIPS and Science Act of 2022, with increases

FY28-33 – subsequent increases by 3% per year

More Favorable Scenario

We can still be optimistic (!!!) given the enormous success immediately following the 2014 P5 Report

Need effective advocacy effort