



THE WHITE HOUSE
WASHINGTON

Report on the White House Summit: **Developing a Bold Decadal Vision for Commercial Fusion Energy**

Sally Benson

Deputy Director for Energy and Chief Strategist for the Energy Transition

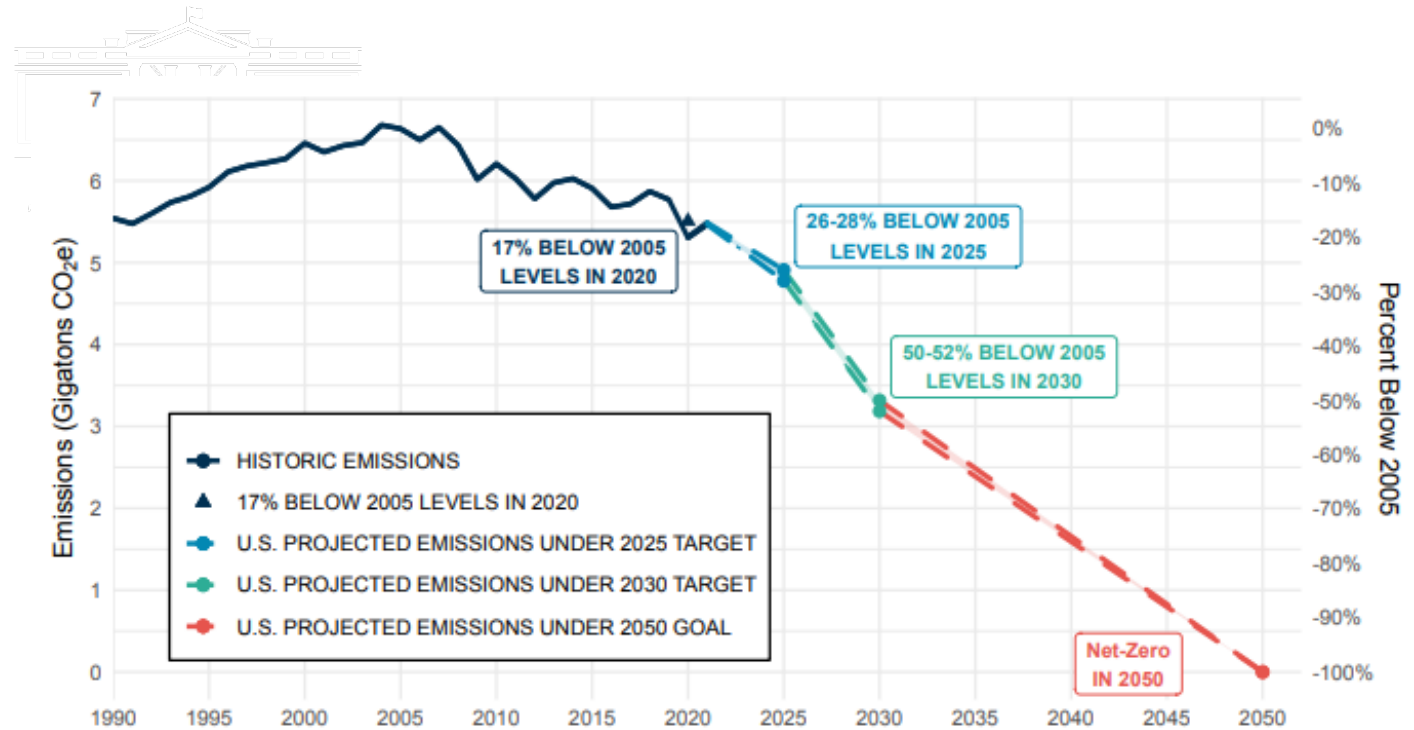
Office of Science & Technology Policy

Presentation to the Board on Physics and Astronomy, NASEM

April 28, 2022

Fusion Can Change the Energy Game

- Could be a source of nearly unlimited **clean firm power** (as well as thermal energy and power for hydrogen, industrial heat, carbon capture, and desalination)
- Could enable Biden-Harris Administration goal of **net-zero by 2050**
- Opportunity to build out a **robust American industry** and **cement global scientific leadership**



U.S. Long Term Climate Strategy: Domestic Climate Policy Office and the State Department, 2021

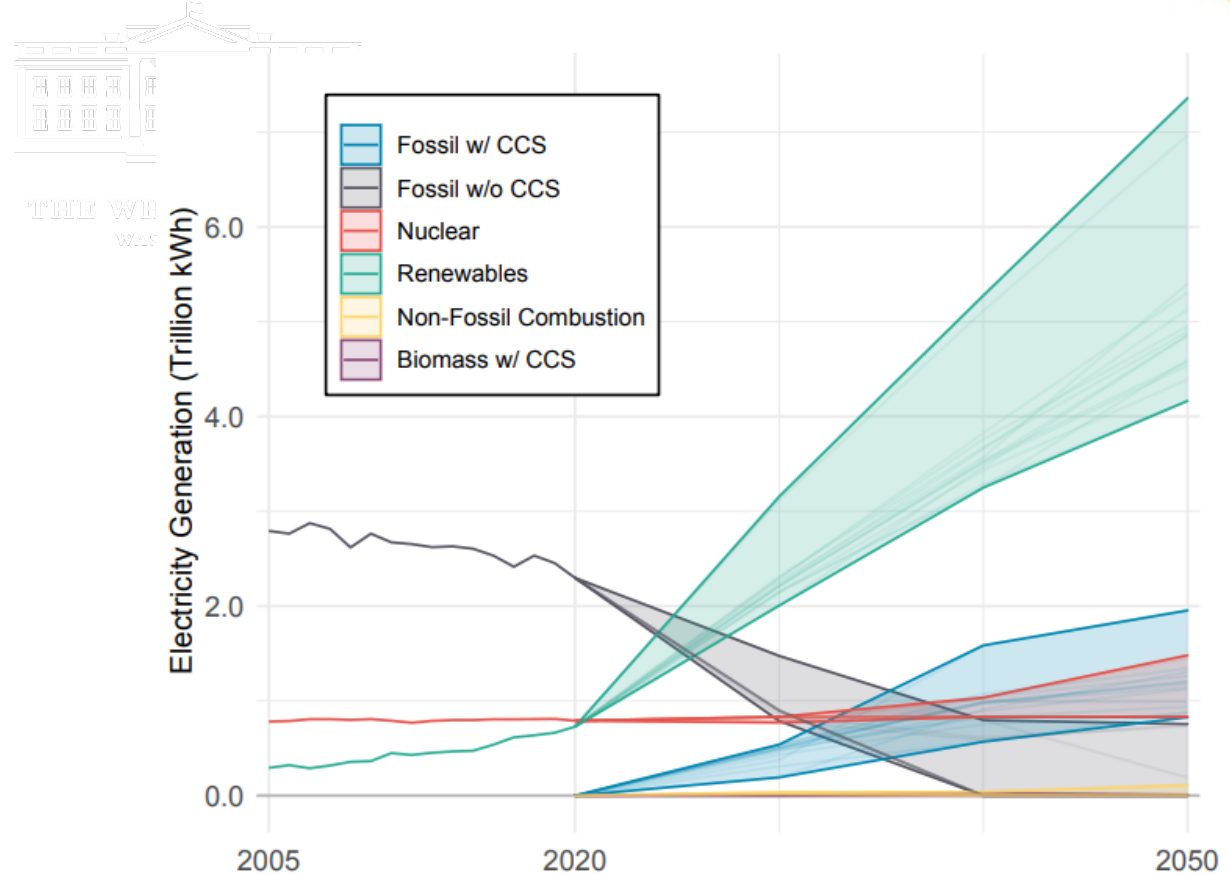


Clean-Firm Power Will Be Needed for the Electricity System and More



Electricity Sector

- Renewables & energy storage
- Nuclear fission
- Natural gas or coal with CCS provides “Clean Firm Power”
- Bio energy with CCS (BECCS) provides electricity and CDR
- Renewable gas
- **Fusion?**



U.S. Long Term Climate Strategy: Domestic Climate Policy Office and the State Department, 2021



Developing a Bold Decadal Vision for Fusion

Summit Objective:



Convene fusion energy leaders from government, industry, academia, and other stakeholder groups to **showcase progress made and have inclusive conversations** about an updated fusion energy strategy.

Co-Hosts:

Office of Science and Technology Policy
U.S. Department of Energy



Broad U.S. Government Support for Fusion

Alondra Nelson

*Head of OSTP & Deputy
Assistant to the President*

Gina McCarthy

National Climate Advisor

Don Beyer

*Bipartisan House Fusion
Caucus Chair*

Sally Benson

*OSTP Deputy Director for
Energy*

Jennifer Granholm

U.S. Secretary of Energy

Brenda Mallory

*Council on Environmental
Quality Chair*

Chuck Fleischmann

*Bipartisan House Fusion
Caucus Member*

Geraldine Richmond

*DOE Under Secretary for
Science and Innovation*



An Inclusive Fusion Community from Day 1

“It’s not enough to just get the technology right. From day one, we need an inclusive approach for technology development.”

Dr. Alondra Nelson, Head of OSTP & Deputy Assistant to the President

“I’m glad to be here with you all today at the launch of what could become another American clean energy game changer: fusion energy.”

Gina McCarthy, White House Climate Advisor, and Director of the National Climate Policy Office

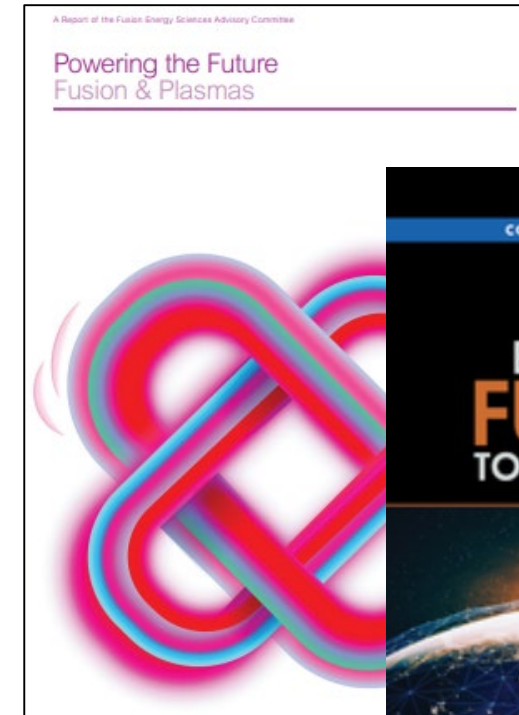
“We need a bicameral, bipartisan--in fact, I would argue non-partisan--effort on fusion energy. We can work together to get this done.

Chuck Fleischman, U.S. House of Representatives, and Member of the Bipartisan Fusion Caucus

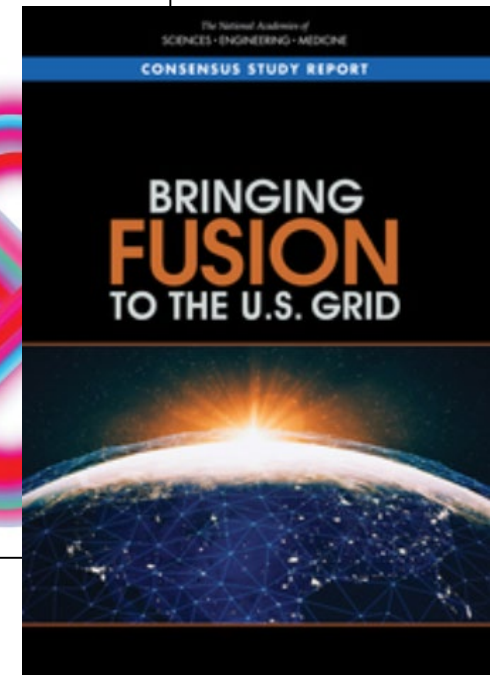


Announcements

- **Community Engagement:** The Biden-Harris Administration will lead the development of a bold decadal fusion strategy that benefits all stakeholders.
- **DOE Agency-Wide Fusion Initiative:** DOE launched an initiative to accelerate commercial fusion energy in coordination with the private sector, led by Dr. Scott Hsu.
- **Funding to Advance the Science for a Fusion Pilot Plant:** DOE announced two funding opportunities totaling \$50 million to support foundational S&T research for a fusion pilot plant.



2020



2021



Fusion Energy is Ready for the Next Bold Steps

- 2021 breakthroughs signal it's time to move quickly, and experts are optimistic
- Much more work is needed ahead: scientific and technical advances, public-private partnerships, and interagency collaboration

"The community has come together and spoken with an extraordinarily powerful voice to say we are ready to move fast for fusion."

Anne White, MIT



Kim Budil
LLNL
Moderator



Mark Berry
Southern Company



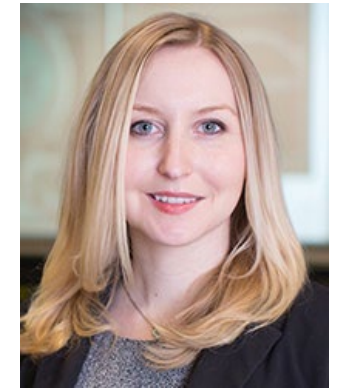
Steven Cowley
PPPL



Abdalla Darwish
Dillard University



Kathy McCarthy
ORNL



Anne White
MIT

Panel 1: Status and Benefits of Fusion



Fusion Energy is Diverse, Inclusive, Equitable, & Accessible

- Fusion can be a new model for proactive, equitable energy development
- This is an opportunity to build a workforce that looks like America
- Regulation will play a critical role in securing public confidence



What if we'd done this at the launch of every major technological innovation that we've had in this country? How just would our society be?

Shalanda Baker, DOE



Seth Hoedl
Post Road Foundation
Moderator



Shalanda Baker
DOE



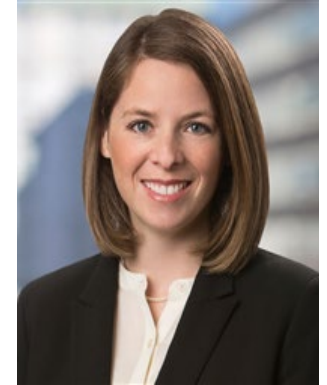
Amelia Chambliss
PPPL; Columbia



Stephanie Diem
UW-Madison



Matthew McKinzie
NRDC



Amy Roma
Hogan Lovells

Panel 2: Energy Justice and Public Engagement



Fusion Energy has a Vibrant Private Sector

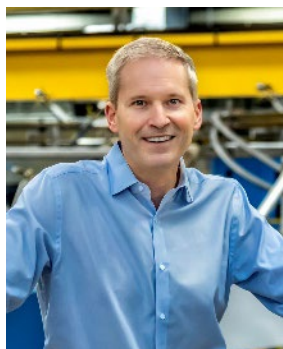
- 30+ fusion companies are now building proofs-of-concept
- The vast majority of the ~\$4B private investment is in U.S. companies
- Companies have a variety of approaches for making fusion cost-competitive
- Diverse perspectives are critical for solving challenges ahead

“This has to be competitive. We’re here because there is a business opportunity here to really create the economy of the 21st century.”

Carly Anderson, Prime Movers Lab



Carly Anderson
Prime Movers Lab
Moderator



Michl Binderbauer
TAE



Andrew Holland
FIA



AJ Kantor
Zap



David Kirtley
Helion



Bob Mumgaard
CFS



Greg Piefer
SHINE

Panel 3: Fusion Industry Vision



What's Coming Next

- DOE building out its agency-wide fusion initiative
- Follow-on events to be announced in the coming months

“Decades from now, let’s look back at this moment, in this room, when we acted boldly again, to make the impossible possible. We acted boldly together, to make fusion energy, sunlight in a bottle, a reality.”

Dr. Sally Benson, OSTP





THE WHITE HOUSE
WASHINGTON

WH.GOV