

Energy Storage Subcommittee Update

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The Ohio State University

Electricity Advisory Committee
17 October, 2019

2020 Biennial Storage Review

Statutory Requirement

- Energy Independence and Security Act of 2007 (EISA)
 - Energy Storage (Technologies) Subcommittee of EAC formed in March 2008 in response to Title VI, Section 641(e)
- Title VI, Section 641(e) has two parts pertaining to this subcommittee
 - 1 Section 641(e)(4): ‘. . . every five years [the Energy Storage Technologies Subcommittee], in conjunction with the Secretary, shall develop a five-year plan for. . . domestic energy storage industry for electric drive vehicles, stationary applications, and electricity transmission and distribution.’
 - 2 Section 641(e)(5): ‘. . . the Council shall (A) assess, every two years, the performance of the Department in meeting the goals of the plans developed under paragraph (4); and (B) make specific recommendations to the Secretary on programs or activities that should be established or terminated to meet those goals.’

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2020 Biennial Storage Review

EISA Requirements

- The '2012 Storage Report: Progress and Prospects: Recommendations for the U.S. Department of Energy,' approved 24 January, 2014, fulfilled both requirements
- The '2014 Storage Plan Assessment: Recommendations for the U.S. Department of Energy,' approved 25 September, 2014, fulfilled the second
- The '2016 Storage Plan Assessment: Recommendations for the U.S. Department of Energy,' approved 29 September, 2016, fulfilled both requirements
- The '2018 Biennial Energy Storage Review,' approved 20 June, 2019, fulfilled the second
- The '2020 Biennial Energy Storage Review,' is proposed to fulfill the second

2020 Biennial Storage Review

Scope

- The 2012 review focused on storage-related activities of OE
- The 2014 review expanded this scope to include OE, EERE, ARPA-E, and SC
 - The report examined also coordination between the Department and other Federal agencies (*e.g.*, NSF and DOD)
 - This was in line with offices and agencies included in the Department's overall strategy
- The 2016 review maintained the same broad programmatic scope
 - Technological scope was expanded beyond electricity in/electricity out storage
 - Includes power-to-gas, thermal, and virtual storage
- The 2018 review did and 2020 review will maintain this same breadth

2020 Biennial Storage Review

Process

- 1 DOE program update
- 2 2019 DOE/OE Energy Storage Program Peer Review
- 3 Outside Interviews
- 4 Drafting by working group (Lola Infante, Flora Flygt, Laney Brown, and Ramteen Sioshansi)
- 5 Energy Storage Subcommittee review, discussion, and vote
- 6 EAC review, discussion, and vote (aiming for February, 2020, to help with the Department's budget and program planning)

2020 Biennial Storage Review

DOE Program Update

- 20 September, 2019 webinar
- Full EAC membership invited
- Presentations by each program office (OE, EERE, SC, ARPA-E) on energy storage-related research, development, and deployment activities

2020 Biennial Storage Review

2019 DOE/OE Energy Storage Program Peer Review

- 23–26 September, 2019, in Albuquerque, New Mexico
- Flora Flygt, Clay Koplín, and Ramteen Sioshansi attended
- Reviewed the totality of OE's research portfolio

2020 Biennial Storage Review

Interviews

- Outside interviews: users and implementers of the Department's storage program to inform assessment and recommendations
- Interviewee groups:
 - 1 Energy-storage industry
 - 2 Generation industry
 - 3 Utility industry
 - 4 State regulators, energy officials, and legislators
 - 5 Consumer advocates
 - 6 Energy and environment think tanks and NGOs
 - 7 Department and National Laboratory program managers
- Web form and (as needed) supplemental telephone interviews

2020-2021 Biennial Storage Review

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2020-2021 Biennial Storage Review

Working Group

- Seeking volunteers for the working group
- 'Shadow' the team leading the 2020 review to learn practices

Thank you