



Evaluating DOE RDD Programs

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- We will distribute a list of participants but will not make it publicly available, per Chatham House
- We will have a public page for the workshop on the RFF website which will have the agenda, concept paper, final paper and any presentations we have permission to share

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Workshop Etiquette

- We are using standard Zoom to enable a relatively informal participation
- There is a discussion time including in each session at the end of the speakers' presentations – so please hold questions and comments until then
- Please use the raise hand button to ask a question and we will facilitate
- If we don't see you, speak up !



Opening Remarks



Why this workshop ?

- DOE central to US plans to decarbonize through innovation
 - IIJA and IRA alone provide \$billions for new and existing programs
 - DOE's central role in tax credit programs
 - Standing up new offices
 - Traditional programs (e.g., H2) gain new urgency
- Evidence Act gives urgency and shape
- Existing gaps in impact evaluation at DOE



- Goals of the Workshop

- Increase awareness of the need for and types of RDD program evaluations
- Discuss technical options for evaluations: metrics, methods, data
- Discuss how to build an evaluation culture

- Benefits of developing a Tracking and Evaluation System

- Examine program success in a structured and defensible way
- Learn from evaluations how to improve the programs, the calls for proposals, the selection and decision protocols



What is evaluation?

- **Program evaluation** is a systematic assessment using quantitative and/or qualitative data and analysis methods to answer specific questions about current or past programs, with the intent to assess their effectiveness and efficiency.
- **Process evaluations** are focusing on a program's implementation while **impact evaluations** are looking at the causal effects of a program on a range of outcomes and assess how they help achieve its goals.
- Analysis and performance management are not evaluation



Plan for the morning

- **Session 1. Evaluation Landscape and Lessons for DOE**
 - Danielle Berman, OMB
 - Susan Jenkins, HHS
 - Jeff Dowd, DOE EERE
- **Session 2. Academic perspectives on the techniques of impact evaluations**
 - Adam Jaffe, Brandeis
 - Jacquelyn Pless, MIT and Kyle Myers, Harvard Business School
- **Session 3. Perspectives on data and on building an impact evaluation culture**
 - Joe Aldy, Harvard Kennedy School
 - Katherine Dawes, EPA



Session 1: Current Landscape of Program Tracking and Evaluation

Speakers: Danielle Berman (OMB), Susan Jenkins (HHS) and Jeff Dowd (EERE, DOE)

- The Evidence Act, the latest in a series of legislative and administrative efforts, highlights the importance of program evaluation to inform decision making.
- Agencies in charge of social programs have a better track record for program evaluation.
- At DOE, EERE is most developed



Overarching issues for program evaluation

- Centralized vs. de-centralized evaluation strategy and management
- Establishing more systematic data collection and evaluation, with protocols
- Budget and staffing up to the task



Session 2: Evaluation Methods and Innovation Metrics

Speakers: Adam Jaffe (Brandeis), Jacquelyn Pless (MIT), Kyle Myers (HBS)

- Main question impact evaluation tries to answer:
 - What is program's/office's contribution to innovation?
 - Need information on losers
 - What if you can't get that?
- Many possible models for evaluation
 - Statistical Methods
 - Experiments
 - Non-experimental approaches
 - Expert elicitation widely used but very indirectly evidence-based.



Metrics

- The ultimate purpose is to measure the increase in social welfare caused by DOE's RD&D programs.
- A classification for metrics:
 - Administrative outcomes
 - Intermediate outcomes: patents and business performance (technology sales)
 - Ultimate outcomes: reduction in energy use or CO2 emissions



Session III: Data and Creating an Evaluation Culture

Speakers: Joe Aldy (Harvard Kennedy School), Katherine Dawes (EPA)

- High-quality data is a requirement for any robust evaluation
- Systematic and standardized data collection is needed for:
 - Program inputs
 - Applicants' characteristics
 - FOA characteristics
 - Awards – winners and losers
 - Program outputs
 - Intermediate and final outcomes



Data Challenges

- Lack of centralized data systems
- Confidential Business Information
- Transparency of the selection process
- Accessibility of complementary USG data



Barriers to an Evaluation Culture

- Lack of incentives to evaluate and some disincentive to do so
- Gathering data can be costly and burdensome for government and applicants
- Applicants desire for secrecy – CBI and potential stigma
- OMB/Agency relationships



Potential Solutions

- Data
 - FOAs and awards can include reporting requirements
 - Many agencies have a lot of experience protecting confidential data
 - Federal agencies can provide data under MOU or other agreement
- Culture
 - Building programs with evaluation in mind will facilitate project tracking and monitoring of future projects/programs
 - DOE can learn from experiences at other agencies
 - Align incentives

