

BEPSDC Task Force

February 2, 2021

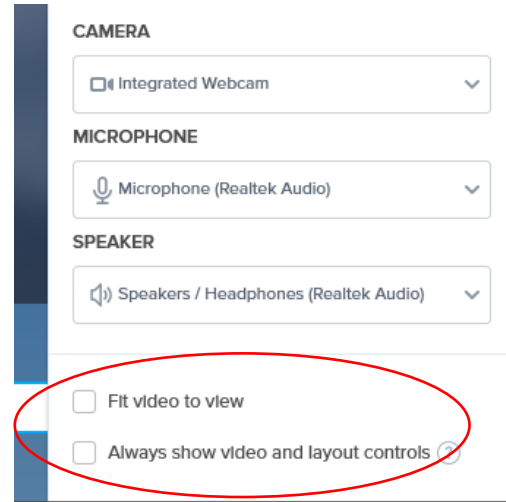
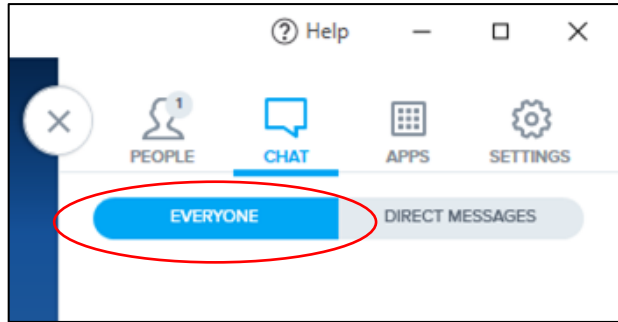
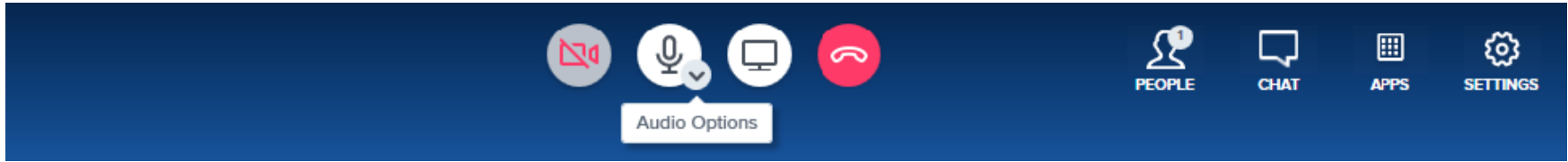


@DOEE_DC
#BEPSDC

*** DEPARTMENT
OF ENERGY &
ENVIRONMENT
GOVERNMENT OF THE DISTRICT OF COLUMBIA

WE ARE
WASHINGTON
DC GOVERNMENT OF THE
DISTRICT OF COLUMBIA
MURIEL BOWSER, MAYOR

BLUEJEANS TOUR



INTEGRAL

ONLINE MEETING ETIQUETTE

- The meeting is being recorded and will be posted to our website
- Questions and Comments throughout the meeting:
 - All attendees will control their own mute function but could be muted by the facilitator due to background noise
 - Task Force Members – can comment at any time
 - Non-Task Force Members - please use the chat box to request to talk
- Attendance
 - Non-Task Force Member – please use the chat box at this time to register your name, organization and email to “sign in”
 - Task Force Members - roll call (will also use this for voting)

ROLE OF TASK FORCE



- Advise DOE on creation of an implementation plan for the Building Energy Performance Program;
 - Recommend amendments to proposed regulations issued by DOE;
 - Recommend complementary programs or policies.
-
- If topic needs in-depth discussion, anyone can suggest moving to a committee
 - This is an open meeting - everyone is allowed to participate

AGENDA

- Administrative Items
- Cost/Benefit Study update
- Prescriptive Pathway discussion
- Standards and Rulemaking update
- Announcements

COST/BENEFIT STUDY UPDATE

- Draft of Final Report Delivered to DOEE – Currently undergoing revisions - full presentation to the TF planned after final approvals
- Key Takeaways:
 - 12 Case studies completed, 1 in progress
 - Emphasis on costs/benefits, phasing of improvements, and electrification implications
 - Includes a great education strategy on how to educate public on BEPS
 - DOEE has a deeper understanding of the cost of and systemic barriers to compliance

COST/BENEFIT STUDY UPDATE

Energy Efficiency Measure analysis shows that a generalized menu of options for the prescriptive pathway (as suggested in September TF meetings) is not feasible to create for Cycle 1

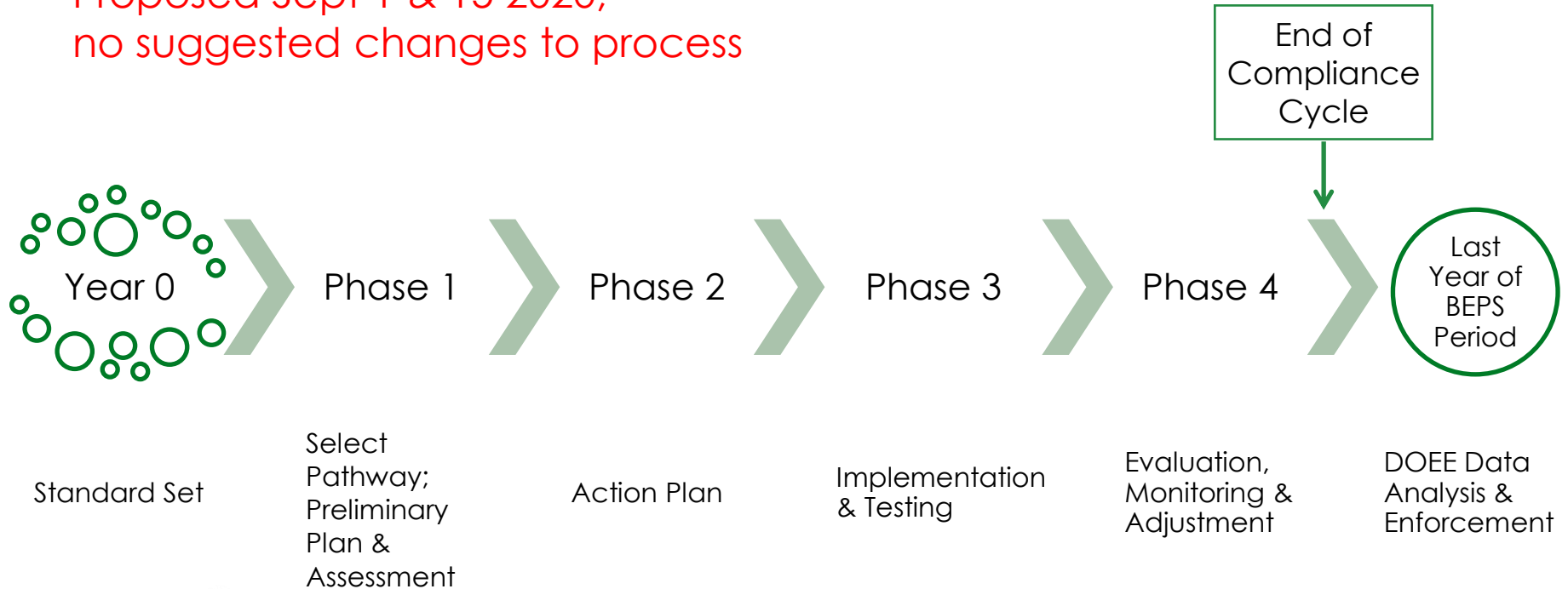
- Scope of Study was focused on providing detailed cost and benefits through case study analysis
- Analysis was focused on specific EEM packages which was not enough to provide a broad menu of prescriptive options
- Case studies only examined the most populous property types in DC: Office, Multifamily, Hotel, K-12.

PURPOSE OF PRESCRIPTIVE PATHWAY

- **Risk Mitigation:** mitigating investor/owner risk by providing the owner a prescribed process for a Compliance Cycle
- **Framework:** provide a process framework (based on industry best practice) for owners who might lack the knowledge and/or resources to implement the necessary project management steps to effectively complete an energy retrofit
- **Future Planning:** ensure owners are properly planning for future EEMs and upgrades to set building owners and our District up for multiple cycles of BEPS compliance success
- **Quality Assurance of Consultants:** ensure only qualified individuals perform key aspects of the process
- **Feedback Loop:** provide a feedback loop to DOEE to improve the BEPS program and better inform future iterations of the Prescriptive Pathway

PRESCRIPTIVE PATHWAY TIMELINE AND PROCESS

Proposed Sept 1 & 15 2020;
no suggested changes to process



EEM CATEGORIES

Proposed in Sept 2020

Predetermined EEM menu with % savings assigned as points

- Lighting
- HVAC
- Envelope
- Domestic Hot Water
- Operations
- Unregulated Loads

Proposed Updates

- Only changes would be to the:
 - EEM evaluation process (Phase 1)
 - EEM selection process (Phase 2)
- Instead of selecting from a predetermined list provided by DOEE, Owners and project teams can derive their own list of EEM's within certain guidelines
- Project teams will provide DOEE with detailed description, cost and energy savings estimations, and documentation deliverables for each EEM in an optimized EEM package

BUILDING TYPOLOGIES

Proposed in Sept 2020

Prescriptive Pathway	No Prescriptive Pathway	
Multifamily	Worship Facility	Mixed Use
Office	Senior Care Community	Residence Hall
Hotel	Medical Office	Museum
K-12 School	Retail/Supermarket	Strip Mall
	Warehouse/Distribution	Self-storage
	Fitness Center	Social-Meeting Hall
	Fire/Police Station	Library

Proposed Updates

Prescriptive Pathway
open to all property
types

EEM CONDITIONS/REQUIREMENTS/GUIDELINES

- Minimum % Savings identified in Energy Audit
- Targeted Savings % for Final EEM Package
- Final EEM Package Make-up
- EEM Code/Standards Minimums
- Fossil Fuel Burning Equipment
- Other?

CONCEPT

Significantly poor performing buildings will most likely have multiple cycles of compliance if they only address 20% savings each cycle; or target higher savings for through a deep energy retrofit to get above the Standard.

Proposal: Require minimum % savings identified through Energy Audit

Greater savings than 20% should be identified by the Auditor to help the owner understand and prioritize EEM option planning.

MINIMUM % SAVINGS IDENTIFICATION IN AUDIT

Proposed

IF the building baseline Site EUI is more than **x%** (maybe 25%) away from the Standard¹ **OR** the property type Standard is below the National median (not eligible for Standard Target Pathway):

- The Energy audit must identify potential EEM's amounting to a minimum of **x%** (maybe 40%) overall Site EUI Savings

All other buildings on the Prescriptive Pathway, must identify a minimum of **x%** (maybe 30%) site EUI savings in the Energy Audit.

CONCEPT

It's inherently difficult to *precisely* predict savings from an EEM.
Attempting more than 20% will better ensure most projects actually achieve a 20% savings

Proposal: Require a higher % for targeted savings for final EEM package

Example: ASHRAE 100 requires 75% of predicted savings to be realized (equivalent to aiming for 26.7% savings to realize 20%)

TARGETED SAVINGS % FOR FINAL EEM PACKAGE

Proposed

Project team shall select a final EEM package for their action plan to implement equal to or greater than **x%** (maybe 23, 25%)

CONCEPT

Higher saving EEMs ensure that projects are finding deeper savings in fewer areas, leaving other systems/components to be able to be modified in future BEPS cycles, opening up opportunities for future compliance. It also drives innovation and allows the building to target a deeper overall retrofit.

Proposal: Require certain boundaries in the final EEM package make-up (minimum number of larger % measures, maximum % for education/behavior initiatives and retro-commissioning (RCx))

Education/Behavior initiatives and retro-commissioning tend to have short-lived savings and savings estimates are less predictable. Buildings with large RCx opportunities should probably choose Performance Pathway.

FINAL EEM PACKAGE MAKE-UP

Proposed

The final EEM package shall consist of the following:

- At least one EEM equal to or greater than $x\%$ (maybe 9%) Site EUI savings OR at least two EEM's with combined savings equal to or greater than $x\%$ (maybe 14%) site EUI Savings
- Include education/training or behavioral initiatives no greater than $x\%$ (maybe 2%) total Site EUI savings.
- Retro-commissioning shall not comprise more than $x\%$ (maybe 5%) of the total optimized EEM package
- Implementation of a general O&M plan is already included as a mandatory provisions of the Prescriptive pathway and is not allowed to be included in a final EEM package.

CONCEPT

Achieving long term energy efficiency goals for DC's building stock will require existing buildings to approach high-performance building levels. Many of these systems/assemblies only get replaced once every 30+ years, so buildings will only have one chance to cost effectively upgrade these. This means retrofitting with systems and assemblies above federal/code minimum when upgraded.

Proposal: Require EEM minimums above current codes/federal standards

Requiring minimum standards above current national standards for new equipment and systems drives DC buildings towards high-performance technologies and assemblies.

EEM CODE/STANDARDS MINIMUMS

Proposed

EEMs which replacing or significantly altering existing systems/components with code or federal minimum efficiency systems/components will not be allowed. EEMs must exceed current code or standards by minimum $x\%$ (maybe 15%). Could include, but are not limited to:

- Windows
- Boilers
- ASHP for space heating
- WSHP for space heating
- Chillers
- Air delivery/exhaust fans
- Hydronic pumps (new pumps must be VFD if readily available)
- Roof and/or wall assemblies
- Require ENERGY Star residential appliances when possible

CONCEPT

DC has a goal of electrifying all energy sources in buildings over time. Encouraging buildings to install new fossil fuel burning systems or equipment, which may stay in service 20-50 years, makes future electrification efforts cost-prohibitive.

If BEPS switches to a GHG metric in the future, any fossil fuel burning equipment installed in Cycle 1 might hinder a building's ability to comply with future cycles.

Proposal: Institute limitations on fossil fuel burning equipment as countable towards savings target in EEM package

This aligns with DOE and DC goals of building electrification.

FOSSIL FUEL BURNING EQUIPMENT

Proposed

All EEMs comprising of installation of new or replacement fossil fuel burning equipment/systems are prohibited from counting towards the final EEM package savings target. This does not include replacing components of an existing fossil fuel burning system, provided that the equipment being replaced does not burn fossil fuel.

- Example: a distribution pump on a hydronic heating system can be replaced and energy savings counted, even if the boiler providing heat to the system is fossil fuel burning. However, a natural gas boiler replacement with an in-kind natural gas boiler, even if more efficient, can not be included for a prescriptive pathway EEM.

PRESCRIPTIVE PATHWAY EEM CONSIDERATIONS

- Other guardrails we should consider?
- Unintended consequences?
- Which buildings would pursue this pathway?
- How do the proposals align with other DC goals and programs?

Purpose of Prescriptive Pathway:

- **Risk Mitigation:** mitigating investor/owner risk by providing the owner a prescribed process for a Compliance Cycle
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WEBINAR UPDATE

DOEE hosts a live [monthly webinar](https://beps-monthly-webinar.eventbrite.com) to update the public on the progress of BEPS implementation.

<https://beps-monthly-webinar.eventbrite.com>

Feb 25
Mar 25

<https://buildinginnovationhub.org/events/>

DOEE & DCRA: 2020 Green Building Professional Series @ 1:00 pm

- Road to 100% Renewable Electricity – February 10, 2021
- Funding Clean Energy Projects – March 10, 2021
- Getting Ready for BEPS – April 14, 2020

<https://www.eventbrite.com/e/2020-green-building-professional-seminar-series-tickets-121531625363>

STANDARDS RELEASE

- Standards are in effect through emergency rulemaking
- Posted in DC Register on January 1, 2021:

<https://www.dcregs.dc.gov/Common/NoticeDetail.aspx?NoticeId=N101694>

- Comments were due by **January 31, 2021**
- January 28 Presentation and Q&A available at:

<https://doee.dc.gov/node/1436881>

- Guide and Benchmarking Disclosure available at:

<https://doee.dc.gov/node/1507996>

BEPS RULEMAKING

- Posted in DC Register on December 4, 2020:
<https://www.dcregs.dc.gov/Common/NoticeDetail.aspx?NoticeId=N100436>
- Extended comment period - due by **March 4, 2021**
- See DC Register posting for instructions on how to submit comments through USPS mail or email at info.beps@dc.gov
- Dec. 15 Presentation and Q&A available at:
<https://doee.dc.gov/node/1436881>



OVERALL SCHEDULE



Future Agenda Items for Discussion/Feedback

- Results of cost/benefit study
- Workforce Development discussion – April?
- Complementary program evaluation
- Public Service Commission activity
- Pathway review session

NEXT MEETING

March 2 @ 2:30pm

- Agenda TBD





ANNOUNCEMENTS

