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U.S. ENVIRONMENTAL PROTECTION AGENCY

PUBLIC HEARING

PROPOSAL - CONTROL OF AIR POLLUTION FROM AIRPLANES AND
AIRPLANE ENGINES: GHG EMISSION STANDARDS AND TEST
PROCEDURES

[EPA-HQ-OAR-2018-0276]

VIRTUAL PUBLIC HEARING

Thursday, September 17, 2020

10:00 a.m.

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PARTICIPANTS

EPA AND ABT STAFF:

- BILL CHARMLEY, EPA Presiding Officer
- BRYAN MANNING, EPA Panel
- MIKE SAMULSKI, EPA Panel
- MIKE THRIFT, EPA Panel
- ROSEMARY HAMBRIGHT, EPA Panel
- JEANNE GOODMAN, Abt Emcee and WebEx Events Manager
- MELISSA SPIVEY, Abt Attendee and Speaker
- Communications Support
- HANNAH DERRICK, Abt Attendee and Speaker
- Communications Support
- FRANK DIVITA, Abt Slides and Speaker Scheduling
- BARBARA BAUER, Abt General Support
- DAVID STEVENS, Abt WebEx Technical Support and
- Troubleshooting
- DONNA JENKINS, Court Reporter

1 PARTICIPANTS

2 WITNESSES:

3 ZACHARY TOLAND, Environmental Defense Fund

4 RACHEL JONES, National Association of

5 Manufacturers

6 BOLAJI OLAGBEGI, Ceres

7 DAVID HYDE, Aerospace Industries Association

8 PETER PROWITT, GE Aviation

9 CHUCK CHAITOVITA, U.S. Chamber of Commerce

10 TINA ORWALL, Washington State House of

11 Representatives

12 NADIA SALIM, Private Citizen

13 MARY MINETTE, Mercy Investment Services

14 LIZ JONES, Center for Biological Diversity

15 TIMOTHY POHLE, Airlines for America

16 KATHI HURST, Air Line Pilots Association

17 KANNAN THIRUVENGADAM, Eastie Farm, Friends of

18 Belle Isle Marsh, and Air Inc.

19 CINDY BAXTER, Resident

20 DEBI WAGNER, Quiet Skies Coalition, Aviation

21 Justice

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PARTICIPANTS

WITNESSES (Continued):

WIG ZAMORE, Somerville Transportation Equity
Partnership

BRIAN GANNON, Resident

SHEILA REMES, Boeing Commercial Airplanes

KENT PALOSAARI, Mira's Garden

DAN RUTHERFORD, International Council on Clean
Transportation

TANYA HAHNEL, Resident

1 P R O C E E D I N G S

2 MS. GOODMAN: Good morning. Welcome to the EPA
3 public hearing for the proposed fuel on greenhouse gas
4 emission standards for airplanes and airplane engines.
5 My name is Jeanne Goodman from Abt Associates,
6 contractor to U.S. Environmental Protection Agency.

7 We are now ready to begin. I will turn it over to
8 the EPA to get us started.

9 MR. CHARMLEY: Good morning, everyone. On behalf
10 of the U.S. Environmental Protection Agency and the
11 Office of Air and Radiation, I would like to welcome
12 you to today's virtual public hearing. I am grateful
13 for everyone who is taking the time out of their day
14 today to testify and participate.

15 My name is Bill Charmley. I am the director of
16 the EPA's Assessment and Standards Division in the
17 Office of Transportation and Air Quality. I will be
18 the presiding officer for today's hearing. In
19 addition, I am joined on the panel today by a number of
20 my colleagues. I would like to introduce Mike
21 Samulski. Mike is the director of the Large Marine and
22 Aviation Center in the Assessment and Standards

1 Division. Bryan Manning is also from the Large Marine
2 and Aviation Center. Mike Thrift is from EPA's Office
3 of General Counsel. And Rosemary Hambright is also
4 from the EPA's Office of General Counsel. EPA is also
5 being assisted by our contractor, Abt Associates, in
6 the running of today's virtual public hearing.

7 The purpose of this hearing today is to receive
8 comments from interested parties on the proposed
9 rulemaking titled, "Control of Air Pollution from
10 Airplanes and Airplane Engines: Greenhouse Gas
11 Emission Standards and Test Procedures," which was
12 published in the Federal Register on August 20th of
13 2020.

14 In this action, the EPA Administrator is proposing
15 greenhouse gas emission standards that would apply to
16 new certain commercial airplanes, including, but not
17 limited to, all large passenger jets. These proposed
18 standards would match the international airplane carbon
19 dioxide standards adopted by the International Civil
20 Aviation Organization in 2017. This proposed action
21 would implement EPA's authority under the Clean Air Act
22 and would assure the worldwide acceptance of U.S.

1 manufactured airplanes and airplane engines.

2 Under the Clean Air Act, EPA found in 2016 that
3 greenhouse gas emissions from certain classes of
4 engines used in certain aircraft cause or contribute to
5 air pollution which may reasonably be anticipated to
6 endanger public health or welfare. These findings
7 triggered a requirement for EPA to promulgate standards
8 addressing greenhouse gas emissions from certain
9 classes of engines used by covered airplanes. This
10 proposed action begins the process of following through
11 on that requirement.

12 Today's hearing provides interested persons the
13 opportunity for the oral presentation of views and
14 arguments. Witnesses will be allowed to make oral
15 statements, which they may later expand into writing
16 for the record. When you are finished with your
17 comments, members of this panel may ask clarifying
18 questions. This hearing is not intended to be a
19 discussion of the proposed rulemaking. While we might
20 ask questions or request additional data or supporting
21 material, we will not respond to comments in this
22 forum. Instead, EPA will provide a written response to

1 comments as part of the process of finalizing this
2 proposed rulemaking.

3 Finally, I would like to remind everyone that, in
4 addition to today's hearing, there is also the
5 opportunity to send EPA written comments. The written
6 comment period closes on October 19th of 2020 at 11:59
7 p.m. Eastern time. Details on where to submit written
8 comments to EPA can be found in the Federal Register
9 notice announcing this proposal as well as on the EPA
10 website.

11 Now let me go over how we will be conducting
12 today's hearing. We are conducting this hearing under
13 section 307(d) of the Clean Air Act, to provide
14 interested persons an opportunity for oral
15 presentation, in addition to the written submissions,
16 on the proposed rulemaking. We are having this hearing
17 recorded, and a written transcript will be available
18 for public inspection and copying in EPA's Air and
19 Radiation docket at EPA Docket Number EPA-HQ-OAR-2018-
20 0276. The transcripts from today's hearing will also
21 be available electronically on EPA's website and at the
22 regulations.gov website in this same docket.

1 The official record of today's hearing will be
2 kept open for 30 days after the date, after today, to
3 provide opportunity to submit rebuttal and supplemental
4 testimony. You may submit this additional testimony to
5 the same docket for this action by using one of the
6 methods described in the Federal Register notice
7 announcing the proposal.

8 The hearing will be conducted informally, and
9 formal rules of evidence will not apply. I will be
10 serving as the presiding officer for today's hearing,
11 and, as such, I am authorized to apply reasonable
12 limits on the duration of the statements of any
13 witness. We ask that each person try to limit his or
14 her verbal testimony to five minutes, but given the
15 number of testifiers that we have today, we will allow
16 you to go a few minutes beyond five if needed.

17 Finally, while the EPA representatives speaking
18 today will attempt to ensure the accuracy of the
19 descriptions and discussions of the proposed
20 rulemaking, it is the official version of the proposal
21 that was published in the Federal Register on August
22 20th of 2020, and it controls any cases of conflict

1 between it and what you may hear today. Please refer
2 to the official version, Federal Register version, in
3 developing your written comments on the proposal.

4 Thank you for that introduction. And I am now
5 going to turn this back to Jeanne Goodman from Abt
6 Associates. And Jeanne will be going over some
7 logistics for today's public hearing.

8 MS. GOODMAN: Thank you.

9 Before we begin, we would like to go over some
10 logistics for today's public hearing. As a reminder,
11 all attendees are muted automatically. If you are
12 providing testimony and it is your turn to speak, you
13 will be made a panelist and you will be able to unmute
14 yourself and display your video if you would like. If
15 you are having trouble, you can use the chat box.

16 If you experience audio problems, please before
17 you begin your testimony or if anyone is having audio
18 problems, please use the ellipses icon, which is found
19 at the bottom of the screen to the left of the red X
20 icon, and go into the audio connection settings.

21 If you are not registered to speak but you would
22 like to do so, please send a comment in the chat box or

1 call (888) 528-8331. And I will be repeating that
2 number frequently.

3 If you joined in a listen-only telephone line and
4 would like to be able to speak but do not have access
5 to the chat box, you will be able to press *3 on your
6 phone, which will allow us to identify your phone
7 number, or you can send an email to
8 public_hearing@abtassoc.com. That is a-b, as in boy,
9 t-a-s-s-o-c.com. Or, again, you can call (888) 528-
10 8331.

11 Now we will begin our public comments. And the
12 expected speaking order is currently displayed on the
13 screen. We ask that each person limit their testimony,
14 as Mr. Charmley said, to five minutes. But you will be
15 given up to 10 minutes to provide testimony. Please
16 note the timer will track your time, and I will be
17 introducing each speaker in turn.

18 Please speak slowly and clearly so that our court
19 reporter can record these proceedings accurately.

20 The first speaker is Zachary Toland. Please state
21 your name and affiliation for the record.

22 MR. TOLAND: Is my microphone working?

1 MS. GOODMAN: It is.

2 MR. TOLAND: Yes. Good morning. My name is Zack
3 Toland. And I am an intern with the Aviation Division
4 of the Climate Program at Environmental Defense Fund.

5 EDF is a leading national nonprofit organization
6 dedicated to protecting the environmental rights of all
7 people, including access to clean air, clean water,
8 healthy food, and flourishing ecosystems. We are
9 guided by scientific evaluation of environmental
10 problems, and the solutions we advocate will be based
11 on science.

12 On behalf of our more than 2.5 million members and
13 supporters, EDF urges EPA to strengthen proposed rule
14 to more effectively address the danger posed to public
15 health and welfare by air pollution from aircraft
16 engine emissions, including both CO2 and non-CO2
17 emissions.

18 We agree that EPA must act swiftly to control
19 greenhouse gas air pollution from airplane engines by
20 setting emission standards and test procedures. EPA is
21 specifically authorized and, in fact, required to
22 promulgate standards for aircraft engine emissions by

1 Section 231 of the Clean Air Act. Pursuant to EPA's
2 2016 findings concluding that aircraft engine emissions
3 of 6 well-mixed greenhouse gases contribute to air
4 pollution that endangers public health and welfare, EPA
5 is bound to issue standards under Section 231
6 applicable to those emissions.

7 Additionally, as a member state of the
8 International Civil Aviation Organization, the United
9 States has committed to adopt and put into operation
10 the appropriate standard systems, which ICAO may
11 recommend or establish. The United States is only able
12 to fulfill its commitment if the administrator of EPA
13 works with the Secretary of Transportation to issue
14 emissions standards and regulations. Moreover, member
15 states are required to recognize certificates of
16 airworthiness issued by other member states provided
17 that the requirements under which such certificates or
18 licenses were issued or rendered valid are equal to or
19 above the minimum ICAO standards. This language allows
20 member states to adopt standards more stringent than
21 ICAO's emissions standards. EPA is empowered and
22 required by the Clean Air Act to promulgate emissions

1 standards, which ICAO's standards may be able to serve
2 as a guide. But EPA remains in power to promulgate
3 standards stricter than those adopted by ICAO.

4 As EPA proceeds with its rulemaking, it is
5 essential to consider new scientific developments and
6 discoveries and to set stringent standards to
7 effectively address air pollution, which may reasonably
8 be anticipated to endanger public health or welfare.
9 EPA developed the current proposed standards based, in
10 part, on outdated and incomplete information. EPA's
11 bases for promulgating the proposed standards were the
12 conclusions drawn from the 2016 findings and the
13 current ICAO minimum standards. However, by the time
14 EPA began the process of developing the standards, new
15 studies were well underway, suggesting that the ICAO
16 standards, mainly targeting CO2 emissions, were
17 insufficient to address the environmental problems
18 posed by aircraft engine emissions. In particular, a
19 recent study, led by researchers at Manchester
20 Metropolitan University, found that non-CO2 emissions,
21 including water vapor, NOx, and aerosol particles,
22 together contribute to roughly two-thirds of the

1 environmental impact of aviation while CO2 emissions
2 contribute to the remaining third. These non-CO2
3 emissions were omitted from the 2016 findings, due, in
4 part, to the fact that the metric utilized by the
5 Manchester study was not fully available when the 2016
6 findings were being assembled. With more complete and
7 accurate information now available, EPA should work to
8 tailor its standards to address newly recognized areas
9 of environmental concern.

10 Moreover, much more is known now about the urgency
11 of cutting greenhouse gas emissions in order to avert
12 dangerous interference with the climate system, an
13 objective that the United States as a party to the 1992
14 U.N. framework convention on climate change following
15 the unanimous consent of the U.S. Senate has bound
16 itself to observe. New engine and aircraft designs
17 demonstrate significant emission reduction potential,
18 underscoring that a much more stringent standard than
19 the one EPA is proposing apply to existing as well as
20 new-type and in-production aircraft, is not only
21 necessary but also feasible. Establishing a more
22 stringent standard would incentivize technological

1 innovation, support existing jobs, and create new jobs
2 in the aviation sector. Reducing greenhouse gas
3 emissions from aviation can also help reduce
4 conventional air pollution, providing health benefits
5 for communities close to airports.

6 In conclusion, EPA is not only empowered but
7 required under the law to promulgate standards to
8 address the polluting effects of aircraft engine
9 emissions. However, EPA should ensure that any
10 standards it does promulgate are based on accurate
11 information and are sufficiently stringent to address
12 the reality on environmental concerns. We agree that
13 EPA must act swiftly to control greenhouse gas air
14 pollution from airplane engines by setting emissions
15 standards and test procedures. However, we urge EPA to
16 consider the risks to the aviation sector and to the
17 American people posed by climate change and to
18 strengthen the proposed rule to more effectively
19 address the danger posed to public health and welfare
20 by air pollution from all aircraft engine emissions.

21 Thank you for the opportunity to provide this
22 testimony, which we will supplement with more extensive

1 written comments for the record, which we respectfully
2 request EPA to consider as it moves forward to
3 promulgate this rule.

4 MS. GOODMAN: Thank you for your comment. Does
5 the EPA have any questions?

6 MR. CHARMLEY: Yes. Just one thing, Mr. Toland.
7 Thank you for your testimony. It is actually not a
8 question. Just since you cited a few technical reports
9 that you indicated have been published in the last few
10 years, I just wanted to really strongly encourage you
11 to make sure that those are part of the written record
12 that assuming they get in the written comments. Beyond
13 that, no. Thank you very much for your testimony.

14 MR. TOLAND: Thank you.

15 MS. GOODMAN: Thank you.

16 MR. TOLAND: Yes, everything will be cited.

17 MS. GOODMAN: Thank you very much.

18 The next speaker was scheduled to be Anne
19 Hollander, who does not appear to be joined to the
20 meeting currently. So I am asking Rachel Jones if you
21 could please unmute yourself and state your name and
22 affiliation for the record.

1 MS. R. JONES: Good morning. My name is Rachel
2 Jones, R-a-c-h-e-l J-o-n-e-s. And I am here today
3 representing the National Association of Manufacturers.

4 On behalf of the 14,000 manufacturers, small and
5 large, in every industrial sector and in all 50 states
6 and, most importantly, the 12 million men and women who
7 make things in America, we appreciate the opportunity
8 to testify before the EPA on its proposal to establish
9 greenhouse gas emission standards and test procedures
10 for airplanes used in commercial aviation and business
11 jets. Innovation and ingenuity are a combination that
12 can empower us to overcome the greatest environmental
13 challenges while growing a stronger and more inclusive
14 society. As pioneers that make modern life better
15 through their innovation and environmental stewardship,
16 manufacturers are building the future Americans
17 desperately need: one that is cleaner, more efficient,
18 and environmentally sustainable. As the creators and
19 users of technologies that are vital to reducing
20 emissions, manufacturers invest billions of dollars
21 annually to protect air quality and have achieved
22 remarkable improvements.

1 Our strong track record is based on consistently
2 reducing emissions, conserving critical resources,
3 protecting biodiversity, limiting waste, and providing
4 safe products and solutions so that others can do the
5 same. Manufacturers are excited to take these
6 achievements one step farther. Environmental
7 regulations, especially greenhouse gas emissions
8 standards, should be designed to ensure that they can
9 maximize results for at-risk communities while
10 minimizing negative societal and economic impacts.
11 This type of logical common sense approach is what
12 manufacturers have long called for.

13 EPA's proposal to establish greenhouse gas
14 emissions standards and test procedures for airplanes
15 used in commercial aviation and large business jets
16 would lead to even greater reductions in hazardous air
17 pollutants and set an important precedent in our
18 critical fight against climate change. Given our
19 strong commitment to clean air, we support this
20 thoughtful proposal.

21 Today's aircraft are well over 70 percent more
22 efficient than the first jets. And implementing these

1 standards would ensure that older, less efficient
2 airplanes are replaced by new, more efficient models.
3 Continued investment by manufacturers in new
4 technologies will enable aviation to continue to grow
5 sustainably and responsibly.

6 Aviation continues to be an American success
7 story, contributing significantly to global economic
8 activity and employment. And aligning U.S. and ICAO
9 standards would further support domestic aircraft
10 manufacturers by increasing their global
11 competitiveness and creating a level playing field for
12 original equipment manufacturers.

13 Protecting the environment and improving public
14 health are critical to improving air quality and
15 tackling climate change. However, the choice between
16 environmental protection and strong economy is not an
17 either/or proposition. Americans deserve both.
18 Understanding this and taking strategic action will
19 create jobs for domestic investment and create a
20 healthier and more sustainable world for all of us.
21 This is why manufacturers are committed to strong,
22 smart environmental protections that improve the lives

1 of all Americans and why we support this proposal.

2 To accomplish these goals, manufacturers will
3 continue keeping their promise to minimize our
4 environmental footprint, reduce emissions, and conserve
5 critical resources because it's the right thing to do.

6 We look forward to continuing to build a more
7 inclusive tomorrow together. Thank you.

8 MS. GOODMAN: Thank you for your comment.

9 Does EPA have any questions?

10 MR. CHARMLEY: Jeanne, I don't believe that we do.

11 So thank you, Ms. Jones, for your testimony.

12 MS. GOODMAN: Thank you very much.

13 Our next speaker is -- and I apologize for the
14 pronunciation -- Bolaji Olagbegi. Please state your
15 name and affiliation.

16 MS. OLAGBEGI: Hi. Good morning, everyone. My
17 name is Bolaji Olagbegi. I am from Ceres. And yes.
18 Thank you. Good morning.

19 So thank you for the opportunity to testify today.
20 My name is Bolaji, as I said. And I am the climate and
21 energy associate at Ceres, speaking today on behalf of
22 Carol Lee Rawn, the senior director for transportation

1 of Ceres. Ceres is a sustainability nonprofit
2 organization working with investors in companies. The
3 Ceres investor network on climate risk and
4 sustainability comprises more than 175 institutional
5 investors collectively managing 79 billion in assets.
6 The Ceres policy BICEP network and company networks
7 comprise many Fortune 500 firms and other major
8 companies.

9 I am here today to express our strong opposition
10 to EPA's proposed rule, which is equivalent to the
11 wholly inadequate International Civil Aviation
12 Organization, ICAO, standards. And that is clearly
13 inconsistent with Paris climate goals. Instead,
14 emissions standards should be consistent with the 1.5-
15 degree pathway. Aviation emissions are projected to
16 triple by 2050. And while we acknowledge the
17 difficulties airlines face at this time, we need to
18 adopt standards that in concert with the current
19 policies will ensure that the downward trajectory of
20 aviation emissions in a manner consistent with Paris
21 goals.

22 Strong regulations are necessary to drive

1 investment in fuel efficiency technologies that will
2 both enhance the global competitiveness of the U.S.
3 aviation sector and ensure emissions reductions. The
4 proposed rule would not spur those necessary
5 investments. ICCT's analysis shows that a 2016 plane
6 wouldn't actually meet the proposed 2028 standard.

7 Reducing emissions from the aviation sector is
8 enormously challenging. And it is critical that we
9 accelerate our efforts now. Unfortunately, the
10 proposed rule will only exacerbate that challenge.

11 Accordingly, we strongly oppose EPA's proposed
12 rule. Thank you.

13 MS. GOODMAN: Thank you very much.

14 Does EPA have any questions?

15 MR. CHARMLEY: I don't believe that we do, Jeanne.

16 So thank you for your testimony today.

17 MS. GOODMAN: Thank you very much.

18 MS. OLAGBEGI: Thank you.

19 MS. GOODMAN: Before I introduce the next speaker,
20 I would like to remind everyone that if you joined on a
21 listen-only phone line and you would like to speak,
22 please press *3 on your phone or you can send an email

1 to public_hearing@abtassoc.com. That is a-b, as in
2 boy, t, as in Tom, a-s-s-o-c.com. Or you can call
3 (888) 528-8331. You can also send a message to us in
4 the chat if you are connected by computer to request to
5 speak.

6 If anyone is experiencing any audio problems,
7 please use the ellipses icon at the bottom of your
8 screen to the left of the red X and choose "Audio
9 Connection" and then the "Call me" option.

10 Having said that, I would like to introduce our
11 next speaker: David Hyde. Please unmute yourself and
12 state your name and affiliation.

13 MR. HYDE: Good morning. My name is David Hyde.
14 And I am a director of environmental policy at the
15 Aerospace Industries Association.

16 AIA is the premier trade association of the U.S.
17 aerospace industry. Our more than 300 members include
18 both global companies producing products like aircraft
19 and aircraft engines as well as small businesses.
20 Overall, our members employ over two million high-skill
21 U.S. workers and contribute a trade surplus of nearly
22 \$18 billion. We appreciate the opportunity to testify

1 today on EPA's notice of proposed rulemaking on
2 greenhouse gas emission standards and test procedures
3 for aircraft.

4 The aerospace industry has long been committed to
5 reducing the environmental impacts associated with
6 aviation. And we have a significant track record of
7 success. In fact, a modern aircraft is now more than
8 80 percent more fuel-efficient than the first
9 generation of jet aircraft and emits roughly half the
10 CO2 a comparable flight did just 30 years ago. This is
11 a result of industry, governments, and others working
12 together through the International Civil Aviation
13 Organization, ICAO, to address these issues on a global
14 scale.

15 AIA members work directly with ICAO's Committee on
16 Aviation Environmental Protection to develop
17 environmental standards for aviation that deliver
18 environmental benefit but that are also technologically
19 feasible and economically reasonable. Setting
20 standards that consider all of these factors and
21 crucially which apply globally has allowed aviation to
22 innovate and deliver environmental improvements while

1 protecting the industry's ability to connect and
2 empower our global economy.

3 Traditionally the EPA has adopted emissions
4 standards agreed through ICAO into domestic law under
5 Section 231 of the Clean Air Act. Given the success to
6 date, AIA is pleased that the EPA is intending to
7 continue with this approach for ICAO's first-ever
8 aircraft CO2 standard, which AIA members, the EPA, and
9 the FAA helped negotiate and which was ratified at the
10 39th ICAO general assembly in 2016. Agreement of this
11 standard was a key step for ensuring aviation builds on
12 its sustainability achievements. The ICAO standard
13 will eventually apply to all in-production aircraft
14 from January 1st, 2028, setting a de facto production
15 cutoff date of the least fuel-efficient aircraft and
16 facilitating replacement with more advanced and cleaner
17 aircraft. And continuing improvements in fuel
18 efficiency is a key component of aviation strategy for
19 reducing net CO2 emissions to 50 percent 2005 levels by
20 2050. As a representative of aerospace manufacturers,
21 AIA wants to ensure that the U.S. has a framework
22 consistently with the internationally proven approach

1 that will allow our members to continue to design
2 environment efficiency improvements into aircraft. And
3 U.S. manufacturers build aircraft that will be used all
4 over the world. So using the same standard as that
5 developed through ICAO is, therefore, vital for the
6 competitiveness of the U.S. aerospace industry as well
7 as the health of the global aviation system at large.
8 We are, therefore, pleased that the EPA is proposing to
9 adopt rules that are equivalent in scope, stringency,
10 and timing to the ICAO CO2 standard.

11 The ICAO standard came into effect on January 1st,
12 2020 for aircraft applying for a new type certificate.
13 And AIA members have already taken steps to ensure
14 compliance with this standard, including making plans
15 to end production of the least fuel-efficient aircraft.
16 The majority of aircraft will not be subject to the
17 standard until January 1st, 2028. Nevertheless, we
18 urge the EPA to finalize the domestic adoption of these
19 rules by the end of this year.

20 Airlines purchase aircraft several years in
21 advance. This means they will currently be making
22 decisions on aircraft that will be delivered through

1 the end of this decade. And when making these
2 decisions, airlines will require assurances that
3 aircraft meet the standard to operate in international
4 markets. But without domestic regulations in place,
5 the FAA will be unable to certify an aircraft as
6 meeting the ICAO CO2 standard. In this situation, U.S.
7 manufacturers would be at a serious competitive
8 disadvantage if airlines were to seek greater
9 regulatory certainty by opting to choose and purchase
10 aircraft manufactured elsewhere that meet the
11 requirements of their certifying authorities'
12 equivalent rules, which have already been implemented
13 in some cases. And if this was to occur, it could
14 jeopardize tens of billions of dollars in sales of the
15 United States aerospace industry. To avoid this
16 scenario, the EPA should ensure that final domestic
17 regulations are adopted by the end of 2020 so that
18 aircraft manufacturers and the FAA have sufficient time
19 to perform the required processes.

20 Thank you again for the opportunity to testify
21 here today. AIA will be submitting a written record of
22 these comments to the public docket. And we also look

1 forward to providing substantive comments on aspects of
2 this rulemaking ahead of the appropriate deadlines.

3 Thank you.

4 MS. GOODMAN: Thank you for your comment.

5 Does EPA have any questions?

6 MR. CHARMLEY: Jeanne, I don't believe that we do.

7 So thank you, Mr. Hyde, for your testimony today.

8 MS. GOODMAN: Thank you.

9 The next speaker will be Peter Prowitt. Please
10 state your name and affiliation.

11 MR. PROWITT: Good morning. I am Peter Prowitt,
12 executive director of global government relations for
13 GE Aviation, an operating unit of the General Electric
14 Company. Thank you for the opportunity to testify on
15 EPA's proposed greenhouse gas emission standards for
16 airplanes and airplane engines.

17 I am pleased to testify on behalf of GE, which is
18 a leader in the global aviation industry through two of
19 our businesses: GE Aviation and GE Capital Aviation
20 Services. GE Aviation manufactures jet and turboprop
21 aircraft engines, components, and integrated systems
22 for commercial, military, business, and general

1 aviation aircraft. Nearly 70,000 jet engines from GE
2 Aviation and its partner companies are currently in
3 service worldwide. GE Capital Aviation Services, or
4 GECAS, provides global aviation, leasing, and financing
5 services in over 75 countries with a fleet of over
6 1,700 aircraft.

7 GE has led the way in global innovation for over a
8 century. And GE can deliver technology for the world
9 to achieve the long-term goal of sustainable
10 development. More specifically, GE has a long history
11 of innovation to produce more fuel-efficient jet
12 engines and, therefore, reduce the carbon footprint of
13 our product.

14 A significant proportion of our annual aviation
15 research and development budget focuses on technologies
16 that improve fuel efficiency. Many of our
17 technological breakthroughs in engine efficiency have
18 been industry first, such as carbon fiber fan blades
19 and ceramic matrix composites, or CMCs, which
20 significantly reduce the weight of the engine.
21 Installing GE and GE partner engine models over the
22 decades has equated to our fleet in airline service,

1 reducing its fuel burn on average by 1 to 1 and a half
2 percent every year for the last 30 years. This
3 tradition of innovation continues, and we expect that
4 percentage to continue as well.

5 In response to EPA's proposal, GE offers several
6 comments. First, we commend the agency for proposing
7 greenhouse gas emission standards that follow the
8 standards adopted by the International Civil Aviation
9 Organization, ICAO. Consistency with the ICAO
10 standards is critical to ensure the preeminence of the
11 U.S. aviation industry. By achieving consistency with
12 the ICAO standards, the proposal will assure the
13 worldwide acceptance of U.S.-manufactured airplanes
14 and, thereby, protect U.S. jobs and strengthen the
15 American aviation industry while also protecting the
16 environment.

17 Second, we would urge EPA to finalize ICAO-
18 equivalent greenhouse gas emission standards promptly,
19 ideally by the end of the year. The proposal is many
20 years in coming. And the sooner the American aviation
21 industry can get certainty on this issue, the better.

22 Third, we believe that ICAO-equivalent standards

1 are consistent with the law. They comply with the
2 statutory requirements of the Clean Air Act and are
3 well within the broad discretion that EPA exercises in
4 developing aircraft emission standards. They are also
5 consistent with the agency's past practices in
6 developing aircraft emission standards and is supported
7 by a thorough administrative record.

8 Fourth, we believe that the emission standards
9 should not be set any more stringently than the ICAO
10 standards that the U.S. is bound to meet through its
11 treaty obligations under the Chicago Convention on
12 International Civil Aviation. The standards as written
13 already demand state-of-the-art technology. And they
14 appropriately reflect the preeminence of safety in
15 airline emission standards under the Clean Air Act.

16 In short, GE in general supports EPA's proposal,
17 which we believe is a win, both for the competitiveness
18 of the American aviation industry and for the
19 environment. This proposal if adopted promptly would
20 enable GE to continue to innovate ways to reduce
21 greenhouse gas emissions.

22 Again on behalf of GE, I thank you for the

1 opportunity to testify today. GE will be submitting
2 additional comments to the docket in response to his
3 rulemaking along with additional details. Thank you.

4 MS. GOODMAN: Thank you very much for your
5 comment.

6 Does EPA have any questions?

7 MR. CHARMLEY: Jeanne, we do not.

8 So thank you, Mr. Prowitt, for your testimony
9 today.

10 MR. PROWITT: Thank you.

11 MS. GOODMAN: Thank you very much.

12 Brian Gannon is scheduled to be the next speaker,
13 but he does not appear to be online. If he has called
14 in, could you please press *3 on your phone so that I
15 can identify you?

16 (Pause.)

17 MS. GOODMAN: Okay. Seeing none, I would like to
18 go on to our next speaker, who is Chuck Chaitovitz. If
19 you could unmute yourself and state your name and
20 affiliation, please?

21 MR. CHAITOVITZ: My name is Chuck Chaitovitz, and
22 I am vice president for environmental affairs and

1 sustainability at the U.S. Chamber of Commerce.

2 The chamber appreciates the opportunity to provide
3 input today on this important role of the aviation
4 sector in the economy in addressing climate change.
5 The chamber supports the proposed rule on implementing
6 carbon dioxide emissions standards for aircraft.
7 Completion of this rule is critical for the
8 environment, the regulated industry, and the U.S.
9 economy.

10 We thank EPA for your work on this standard,
11 which, as many speakers have mentioned, is consistent
12 with the standards agreed to by 190 countries in the
13 U.N. International Civil Aviation Organization, or
14 ICAO.

15 As the U.S. standard in alignment with ICAO
16 standards is an important step in creating a level
17 international playing field for American airplane
18 manufacturers, which means that aircraft designed and
19 built in the U.S. should be more competitive in the
20 global marketplace.

21 As you know, the COVID-19 pandemic continues to
22 significantly impact the global economy, especially the

1 aviation sector. The second quarter of 2020 saw the
2 largest quarterly contraction in GDP in U.S. history of
3 almost 32 percent. The economy has stopped contracting
4 and is currently tracking to expand by about 23 percent
5 this quarter, which would be a record high for a growth
6 in a quarter. However, not all industries are growing
7 at the same rate. In fact, some are still contracting.
8 This has given rise to the notion of a K-shaped
9 recovery, which some companies have had a sharp
10 recovery that represents the top of the K, while other
11 companies, the virus has kept them from operating at
12 full capacity or operating at all. These represent the
13 bottom part of the K. The aviation industry is in that
14 bottom part of the K as airline traffic is still down
15 significantly compared to before the pandemic. It will
16 probably not rebound until after we fully recover from
17 this public health crisis.

18 During these challenging economic times, as
19 businesses fight to recover from the pandemic,
20 certainty in the regulatory landscape is more important
21 than ever before. We urge the agency to finalize the
22 rule by the end of 2020 on time to bolster economic

1 growth and environmental stewardship, especially as our
2 nation and the aviation sector continue to work on the
3 economic recovery from the public health crisis.

4 Commercial airplane manufacturing accounts for
5 nearly 8 percent of total U.S. exports and supports
6 more than 1 million U.S. jobs. Approximately 75
7 percent of the aircraft built here are sold overseas.
8 Aviation also contributes significantly to the global
9 economic activity and employment.

10 Before the pandemic, aviation flew more than four
11 billion people and carried nearly seven trillion in
12 goods every year while supporting 65.5 million jobs.
13 Implementing this regulation will help ensure that
14 older, less efficient airplanes are replaced by newer,
15 more efficient models, as several other speakers have
16 mentioned, thereby enabling aviation to continue
17 growing sustainably and responsibly.

18 Today's aircraft are well over 70 percent to 80
19 percent more efficient than the first jets. Continued
20 investment by manufacturers in new technologies will
21 further improve efficiency and reduce emissions. The
22 ICAO standards are an important part of the industry's

1 strategy to cut net global aviation carbon dioxide
2 emissions to half of what they were in 2015 by 2050.
3 These ambitious emission standards would formalize
4 technology improvements into the airplane certification
5 process that until now have been purely voluntary.

6 In conclusion, when finalized, this critical rule
7 promises to provide equipment manufacturers with
8 predictability, a critical component of getting back on
9 their feet and reducing emissions in this most cost-
10 effective way while maintaining their competitiveness
11 in world markets.

12 Thank you again. We stand ready to assist you in
13 finalizing this rule, and we will be submitting
14 comments for the record when appropriate.

15 MS. GOODMAN: Thank you for your comment.

16 Does EPA have any questions?

17 MR. CHARMLEY: I don't believe that we do, Jeanne.

18 So thank you, Mr. Chaitovitz, for your comments
19 today. I appreciate it.

20 MR. CHAITOVITZ: Thank you.

21 MS. GOODMAN: Thank you very much.

22 Before we continue, I would like to remind you

1 that if you are not scheduled to speak and you would
2 like to speak, please put a message in the chat box.
3 If you are connected to a listen-only phone line and
4 would like to speak, please press *3 on your phone or
5 send an email to public_hearing@abtassoc.com. That is
6 a-b, as in boy, t, as in Tom, a-s-s-o-c.com. Or call
7 (888) 528-8331.

8 If anyone is experiencing audio problems, please
9 use the ellipses icon at the bottom of the screen to
10 the left of the red X and use the audio connections
11 option.

12 Continuing on, I would like to introduce Tina
13 Orwall. Please state your name and affiliation.

14 MS. ORWALL: Representing the 33rd legislative
15 district in Washington State.

16 MS. GOODMAN: I apologize, Ms. Orwall. You were
17 not unmuted. Could you start over?

18 MS. ORWALL: Oh, yes. Good morning. I am Tina
19 Orwall. And I have the honor of representing the 33rd
20 legislative district in Washington State. If you have
21 flown into SeaTac, you have been in my district. I
22 represent SeaTac and the surrounding cities.

1 First I want to say thank you. Thank you for the
2 work you are doing. It is critical, and it is
3 incredibly timely. Sadly, on the West Coast, we don't
4 have a lot of clean air right now. We have been hit by
5 these raging forest fires. I think the air quality in
6 my area today is at 155. Portland yesterday was at
7 302. And for comparison, D.C. is at 42 and New York at
8 27. So we are having a lot of time to reflect on
9 climate change and the impact of greenhouse gases. And
10 so, you know, hearing the work you are doing in this
11 area is incredibly important to us. And so I wanted to
12 have a chance just to tell you that climate change is
13 real for so many of us and that we really want to
14 encourage you to use whatever powers you have to make
15 the biggest impact you can at this point in time.

16 And I appreciate the rules that have come forward.
17 I hope you also look at the CO2 emissions as they look
18 at new aircraft and those in production. Also, it was
19 brought up earlier, you know, you have looked at a lot
20 of exhaust of jet A fuel. And we hope you will
21 continue to expand that.

22 You know, we have had studies done at the

1 University of Washington looking at ultrafine
2 particles. And they really are showing a footprint
3 around airports of these concentrated particles, which
4 are so small that they enter the lungs, they pass the
5 blood-brain barrier, they are not only outdoors, but
6 they are in indoor concentrations. And Boston Logan is
7 showing that. So we really hope that you really expand
8 pollution caused by jet A fuel so that when we are
9 creating these new aircrafts and procedures, that we
10 can have the greatest impact.

11 Again, I think a lot of this work that you are
12 doing and doing with the FAA is so important. Airport
13 communities are really impacted by this pollution.
14 And, as you can imagine, we have COVID, we have airport
15 pollution, we have smoke pollution. And it is pretty
16 overwhelming. And, of course, all of those things
17 cause inflammation in the body. So, again, the work
18 you are doing is so critical to the health and
19 wellbeing of our country, of our planet. And we just
20 really hope that you can really help move us forward as
21 we really address global warming, as we address the
22 health impacts that this is having on our country and

1 especially airport communities. So thank you.

2 MS. GOODMAN: Thank you for your comment.

3 Does EPA have any questions?

4 MR. CHARMLEY: I don't believe that we do, Jeanne.

5 So thank you, Ms. Orwall, for testifying today.

6 We very much appreciate it.

7 MS. ORWALL: Thank you.

8 MS. GOODMAN: Our next speaker is Nadia Salim.

9 Please unmute yourself and state your name and

10 affiliation.

11 MS. SALIM: Good morning. My name is Nadia Salim.

12 I would like to be clear that I am testifying today in

13 my capacity as a private citizen. My ideas and

14 opinions here have no affiliation with the NPD Group,

15 as described on the slide.

16 I live right next to Logan Airport in Boston. My

17 days are filled with the sounds of travelers, airplanes

18 taking off and landing. These have become a background

19 to my life. And during the time that air travel was

20 made impossible by COVID, those days were strangely

21 silent.

22 I would like to add that I am a frequent traveler

1 myself, and I support the spirit of commerce and
2 connection that it can provide.

3 That said, I strongly believe that EPA needs to
4 strengthen the proposed rules to reduce greenhouse gas
5 emissions under consideration. Air pollution endangers
6 public health and welfare on a number of levels. The
7 noise pollution here close to the airport is
8 distressing for children, elders, and those suffering
9 from certain medical conditions. The UFPs released are
10 known to cause chronic pulmonary conditions, which can
11 now acutely act as a COVID mortality risk multiplier.
12 And, of course, the most recent science on climate
13 change tells us that we must be more aggressive if we
14 are to avert disastrous health and climate
15 implications.

16 Current science tells us that the standards under
17 consideration currently are not sufficient to address
18 the public health and climate change issues that
19 endanger our collective health and wellbeing. It is
20 not only within the power of the EPA but also part of
21 your responsibility to take maximum care to limit the
22 negative impact of emissions, not to accept the minimum

1 standards.

2 I have heard a lot of testimony here this morning
3 about protecting industry economic interests. However,
4 the work of the EPA is not to protect the industries
5 that require that we take calculated risks with our
6 environment in order to be profitable. The work of the
7 EPA is to protect the environment itself.

8 I agree with Ms. Jones and others speaking here
9 today that environmental protection and economic
10 development are not at odds. And I would encourage
11 these manufacturers to invest in their workers and
12 technological development to encourage advancements to
13 prioritize the health and wellbeing of their workforce
14 as well as all of our citizens and shared environment
15 over short-term profits. The development of better and
16 greener technology use can only mean more and better
17 opportunities for everyone.

18 Lastly, I am curious about the EPA's plan to work
19 with local communities and neighborhoods that are
20 affected by things like UFPs in partnership to mitigate
21 the environmental impacts to us here locally. I
22 couldn't find any information on this in the proposal,

1 and I would be very happy to be directed to resources
2 that reflect these commitments.

3 Thank you.

4 MS. GOODMAN: Thank you for your comment.

5 Does EPA have any questions?

6 MR. CHARMLEY: I don't believe that we do.

7 So I would like to thank Ms. Salim for her
8 testimony.

9 MS. SALIM: Thank you.

10 MS. GOODMAN: Thank you.

11 The next panelist is Mary Minette. Mary, please
12 unmute yourself and state your name and affiliation.

13 MS. MINETTE: Good morning. My name is Mary
14 Minette, and I am the director of shareholder advocacy
15 at Mercy Investment Services.

16 For almost 175 years, the Sisters of Mercy of the
17 Americas have served communities in the United States
18 in healthcare, education, and social service
19 ministries. This deep commitment to caring for others
20 has extended to the sisters' role as long-term
21 investors and many companies through their socially
22 responsible investment program: Mercy Investment

1 Services. The Sisters of Mercy consider not only the
2 financial returns of their investments but also believe
3 that demonstrated corporate responsibility and
4 environmental, social, and governance issues foster
5 long-term business success.

6 Although we know the impact that COVID-19 has had
7 on the airline industry in the short term, as long-term
8 investors, we believe that climate change poses an ever
9 greater business risk to U.S. airlines in weather-
10 related safety and operational costs and due to their
11 status as a source of emissions.

12 U.S. airlines must meet a Paris-aligned net-zero-
13 emissions goal by 2050 to minimize the long-term risks
14 of climate change. To meet this goal, we need strong
15 regulations that will both drive innovation and ensure
16 meaningful emissions reductions in the interim. This
17 proposed rule fails on both counts. Strong emissions
18 rules and complementary policies, including promoting
19 advanced fuels, are necessary to ensure reductions in
20 U.S. aviation emissions. A strong rule would drive
21 investment in fuel efficiency technologies and
22 practices and support efforts to scale up production

1 and adoption of aviation biofuels.

2 These investments are critical to ensuring that
3 the U.S. aviation industry maintains a leading position
4 in an increasingly competitive and carbon-constrained
5 world. The U.S. is already falling behind in reducing
6 aviation emissions. The European Union has instituted
7 an emissions-trading system and other countries, such
8 as Norway, are instituting targets for electrifying
9 short-haul flights and instituting biofuels mandates.
10 The proposed rule would provide no incentive to invest
11 in critical fuel efficiency technologies. In fact,
12 according to the International Center on Clean
13 Transportation, carriers accounting for 82 percent of
14 2017 aviation demand in the U.S. would already meet the
15 CO2 standard by 2028 without further improvement to
16 their fleets.

17 While we understand the challenges that airlines
18 are facing at this time, as long-term investors, we
19 believe that climate change presents an even more
20 existential threat to the industry's survival.

21 Both government and industry must work to align
22 emissions with Paris climate goals. That effort needs

1 to begin well before 2028 and to drive emissions
2 reductions consistent with net-zero emissions by 2050.

3 We will be submitting written comments as well.

4 Thank you for your time.

5 MS. GOODMAN: Thank you for your comment.

6 Does EPA have any questions?

7 MR. CHARMLEY: No, Jeanne, we do not.

8 So thank you, Ms. Minette, for your testimony
9 today.

10 MS. GOODMAN: Before I continue, I would like to
11 remind you that if you would like to speak and are not
12 currently on the list, you may enter a message in the
13 chat. If you joined on the listen-only phone line and
14 would like to speak, please press *3 on your phone or
15 send an email to public_hearing@abtassoc.com. That is
16 a-b, as in boy, t, as in Tom, a-s-s-o-c.com. Or you
17 can call (888) 528-8331.

18 With that, I would like to go to our next speaker.
19 Liz Jones, please unmute yourself and announce your
20 name and affiliation. Unfortunately, we are not
21 hearing your audio. Can you please go into the more --
22 or you may need to unmute yourself on your device or

1 you may need to go into audio connections in the "More"
2 icon at the bottom of your screen and switch your audio
3 device. We do not. Do you have a telephone available?
4 I would recommend that you go into the three dots at
5 the bottom of the screen, go into "Audio Connection,"
6 and choose "Call me" and put your number in there. You
7 do not need to disconnect from the audio on the
8 computer. Please try again.

9 MS. L. JONES: Good morning.

10 MS. GOODMAN: We hear you well. Thank you for
11 that.

12 MS. L. JONES: Thank you so much for bearing with
13 me.

14 My name is Liz Jones. I am an attorney with
15 Center for Biological Diversity. The center is a
16 nonprofit organization with over 81,000 members. We
17 work to reduce greenhouse gas emissions and other air
18 pollution to protect people, wildlife, and ecosystems.

19 I am commenting this morning from southern
20 California, where for weeks, deadly record-breaking
21 fires have raged. We have suffered in oppressive heat
22 and choked in unsafe air. As I sit here today, I am

1 living in a world forever changed by fossil fuel
2 pollution. The climate damage from one degree of
3 warming is out my window and all around me, as it is
4 for millions of Californians and Americans. We are in
5 a climate emergency.

6 Efforts to quickly eliminate carbon pollution are
7 essential to avoid even worse devastation. Science
8 tells us that we must reduce carbon emissions by about
9 half by 2030 and reach near zero in the next two to
10 three decades to limit global warming to 1.5 degrees
11 Celsius. All transportation, including aviation, must
12 be carbonized to reach these targets.

13 Aviation executives have too long evaded every
14 attempt to make the industry reduce its fair share of
15 pollution. Aviation emissions have tried escaping in
16 the wrong direction. Over the last 10 years, emissions
17 grew by 44 percent due to increased travel and only
18 slight improvements in fuel efficiency.

19 Ahead of the coronavirus pandemic, emissions are
20 set to triple again by 2050. On the subject of the
21 pandemic, I would like to express my organization's
22 concern for and solidarity with the workers in the

1 aviation industry. Necessary modernization and
2 emissions reduction will allow the industry to survive
3 and evolve, protecting jobs. The decades-long campaign
4 against pollution reduction has done nothing to protect
5 workers during the COVID downturn.

6 The fact is that aviation pollution can be
7 dramatically reduced. Already there are huge fuel
8 efficiency performance gaps between airlines. Hybrid
9 and all-electric aircraft are gaining momentum.
10 Reports also demonstrate that fuel burn rates can be
11 rapidly reduced. Only by embracing efficiency in an
12 electric future can the U.S. align aviation with a 1.5-
13 degree Celsius pathway, which the science and climate
14 justice demand, but, rather than cut emissions, EPA has
15 opted to adopt a woefully insufficient standard
16 proposed by ICAO.

17 The ICAO standard does nothing to affect business-
18 as-usual emissions. The standard already lags behind
19 industry advances for new aircraft by about a decade.
20 According to a recent International Council on Clean
21 Transportation report, Irish new commercial jets met
22 the 2028 ICAO standard several years ago, and many new

1 aircraft designs now beat the standard by a substantial
2 margin. It is not an accident that the ICAO standard
3 does nothing. At the ICAO negotiations, nearly every
4 nation was represented by its aircraft industry.

5 In an internal 2016 email we received through a
6 FOIA request, the top EPA director put it bluntly,
7 "Environmental protection is not a priority" for most
8 at ICAO. Instead, "growing the airline industry and
9 domestic manufacturing industry is the priority."

10 Adopting ICAO's standard goes against the U.S.
11 moral imperative to reduce our outside share of
12 emissions. And it goes against EPA's mandate to
13 protect public health and the environment.

14 Rather than finalize the proposed rule, EPA must
15 quickly issue a revised standard that follows several
16 principles. First, the standard should apply to the
17 entire aircraft and should include reductions
18 achievable through changes in operations and
19 management.

20 Second, the standard should apply not just to new
21 aircraft but to all aircraft.

22 Third, the standard should be technology-forcing,

1 not -following.

2 The delegation provided to EPA under Section 231
3 of the Clean Air Act is very broad. We encourage EPA
4 to fully utilize its authority and to set a fleet-wide
5 average emissions standard for all aircraft. The
6 standard should decline over time to rapidly decrease
7 U.S. aviation emissions over the next decade and to
8 fully decarbonize the industry by 2050.

9 Thank you for the opportunity to comment today.

10 MS. GOODMAN: Thank you for your comment.

11 Does EPA have any questions?

12 MR. CHARMLEY: Only one. Thank you, Ms. Jones,
13 for your testimony. Somewhere during your testimony,
14 you said something along the lines of "Reports
15 indicate." So I am assuming that whatever those
16 reports are, that in your written testimony, if you
17 want us to consider them, then you would identify them
18 and tell us something about them.

19 But other than that, I don't actually -- oh,
20 actually, I do see one question. Bryan, it sounds like
21 you have a question.

22 MR. MANNING: Yes. Thank you, Bill.

1 This is Bryan Manning from the EPA. My question
2 is I just wanted to clarify, when you said an aircraft
3 fleet-wide standard, did you mean to include in-use
4 aircraft that are currently flying?

5 MS. L. JONES: Yes, we do mean to include that.
6 Under Section 231, we feel that the EPA has authority
7 to regulate all classes of aircraft, including in-
8 service aircraft. And we would definitely intend to
9 provide references to the report in our more detailed
10 written comments. Thank you.

11 MR. CHARMLEY: That sounds great. I don't think
12 we have any other questions. So thank you for your
13 testimony, Ms. Jones.

14 MS. GOODMAN: Thank you very much.

15 Our next speaker is Timothy Pohle. Please unmute
16 yourself and state your name and affiliation.

17 MR. POHLE: Can you hear me?

18 MS. GOODMAN: We can.

19 MR. POHLE: Okay. And hopefully you can see me as
20 well.

21 MS. GOODMAN: We can.

22 MR. POHLE: Great. Well, good morning. My name

1 is Tim Pohle, senior managing director of environmental
2 affairs at Airlines for America, which represents the
3 nation's major commercial passenger and cargo airlines.

4 I would like to thank you for holding this
5 hearing. We appreciate this opportunity to testify in
6 strong support of EPA's proposed adoption of
7 internationally agreed greenhouse gas emission
8 standards for new aircraft engines and urge the agency
9 to proceed expeditiously towards its finalization
10 consistent with the law.

11 The U.S. airlines are a critical engine of
12 prosperity and progress. We have long recognized that
13 continued progress depends on acknowledging and
14 embracing our responsibility to address climate change.
15 Although the U.S. airlines contribute less than 2
16 percent of domestic greenhouse gas emissions, we drive
17 about 5 percent of the nation's GDP. Our ability to
18 deliver an economic punch so far above our CO2 weight
19 class results from a decade-long commitment to
20 acquiring and implementing cutting-edge technologies,
21 improving our operations, and supporting infrastructure
22 advances, a commitment that has enabled U.S. airlines

1 to improve our fuel efficiency by over 135 percent from
2 1978 through 2019.

3 Further, we have been leaders in a global aviation
4 coalition that is committed to aggressive climate
5 goals, including carbon-neutral growth starting in 2020
6 and a 50 percent net reduction in CO2 emissions in 2050
7 relative to 2005 levels. Currently, of course, the
8 COVID-19 crisis has presented an unprecedented
9 challenge not only to our nation and world but to our
10 industry. We are confident that the industry will
11 eventually recover, but, frankly, we don't anticipate
12 returning to pre-COVID activity levels before 2024 at
13 the earliest. However, our commitment to building on a
14 record of environmental responsibility and improving
15 the sustainability of our industry is unwavering. It
16 is in that spirit that we are pleased to strongly
17 support EPA's proposed GHG emissions standards for
18 aircraft engines.

19 A4A looks forward to commenting on the EPA's
20 proposal in full when we submit our written comments in
21 the docket. For purposes of this hearing, A4A offers
22 the following preliminary points. First, A4A and our

1 members remain committed to limiting and reducing our
2 carbon footprint and view the proposed GHG aircraft
3 engine standards as an important contributor to our
4 efforts.

5 Second, A4A strongly supports the proposal to
6 adopt the aircraft CO2 certification standards as
7 agreed by the International Civil Aviation
8 Organization, ICAO, into U.S. law. The ICAO process
9 for setting aircraft standards is rigorous and ensures
10 that they are technically sound. Experts from the U.S.
11 EPA and Federal Aviation Administration played leading
12 roles in the six-year ICAO process leading to the
13 adoption of the CO2 standard. A4A and some
14 nongovernmental organizations also participated as
15 observers. Further, the ICAO criteria for adopting
16 such standards align with the criteria under Section
17 231 of the Clean Air Act.

18 Critically, it is really important to realize that
19 this is critical to the competitiveness of the U.S.
20 aircraft and aircraft manufacturers that the U.S.
21 follow these international standards, which, in turn,
22 will improve the airlines' ability to acquire U.S.-

1 manufactured aircraft and help foster competitive
2 market prices. Even more critically, the standards
3 will ensure that aviation safety is maintained, even as
4 environmental progress is ensured.

5 Third, we do have some concerns about the proposal
6 but believe that these can be constructively addressed
7 as the rule is finalized. For example, we believe that
8 EPA's approach in assuming a certain evolution in
9 technology is short shrift to the overriding safety and
10 reliability mandates and also assumes both the cost and
11 benefits of the proposed standards or it underestimates
12 both the costs and benefits of the proposed standards.
13 An analysis that followed the approach agreed and
14 applied in the ICAO process would affirm the benefits
15 of the standards and strengthen the justification for
16 incorporating those standards into U.S. law.

17 We present our concerns in more detail in our
18 written comments. However, we want to make clear that
19 we believe these concerns can be reasonably addressed
20 and do not undermine the validity of the proposal to
21 adopt the ICAO CO2 standards into U.S. law.

22 In sum, A4A and our members remain committed to

1 limiting and reducing our GHG emissions. We strongly
2 support this proposed rule as an important part of that
3 commitment and urge the agency to proceed expeditiously
4 toward its finalization with the law.

5 Thank you for the opportunity to comment on this
6 important proposal. Thank you.

7 MS. GOODMAN: Thank you for your comment.

8 Does the EPA have any questions?

9 MR. CHARMLEY: I don't believe we do, Jeanne.

10 So thank you, Mr. Pohle, for your testimony here.
11 We appreciate it.

12 MR. POHLE: Thank you.

13 MS. GOODMAN: Thank you.

14 Our next speaker is Kathi Hurst. Kati, please
15 unmute yourself and then state your name and
16 affiliation.

17 MS. HURST: Can you --

18 MS. GOODMAN: We can hear you. Oh, you muted
19 yourself again.

20 MS. HURST: Now can you hear me okay?

21 MS. GOODMAN: We can.

22 MS. HURST: Oh. Sorry about that.

1 MS. GOODMAN: No worries.

2 MS. HURST: Good morning. My name is Kathi Hurst.
3 I am a captain on a 737 for a U.S. legacy airline. I
4 also serve as the chairman of the Energy and
5 Environment Group of the Air Line Pilots Association's
6 Air Safety Organization.

7 ALPA represents nearly 63,000 pilots at 35 U.S.
8 and Canadian airlines. We support the EPA's proposed
9 rulemaking to create greenhouse gas emission standards
10 for airplane engines based on the 2017 ICAO emission
11 standards. This is consistent with our advocacy for a
12 continually safer and cleaner airline transportation
13 system.

14 In July, we published a white paper titled,
15 "Airlines and the Environment," which provides our
16 views on the value of air transportation and the
17 effects that our employers and we as pilots make to
18 continually reduce the airlines' impact on the
19 environment. We are happy to make that paper available
20 to the EPA and anyone else who would like to read it.

21 The airline industry has reduced its impact on the
22 environment while decreasing costs to passengers and

1 employees alike to increased efficiencies. Because of
2 the industry's effort, which includes proactive
3 operational procedures performed by airline pilots to
4 reduce fuel burn, airline's CO2 emissions per seat
5 miles have dropped an astounding 80 percent since the
6 first jet aircraft and presently accounts for only 2
7 percent of human activity-caused global emissions.

8 We all know there is more work to be done to
9 reduce aircraft emissions. And the good news is, is
10 that the airline industry is working with government
11 and other stakeholders to increase the average aircraft
12 fuel efficiency each year by 1.5 percent, cap net
13 aviation CO2 emissions starting this year, and reduce
14 net aviation emissions by 50 percent by 2050 as
15 compared to the 2005 levels. For that reason and many
16 others, airline pilots are proud to be part of an
17 industry that drives a truly global economy while
18 taking aggressive proactive measures to reduce carbon
19 emissions and fuel consumption.

20 I would like to emphasize that improving aircraft
21 engine technology is just one aspect of reducing
22 greenhouse gas emissions, not the entire picture. The

1 development of air traffic control technologies through
2 the NextGen program, individual airport configuration,
3 and expansion improvements which reduce ground delays,
4 pilot operating techniques, and other measures can and
5 do contribute to a lessening of engine emissions. The
6 government should do everything practical to help
7 reduce aircraft emissions via these improvements to the
8 operating environment.

9 We intend to provide a written statement to the
10 docket about the specifics of the proposed rule during
11 the comment period. So today we will confine our brief
12 remarks to some of the benefits of the rules for our
13 industry.

14 As everyone knows, the airline industry is
15 currently waging its most costly and difficult battle
16 for solvency in the long history. It is very
17 important, therefore, that any future emissions-
18 compliant measures be reasonable and practical, not
19 far-reaching and potentially onerous. In this regard,
20 therefore, we are pleased that the agency expects that
21 nearly all airplanes affected by this rule will be
22 compliant with the emissions standards by the

1 respective effective dates for the new type designs and
2 for end-production airplanes. This includes the
3 expectation that existing-in-production airplanes that
4 are noncompliant will either be modified and
5 recertified as compliant or will likely go out of
6 production before the production compliance date of
7 January 1st, 2028. Aircraft fleet compliance with the
8 proposed emissions standards established by ICAO in
9 2017, to which the rule would set an equivalent level,
10 reflect the incredible work which the aircraft
11 manufacturers and airlines have done to reduce
12 greenhouse gas emissions over the past several decades.

13 We believe it is essential that the global
14 aviation equipment-manufacturing community and airline
15 industry compete on a level playing field, which is
16 what the proposed rule will help establish in the area
17 of emissions. A patchwork of various engine emissions
18 standards by countries around the world would create
19 confusion, higher costs, and a potential increase in
20 emissions, plus endanger the economic viability of the
21 airline industry.

22 Thank you again for the opportunity to speak

1 today. I would be happy to take any questions.

2 MS. GOODMAN: Thank you for your comment.

3 Does the EPA have any questions?

4 MR. CHARMLEY: I don't believe that we do, Jeanne.

5 So thank you, Ms. Hurst, for your testimony today.

6 MS. HURST: Thank you.

7 MS. GOODMAN: For anyone who has joined late, I
8 would like to remind you that if you are not listed as
9 a speaker and you would like to speak, you may request
10 so in the comments. Sorry. And if you are in a
11 listen-only telephone line and would like to speak,
12 please press *3 on your phone or send an email to
13 public_hearing@abtassoc.com. That is a-b, as in boy,
14 t, as in Tom, a-s-s-o-c.com. Or you can call (888)
15 528-8331.

16 If anyone is experiencing any audio problems,
17 please use the ellipses icon at the bottom of the
18 screen to the left of the red X and choose "Audio
19 Connection."

20 With that, I would like to introduce our next
21 speaker: Kannan Thiruvengadam. Oh, this went so much
22 better in my head when I rehearsed it. Thiruvengadam.

1 If you would please unmute yourself and state your name
2 correctly and your affiliation?

3 MR. THIRUVENGADAM: You did a great job, by the
4 way, saying my name.

5 MS. GOODMAN: Thank you.

6 MR. THIRUVENGADAM: My name is Kannan
7 Thiruvengadam. And I am the director of Eastie Farm,
8 which is a local urban farm in the Boston neighborhood
9 of East Boston. And I am also on the board of the
10 Friends of Belle Isle Marsh, which is the largest salt
11 marsh in the City of Boston. It is part of an even
12 larger marsh area called the Rumney Marsh, which is an
13 area of critical environmental concern. And I am a
14 climate-ready Boston leader as well. And of late, I
15 have been doing some work with Air Inc., which is
16 airport impact relief.

17 I would like to speak from the specific
18 perspective of our local community, which is an EJ and
19 lately a CJ community as well, EJ as in environmental
20 justice, CJ as in climate justice. And the noise
21 pollution, the air pollution, the traffic, all of that
22 affect the people who live the closest to the airport

1 and as the airport increases its business, as it does,
2 more airlines, more noise, and more air pollution, and
3 more traffic for the people who live the closest. It
4 just turns out that this is mostly a working-class
5 immigrant neighborhood. This is not particularly the
6 neighborhood that, the people that benefit from having
7 the airport. The entire region benefits from having
8 the airport, but the cost is borne particularly by the
9 people who are in the vicinity.

10 Due to my association with Belle Isle Marsh and
11 because this spring due to COVID, there was some
12 silence that we experienced, meaning the noise from the
13 airport was less. We saw more of the birds that we
14 used to see earlier. There were cardinals, blue jays,
15 sparrows, and many kinds of birds visiting our homes.
16 It was a beautiful experience of being human and being
17 in this world, which is stolen from us when we have to
18 endure the busyness that comes with urban life. For
19 some people, it may be a choice as to where to live,
20 and for many, it isn't.

21 On the climate justice front, if you look up East
22 Boston, you will see that it is a peninsula. And even

1 its land connections to the rest of the mainland are
2 laden with containers of oil, other petrol chemical
3 products, and jet fuel, things like that, so presenting
4 a danger should there be a flood and a fire if we tried
5 to evacuate.

6 The demographics also is putting the communities
7 in a particularly dangerous position. And I am sure
8 you can do your research on the demographics.

9 And COVID-related risk has also particularly
10 increased due to air pollution. That is a point to
11 remember for us. It has been cited in a recent Harvard
12 study. And the study is called a "A National Study on
13 Long-Term Exposure to Air Pollution and COVID-19
14 Mortality in the United States." And it states that
15 even an increase of one microgram per cubic meter of
16 particulate matter 2.5 is associated with 8 percent
17 increase in the COVID-19 death rate. So everything
18 that happens, it just happens a lot more in a community
19 that is already super vulnerable. That is something to
20 keep in mind. And that is the thrust of my task here,
21 is whatever measure is taken in greenhouse gas
22 reduction, everything else has to be done, first and

1 foremost, with the people who are most affected who
2 least contributed to these causes and who are the least
3 able to do anything about it in mind. So that is the
4 EJ and CJ communities, and we should keep them in mind
5 in designing our programs and how we implement the
6 programs that are designed. There are many ways to be
7 very aggressive with mitigating these risks with
8 filters, air filters, in schools and in residences that
9 have the most vulnerable people, maybe even all
10 residences because why wait for people to get a disease
11 before trying to help them? Why not prevent it? And
12 relocations of some of the air traffic to places that
13 put fewer people at risk and, of course,
14 decarbonization as much as we can as early as we can.

15 That is basically my point. I am happy to yield
16 the rest of my time and answer any questions.

17 MS. GOODMAN: Thank you for your comments.

18 Does the EPA have any questions?

19 MR. CHARMLEY: I don't believe we do, Jeanne.

20 So thank you, Mr. Thiruvengadam, for your
21 testimony today. We very much appreciate it.

22 MR. THIRUVENGADAM: Thank you.

1 MS. GOODMAN: Thank you.

2 Our next speaker is Tanya Hahnel. And you are
3 currently not listed in the list of speakers. If you
4 are connected by telephone only, please press *3 on
5 your phone so that I can identify you.

6 (Pause.)

7 MS. GOODMAN: Failing to hear that, I would like
8 to introduce Cindy Baxter. Cindy, please unmute
9 yourself and state your name and affiliation.

10 MS. BAXTER: Hi. My name is Cindy Baxter. Just a
11 quick check to make sure that you can hear me.

12 MS. GOODMAN: Yes. Thank you.

13 MS. BAXTER: Thank you.

14 It is a pleasure to address the members of the
15 EPA. Thank you for allowing us this time for the
16 hearing. My affiliation for this hearing is as a
17 resident. There have only been a few residents. I
18 could list my employer or some of the organizations
19 that I have, but I am pleased to speak on behalf of
20 people who live in the community.

21 I think as we are on the cusp of the United
22 Nations Climate Week, that health is really a three-

1 pronged approach. The unique opportunity for the EPA
2 and all of us, health is about community, but it is now
3 about corporate. And it is also about investments.
4 For this unique time, it allows the EPA to be brave and
5 step up to some of the unique challenges that will keep
6 us in a healthy environment from an investment
7 perspective as companies recognize that green companies
8 are good, profitable, and sound. This is an
9 opportunity to bring America up to the forefront for
10 all of us as investors, individuals, or institutional
11 investors. Companies are recognizing that as they
12 invest, as they look at services that they can offer,
13 that green companies are innovative and allow a better
14 view of what the population is looking for.

15 It also is recognized throughout the media. A
16 recent Wall Street Journal article recognized the EPA
17 proposal in order to stay internationally competitive.
18 And a lot of today's testimony has revolved around that
19 need to be competitive. It is not because it is just a
20 good corporate goal, which, of course, the airline
21 industry and affiliates have spoken to very aptly
22 today. It is because the world demands it. And

1 without demand, there won't be a supply. This is the
2 opportunity to act aggressively.

3 As I mentioned, investment companies are
4 recognizing that green companies enhance what is
5 available to consumers, whether they are corporate
6 consumers or individual consumers. Full profitability
7 is enhanced in a positive sense. That is brand new.
8 It is something we can compare to an 80 percent
9 improvement of airline standards that really is no
10 longer valid. It is an opportunity to act with
11 assertiveness.

12 Companies like my employer encourage and promote
13 environmental and sustainability adherence, not because
14 they have to but because it is just good business
15 sense. And there is a groundswell of us in the
16 employee community who are interested in working for
17 somebody who not only cares but is brave enough to act
18 and invest well.

19 I believe that the EPA action is an important
20 first step, and I want to emphasize first step. I
21 thought about it a lot. Do I want to say that as a
22 resident in East Boston, a heavily impacted community,

1 that I am concerned that this is not good enough? When
2 I put my other hat on, having worked for four different
3 large corporations, I feel strongly that we have got to
4 start somewhere. And the EPA is the group that can
5 help us do that.

6 I am involved in many grassroots efforts. As
7 mentioned, I am proud of my employer and really feel
8 that my voice is stronger because my employer has my
9 back. The EPA has all our backs. I am pleased to see
10 that this action is coming up, and I am glad to have
11 this enacted as quickly as possible. My hope and my
12 encouragement is to make sure that you can aggressively
13 take action on our behalf to do more, to be aggressive
14 as soon as possible, to encourage the kind of
15 innovation that, whether we like it or not, regulation
16 actually promotes.

17 Thank you again for taking the time and allowing
18 me to speak.

19 MS. GOODMAN: Thank you for your comments.

20 Does EPA have any questions?

21 MR. CHARMLEY: I don't believe that we do, Jeanne.

22 So thank you, Ms. Baxter, for your comments and

1 for your time today.

2 MS. GOODMAN: Thank you very much.

3 Before we go to our next speaker, I would like to
4 state for anyone who joined late that if you would like
5 to speak and you are not already on the speakers list,
6 please indicate so in the chat.

7 If you joined in a listen-only phone line and
8 would like to speak, please press *3 on your phone and
9 we will be able to identify you or you can send an
10 email to public_hearing@abtassoc.com. That's
11 a-b-t-a-s-s-o-c.com. Or call (888) 528-8331.

12 We were able to get Tanya Hahnel on. So I would
13 like to introduce her. Oh, sorry. She asks to wait
14 for just a few moments. So I would like, instead, to
15 introduce Debi Wagner. So one moment while I bring you
16 on as a panelist. Debi, please unmute yourself and
17 state your name and affiliation.

18 MS. WAGNER: Hello. Can you hear me?

19 MS. GOODMAN: We can.

20 MS. WAGNER: All right. I am Debi Wagner. I am
21 with Quiet Skies Coalition, a nonprofit in Burien,
22 Washington. And I am also with Aviation Justice, which

1 is an international organization. I am also an
2 appointed member of a Burien Airport committee. And I
3 would like to make my comments. I appreciate EPA
4 giving the opportunity for the public to weigh in on
5 the new rulemaking.

6 I have some concerns. So EPA knows that
7 certification of individual new aircraft engines never
8 considers the thousands of older, dirtier engines
9 operating at a single airport site. EPA is aware that
10 airports are producing thousands of tons of toxic and
11 criteria pollutants at single airports annually and
12 millions of metric tons of greenhouse gas emissions.

13 The AEDT model that EPA has certified for use by
14 FAA does not calculate greenhouse gas in a transparent
15 manner. It truncates the emissions to part of the
16 landing/takeoff cycle. So when airports decide to
17 expand their operations, they provide a figure to the
18 public of greenhouse gas emissions that is not
19 accurate. It is not true to what the global impact is.
20 So emissions are calculated locally for their ground-
21 level impact on populations near the airport.

22 EPA is allowing FAA's AEDT model to calculate the

1 global impact of greenhouse gas emissions from aviation
2 in this same manner. This is wrong. And it should be
3 addressed, and it should be changed.

4 The problem with ignoring site-specific impacts
5 and allowing industry to hide their emissions keeps the
6 dirty secret of aviation from scrutiny. And it doesn't
7 allow local people, elected officials, and agencies,
8 and educational institutions to have a clear picture of
9 what is really happening in the global environment.
10 This also leads to a continued increase of greenhouse
11 gas emissions due to a lack of local regulation. The
12 reason for that is because only the single engines are
13 certified for use. Airports are not regulated as a
14 source of emissions. So you might have individual
15 reductions in single engines, but you won't have
16 overall reductions at airports that are continually
17 expanding their operations.

18 And this is a major problem for local communities
19 as well because environmental justice-eligible low-
20 income and people of color move into these areas due to
21 the low cost of property. And sometimes they are
22 leaving environments which are much worse than what

1 they are experiencing with accumulative impacts of
2 noise and emissions on them daily. Many of these
3 people rely on resource categories that are never
4 considered in environmental justice and greenhouse gas
5 emission contexts by airport operators.

6 EPA needs to take a much stronger role in
7 regulating the source of these emissions in
8 communities. So I will say better projection in 2019
9 for SeaTac Airport, which I live by, had the emissions
10 of toxic and criteria pollutants at 13,000 tons per
11 year. It is the single largest producing facility of
12 emissions in the State of Washington. And the
13 greenhouse gas emissions are rivaling a coal-fired
14 power plant.

15 So the emergency and the dire situation that EPA
16 is allowing to continue by not regulating sites and not
17 controlling sources of pollution of this type puts a
18 huge population at risk, of grave risk, of injury and
19 disease and mortality and morbidity rates that are much
20 higher than average.

21 And we also know now about the ultrafine
22 particulate pollution which is blanketing hundreds of

1 thousands of people in our area. That is also not
2 being controlled by EPA. EPA needs to propose a
3 rulemaking on ultrafine particulate pollution to help
4 control this problem.

5 I do have much more to say. I did change my
6 comments. And I was reading from very scribbled notes
7 because of the lack of information that I thought was
8 being shared on this panel.

9 I will also add that the National Ambient Air
10 Quality Standards compliance monitoring never comes
11 near the airport. So we have the potential to be
12 violating a number of different National Ambient Air
13 Quality Standards for NO₂.

14 And, by the way, the NO_x emissions that you are
15 including in this rulemaking does not include the suite
16 of the different nitrogen compounds, which are much
17 more climate-intensive than the carbon dioxide
18 emissions.

19 So I left a message quite a while back for Bryan
20 Manning. And I haven't heard back from him. I heard
21 his name first around 1995. I have had extensive
22 conversations with John Kinsey and my local EPA for

1 decades about this problem.

2 Nothing will happen unless a lawsuit happens. And
3 that should not be up to the public. EPA is tasked
4 with protecting the public health and environment. And
5 they need to step up and do their job.

6 Thank you.

7 MS. GOODMAN: Thank you for your comment.

8 Does the EPA have any questions?

9 MS. WAGNER: Would Bryan call me back?

10 MR. CHARMLEY: I don't believe that we do, Jeanne.

11 So thank you, Ms. Wagner, for your testimony today
12 and for your time.

13 MS. GOODMAN: Our next speaker --

14 MS. WAGNER: You're welcome.

15 MS. GOODMAN: Thank you.

16 Our next speaker is scheduled to be Wig Zamore. I
17 am not able to make you a presenter, but I was able to
18 unmute you, I believe. Are you able to speak?

19 MR. ZAMORE: Can you hear me?

20 MS. GOODMAN: We can.

21 MR. ZAMORE: Okay. Thank you.

22 Yes. I am Wig Zamore. I am another Boston

1 commenter. And before I get into my main points, I
2 would like to point out, as you may realize, there is a
3 quite comprehensive paper on aviation and climate
4 impact, first author Lee, but, really, a who's who of
5 global aviation experts, emissions experts in
6 atmospheric environment. It is just down the street.
7 It is not preprint. It has been reviewed. But it is
8 July 30th, 2020. And I would call your attention
9 specifically there to focus on the global warming
10 potential 20 columns because if you want to make quick
11 progress with climate impacts of aviation, I think it
12 is important to start with the 20-year analyses. And,
13 as others have mentioned, NOx is having a massive
14 impact, not directly but through the other things that
15 it impacts, equal to or exceeding CO2 in shorter-term
16 analyses. So that has been known for a while. And it
17 was notable in Logan Airport's recent ESPR that NOx
18 from aviation is growing very, very quickly.

19 I want to switch over to a tiny bit of
20 introduction of myself and then my more general
21 comments. I have worked on creating clean
22 transportation and dense mixed-use in the Somerville

1 and Boston area. In Somerville specifically, we built
2 the first subway station in many decades at Assembly
3 Square, which is now dense mixed-use. And we also have
4 arranged to have built the first two new light-rail
5 branches in many decades, a multibillion-dollar effort.

6 Somerville has I-93 going through it. It is the
7 densest city in Massachusetts. And a lot of the
8 regional transportation that serves the economies of
9 Cambridge and Boston go through here.

10 I also started one of the most advanced
11 environmental epidemiology groups in the world looking
12 at transportation ultrafine particles and
13 cardiovascular inflammation. The group is based at
14 Tufts but includes students and professors from many of
15 the research universities here. And we have
16 specifically shown in Somerville, that the ultrafine
17 particles near the highway -- and this goes over to
18 aviation, as I will get into a little bit -- are about
19 50 percent greater on an annual basis. And the
20 biomarkers of inflammation, CRP, interleukin-6, and
21 tumor necrosis receptors, are also about 50 percent
22 higher, indicating a much larger inflammatory status

1 for those people, all other things being equal, who
2 live near the highway.

3 I would additionally point out with that that we
4 do our epidemiology and our analysis of pollutants on a
5 20-meter by 20-meter by 8,760 hours per year. So it is
6 much more spatially granular than any of the PM2.5
7 science-based studies. We find no variation in PM2.5
8 at all consistent with our ultrafine particle gradients
9 and our cardiovascular inflammation gradients. And
10 that is relevant to COVID and the environmental justice
11 communities. PM2.5 is an incredibly important global
12 and regional pollutant and health driver. It does not
13 drive the health of people next to highways or next to
14 airports. There is no gradient there to speak of.

15 So beyond that, what I want to point out is that
16 many of the airports, including Logan, are not counting
17 environmental impacts above 3,000 feet. So,
18 notwithstanding that Logan burns 20 million gallons on
19 the tarmac and 20 million gallons in the first 3,000
20 feet, up to 90 percent of climate impact of aviation is
21 above 3,000 feet. Somebody has to direct the major
22 metropolitan airports and their operators to include

1 100 percent of the climate pollutants and impacts.
2 And, you know, it can be 50 percent on either end,
3 arrival and departure airport. But right now, most of
4 it is being ignored in the environmental, in the former
5 environmental filings here.

6 I have mentioned NOx already. And I might suggest
7 -- and I will come back to it at the end, but why not
8 ask for 100 percent offset of climate pollutant impact
9 and then work with the communities and with the
10 overseers at the state and Federal level and the
11 airport operators and aviation industry on how to get
12 that offset?

13 I guess I should also mention at this point that
14 noise is important, too. We have kind of ignored noise
15 here. EPA had some of its mandate taken away from it,
16 but we have nobody paying attention to noise impacts.
17 And the noise impacts of aviation are not just
18 annoyance-based, but they also operate through,
19 including annoyance, the innate immune system. And so,
20 in addition to an offset of aviation climate impacts,
21 this is a very wealthy industry. I would also suggest
22 that EPA and the environmental epidemiology community

1 need to understand the drivers of immune inflammation,
2 which are largely the NLRP3 inflammasome. Of the 20
3 human inflammasomes, 19 are pathogen-generated. Only
4 one, NLRP3, drives inflammation that is integrated in
5 humans and all other animals by the NLRP3 inflammasome.
6 It is a target of all the big pharma and biotech
7 companies. And because it integrates those effects of
8 noise as well as air pollution as well as things like
9 COVID-19, ignoring it, which -- almost 99.9 percent of
10 the environmental epidemiology community does not know
11 anything about NLRP3 because it is advanced cell
12 biology and genetics. But there is a group that does,
13 the occupational scientists that have looked at
14 asbestoses and silicosis over the years, including
15 Brooke Mossman at UVM in Vermont. They do understand
16 this well because they glommed onto this research
17 almost 20 years ago.

18 And I will stop there. Thank you for the
19 opportunity.

20 MS. GOODMAN: Thank you very much.

21 Does the EPA have any questions?

22 MR. CHARMLEY: I don't believe that we do, Jeanne.

1 So thank you, Mr. Zamore, for your testimony and
2 your time today.

3 MS. GOODMAN: Thank you.

4 Mr. Gannon, who is scheduled to be speaker number
5 7, is now available. If you could go back to his page,
6 which is page 9, I will make him a presenter. Mr.
7 Gannon, please introduce yourself, unmute yourself,
8 state your name and affiliation. And you may begin.

9 MR. GANNON: Great. Thanks for having me.

10 My name is Brian Gannon. I am a resident of East
11 Boston. So we live near Logan Airport. And I am a
12 member of many different communities and different
13 groups in the community, but, really, I am calling
14 primarily as a father. I am a father of two children
15 here. I have two daughters, three and five years old.
16 We often smell the airport, the exhaust from the
17 airport, the rubber from the tires on the runway. I am
18 very concerned about the health of my children here in
19 East Boston.

20 You know, we know from recent studies that there
21 is definitely an increase in childhood asthma, COPD in
22 adults, and we have lost many neighbors to cancer and

1 other respiratory illnesses and more recently lost
2 quite a few to COVID that are definitely related to
3 some of the impacts of the airport.

4 We also have seven schools within about a mile of
5 the airport. I mean, if you haven't been to Boston or
6 Logan Airport, I mean, really, the airport wraps around
7 the community, which has been here for, you know, a
8 very long time. And, you know, often I have to tell my
9 children, you know, when they want to go out and play
10 and get some energy out or exercise, that they can't
11 because it is just too toxic outside. I mean, we smell
12 the airport when the wind is blowing in this direction.
13 So often I have to either tear them off of the swing
14 sets and bring them back home or keep them home based
15 on that impact.

16 Now, in the meantime, you know, since, we have
17 gotten these studies about COPD and asthma. So there
18 is definitely some evidence. Even though the air
19 quality monitoring here is very limited and it is not
20 counting, as Wig had mentioned, some of the different
21 aspects of that pollution that are going to impact my
22 children's health, we have lost many neighbors who have

1 actually moved away as a result of this pollution as
2 well. But in the meantime, we have had massive
3 expansion at Logan Airport. So currently they are
4 increasing their international terminal lead. They are
5 increasing parking there. So, really, without really
6 mitigating or acting on the current impacts to our
7 neighborhood, they have continued to expand. And I
8 would like to see, you know, that stop.

9 But I think one of the challenges that we have is
10 that here because of the way that the Clean Air Act --
11 I mean, it really doesn't commit and promise us to
12 have, you know, safe air for our children and for our
13 families. It seems to really be limited as far as
14 airplanes are concerned. So, you know, there may be
15 regulation on a single engine, but it doesn't seem to
16 take into account that when you have, you know,
17 hundreds of those engines running, you know, from this
18 airport at this proximity, the impact is really great.
19 And I would like to see more done to really regulate
20 that and really, you know, act on that so that we can
21 feel safe.

22 If that were a factory, if Logan Airport were a

1 factory or some industrial location, it would have been
2 shut down by now. And it is unfair that we are exposed
3 to this level of toxins without any recourse or
4 representation to really help us kind of keep that at
5 bay.

6 So that is what I have to say. So thanks for
7 letting me speak today. And I look forward to hearing
8 more.

9 MS. GOODMAN: Thank you very much for your
10 comment.

11 Does EPA have any questions?

12 MR. CHARMLEY: I don't think that we do, Jeanne.

13 So thank you, Mr. Gannon, for your comments.

14 MS. GOODMAN: Sorry. I will try to find where
15 that noise is coming from. Ah. There we go. Okay.

16 Thank you very much. I would like to state one
17 more time that if you joined late and did not hear this
18 and you would like to speak and you are not listed as a
19 speaker, you may request to do so in the chat.

20 If you joined on a listen-only phone line and
21 would like to speak, you can press *3 on your phone or
22 you can send an email to public_hearing@abtassoc.com.

1 That's a-b, as in boy, t, as in Tom, a-s-s-o-c.com. Or
2 you can call (888) 528-8331.

3 If you are experiencing any audio problems, you
4 can choose the ellipses icon at the bottom of your
5 screen to the left of the red X and choose audio
6 connection.

7 With that, I would like to introduce our next
8 speaker. We are not able to advance the slide, but our
9 next speaker is Sheila Remes. Sheila, if you would
10 please unmute yourself and state your name and
11 affiliation. And I will unmute you because you are
12 unmuted on your phone but not on the screen. Please
13 try again.

14 MS. REMES: Hi. Can you hear me better now?

15 MS. GOODMAN: We can. Thank you.

16 MS. REMES: Okay. Perfect. My name is Sheila
17 Remes. And I am the vice president of strategy at
18 Boeing Commercial Airplanes. We really appreciate the
19 opportunity to provide these comments today on the
20 EPA's recently released proposed rulemaking regulating
21 CO2 emissions from aircraft engines.

22 Let me start by saying that Boeing supports the

1 EPA CO2 standard for aircraft. Boeing is dedicated to
2 reducing greenhouse gas emissions. And this proposed
3 regulation is a major step forward for protecting the
4 environment and supporting sustainable growth of
5 commercial aviation and the United States economy.

6 A CO2 standard also dovetails strongly with the
7 commercial aviation's business and environmental goals
8 because the airlines have always wanted more fuel-
9 efficient airplanes. Each new generation of our
10 commercial airplanes is 15 to 25 percent more efficient
11 due to new engines; lighter-weight carbon-composite
12 airframes; and aerodynamic innovations, like natural
13 laminar flow that reduces drag. Overall, aviation has
14 improved airplane fuel efficiency by 50 percent since
15 1990. Boeing's new commercial airplanes have been
16 designed to meet the EPA's CO2 standards' challenging
17 requirements. The 787 Dreamliner family reduces fuel
18 use and CO2 emissions by 20 to 25 percent compared to
19 airplanes it replaced. And since entering service in
20 2011, the 787 family has saved over 48 billion pounds
21 of fuel.

22 The 777X, with its first delivery expected in

1 2022, will be the world's largest and most fuel-
2 efficient twin-engine aircraft.

3 Over three-quarters of Boeing's commercial
4 airplanes' research and development fund supports
5 greater efficiency and environmental performance in our
6 products, services, as well as our facilities. Part of
7 that R&D involves our ecoDemonstrator program, which
8 takes the promising technologies at the labs and tests
9 them in the air to improve sustainability for airlines,
10 passengers, and the environment. The advanced
11 technology winglets on our newest 737 family were
12 evaluated through this ecoDemonstrator in 2012, for
13 example.

14 Boeing is also actively engaged in helping the
15 industry reduce carbon emissions in a timely manner.
16 We are taking action in four different areas which
17 enable the industry to reduce emissions: airplane
18 technology, operational efficiencies and air traffic
19 management infrastructure upgrades, sustainable
20 aviation fuels, and a global carbon-offsetting program
21 for international civil aviation.

22 Commercial aviation's climate action strategy

1 requires a strong commitment from all stakeholders,
2 including governments. And we are proud to see that
3 the United States has put forward a standard that does
4 just that. By enabling transparency through an apples-
5 to-apples comparison in environmental performance for
6 airplane manufacturers, this regulation will strengthen
7 the commercial aerospace manufacturing sector by
8 creating a level playing field for original equipment
9 manufacturers around the world.

10 But our work does not stop here. We remain
11 steadfast in our commitment to continually improve the
12 efficiency and environmental performance of our
13 airplanes through technology and innovation.

14 We thank you again for your time today. And we
15 really look forward to continuing our partnership with
16 the administration, including the EPA and the FAA, to
17 certify our aircraft to meet emissions regulations
18 going forward. Thank you.

19 MS. GOODMAN: Thank you for your comments.

20 Does EPA have any questions?

21 MR. CHARMLEY: No, I don't believe that we do,
22 Jeanne.

1 So thank you, Ms. Remes, for your testimony today.

2 MS. REMES: Thank you.

3 MS. GOODMAN: Thank you.

4 Our next speaker is Kent Palosaari.

5 MR. PALOSAARI: Hi.

6 MS. GOODMAN: Please unmute yourself.

7 MR. PALOSAARI: Yes.

8 MS. GOODMAN: State your name and affiliation.

9 MR. PALOSAARI: So my name is Kent Palosaari. I
10 am with a not-for-profit called Mira's Garden, which
11 cares for the world that we are giving our children. I
12 am a father of two who lives next to SeaTac
13 International Airport here in Seattle.

14 My testimony is in some ways very similar to the
15 one that Brian Gannon gave with regards to his
16 children. I have a child who is nine and a boy who is
17 two, a girl who is nine. And it's scary how similar
18 his experience is to mine. I am deeply concerned about
19 the health implications of my children and of the
20 environment that we are giving children all over the
21 world.

22 I called my not-for-profit Mira's Garden because

1 she had a community garden that was given to her
2 through the City of SeaTac that is right underneath
3 where the airplanes land. There are playing fields,
4 schools in areas that are not zoned for residential,
5 but it is okay to have a garden, it is okay to have
6 playing fields.

7 We had our vegetables tested by the University of
8 Arizona and found that they were too toxic to eat. So,
9 even though my daughter loved her garden, I had to tell
10 her that she could not eat the fruit and vegetables
11 grown there. And the next year, we did not, obviously,
12 grow a garden there.

13 I am here for the protection of children around
14 airports and around the world. We need to have much
15 more stringent regulations on the airplanes. I agree
16 that it needs to go beyond what the EPA is currently
17 recommended. It needs to be, at a minimum, the Paris
18 standards. We need to incentivize the airline industry
19 to do more than they are currently doing.

20 A Port of Seattle commissioner told me that when
21 he had talked to an engineer at Boeing about the
22 electric planes, he said, "Why aren't you guys

1 investing more into electric plane research?"

2 And the Boeing executive said, "Well, it doesn't
3 pencil out for us." We need to make that pencil out
4 for them. We need to do whatever it takes.

5 I am leaving this area by recommendations of local
6 EPA workers because I have an aneurysm that my doctor
7 has determined is the result of living next to the
8 airport. He says if my aneurysm bursts, I have a 50/50
9 chance of dying on the spot. The irony is that I am
10 moving to an area about 12 miles from the airport that
11 is now experiencing forest fires. So I am going from
12 the proverbial frying pan to the fire, literally.

13 The answer should not be moving people. The
14 majority of people around this airport cannot afford to
15 move. Like Boston, we are for the most part poor. We
16 are in the poorest part of King County. They cannot
17 move. There needs to be a limit, not just in terms of
18 emissions but in terms of quantity around airports. So
19 there needs to be a qualitative and quantitative shift.

20 Each region can only handle so much air traffic.
21 We are the fastest-growing airport pre-COVID in the
22 nation. We take on as much traffic as Dallas. We have

1 2,000 acres for our airport. Dallas has 20,000 acres.
2 There needs to be a toxic limit to each region and to
3 each airport. That needs to be the standard from which
4 we also limit the number of flights in and out of every
5 airport.

6 Thank you

7 MS. GOODMAN: Thank you for your comments.

8 Does the EPA have any questions?

9 MR. CHARMLEY: I don't believe that we do.

10 So thank you, Mr. Palosaari, for your testimony
11 today.

12 MR. PALOSAARI: Thank you.

13 MS. GOODMAN: Our next speaker is Dan Rutherford.
14 Dan, please unmute yourself and state your name and
15 affiliation.

16 MR. RUTHERFORD: Good morning. Can you hear me?

17 MS. GOODMAN: We can. Thank you.

18 MR. RUTHERFORD: All right. My camera looks a
19 little bit messed up. So I will just go by voice.

20 Good morning. My name is Dan Rutherford. I lead
21 the aviation program at the International Council on
22 Clean Transportation. The ICCT is a research-based

1 environmental nonprofit that supports policy-makers
2 worldwide in developing effective environmental
3 standards for the transport sector.

4 Thank you for the opportunity to comment on this
5 important rulemaking and for holding this hearing. We
6 commend EPA for proposing the first U.S. domestic
7 greenhouse gas standard for aircraft. The proposed
8 rule follows the international aircraft CO2 standard
9 finalized by the International Civil Aviation
10 Organization, or ICAO, in 2017. A standard at least as
11 stringent as ICAO's is needed for U.S. manufacturers to
12 continue to sell their products globally, but
13 individual governments also have the authority to
14 propose stricter regulations, with precedence on
15 aircraft noise and safety.

16 We are in the process of reviewing EPA's proposal
17 at this time. Along with colleagues from EPA and the
18 U.S. FAA, ICCT staff participated directly in
19 deliberations on ICAO's CO2 standard as technical
20 observers to its Committee for Aviation Environmental
21 Protection from 2009 to 2016. For this reason, I have
22 requested 10 minutes to introduce our comments today.

1 Based upon that experience, ICCT agrees with the
2 EPA on the following aspects of the proposed rule:
3 one, that ICAO's standard is designed to be technology-
4 following and, therefore, that, as proposed, will not
5 lead to additional greenhouse gas emission reduction
6 from aircraft and aircraft engines. That is because,
7 although the rule doesn't take full effect until 2028,
8 ICAO defined technological feasibility in such a way
9 that it excluded aircraft fuel efficiency technologies
10 that were set to be delivered starting in 2016.

11 Two, we agree that EPA has the authority to
12 regulate the entire aircraft, rather than just the
13 aircraft engines. Since greenhouse gases are emitted
14 from the aircraft engine while aerodynamic and light-
15 weighting technologies can materially impact the fuel
16 efficiency of a plane, this approach is important. It
17 also aligns the U.S. with international certification
18 procedures and ICAO's 2009 finding that an engine-only
19 standard would be ineffective.

20 Three, we agree that for a new type standard to
21 provide meaningful incentives for technology innovation
22 and adoption, it should provide manufacturers with at

1 least eight years lead time. Note that ICAO's standard
2 provided only four years lead time for new types,
3 undermining its effectiveness.

4 With that as background, we have thus far
5 identified five areas of refinement in the proposed
6 rule, namely that, one, the agency should not propose
7 standards it recognizes as ineffective; two, that the
8 new type standards should be strengthened and
9 implemented with a longer lead time; three, that the
10 in-production standard should be tightened by applying
11 it to in-service, rather than just new engines; four,
12 that EPA's reporting requirement should be broadened to
13 cover a wider range of greenhouse gases and engines;
14 and, five, that for future standards, flexibility
15 mechanisms, like averaging and banking, should be
16 considered to enable more ambitious cost-effective
17 standards. I will now expand briefly on each of these
18 points.

19 One, EPA should not propose ineffective standards.
20 EPA's 2015 endangerment finding concluded that
21 greenhouse gas emissions from aircraft contribute to
22 air pollution that may reasonably be anticipated to

1 endanger public health and welfare under Section 231A
2 of the Clean Air Act. Nonetheless, EPA here proposes a
3 domestic standard that according to its own analysis
4 will not reduce greenhouse gas emissions beyond
5 business as usual.

6 According to EPA's analysis, under this proposed
7 standard, greenhouse gas emissions will increase by 40
8 percent to 53 percent above 2015 levels in 2040. This
9 is inconsistent with the U.S. goal of capping aviation
10 emissions at 2005 levels starting in 2020, among
11 others. The marginal benefit of international
12 harmonization through adopting the ICAO standard does
13 not justify the agency's inaction to protect human
14 health from aviation pollution; two, that the new type
15 standard should be strengthened and provided more lead
16 time.

17 Because of the long timeframe associated with fuel
18 efficiency technology development and deployment, a
19 meaningful new type standard is critical for long-term
20 technology development in U.S. aviation. When
21 analyzing stringency options, ICAO defined the upper
22 limit of technological feasibility as widely available

1 technologies of a technology-readiness level of eight
2 or above in 2016. Technology scheduled to be
3 integrated into concrete aircraft projects shortly
4 thereafter were not used to establish standards for
5 stringency.

6 As a result, the aircraft that dominate deliveries
7 today easily pass ICAO's requirements. According to
8 our analysis, new deliveries of commercial jet aircraft
9 in 2019 were on average 6 percent more fuel-efficient
10 than required by the standard in 2028. Advanced new-
11 type aircraft that entered into service since 2016
12 passed the standard by 10 percent to 20 percent on
13 average.

14 The proposed rule for new types already took
15 effect internationally in January of this year and with
16 insufficient lead time. We encourage EPA to begin work
17 on a new standard for implementation around 2030 with
18 increased stringency. The agency should also invite an
19 independent expert group, like the National Academy of
20 Sciences, to evaluate near-mature aircraft technologies
21 that would not otherwise be promoted under a
22 technology-following standard.

1 Three, the in-production standards should be
2 tightened and applied to in-service aircraft. The EPA
3 can also exercise its regulatory authority over in-
4 service aircraft engines and through their procurement
5 operations and retirement over airlines themselves.
6 This is necessary because the average new aircraft
7 delivered in 2016, the year before ICAO's standard was
8 finalized, already complied with the 2028 requirements.
9 Thus, the proposed standard lags state-of-the-art
10 technology by more than 10 years and cannot accelerate
11 investments in more fuel-efficient aircraft and
12 engines.

13 Research suggests that most airlines will meet the
14 2028 standards with their fleets. Specifically, seven
15 mainline carriers and all regional carriers, accounting
16 for more than 80 percent of U.S. traffic in 2017, would
17 pass the standard if applied to them in 2028. Most of
18 the remaining airlines would comply after less than 2
19 percent fuel efficiency improvements. Note that this
20 analysis does not take into account recent fleet
21 turnover due to the COVID pandemic. Applying the in-
22 production CO₂ standard to in-service aircraft and

1 requiring additional improvements over time would
2 promote the early retirement of less fuel-efficient
3 models and support U.S. airframe and engine
4 manufacturers during this difficult period.

5 Four, we recommend that the reporting requirement
6 be strengthened. We recommend doing so by adding more
7 detailed reporting requirements for CO₂, including
8 individual specific air range test points along with
9 the evaluation conditions under which those SAR points
10 were evaluated. These additional requirements will
11 ensure more accurate measurement of aircraft
12 performance along with greater transparency.

13 Moreover, EPA should use this opportunity to
14 collect manufacturer data regarding other pollutants
15 besides CO₂, notably short-lived climate pollutants
16 like cruise NO_x and particulates linked to contrails
17 and cirrus formation. CO₂ data could also be collected
18 from in-service engines and disclosed publicly for use
19 by other government agencies, researchers, industry,
20 and the general traveling public.

21 Finally, we encourage that future standards should
22 incorporate flexibility mechanisms for greater

1 effectiveness. A large body of research indicates that
2 pass/fail certification standards fail to promote
3 vehicle fuel efficiency. More flexible standards, for
4 example, allowing manufacturers to meet a standard on
5 average across all aircraft delivered in a year called
6 averaging or over time called banking, can support more
7 cost-effective and ambitious standards. These
8 flexibility mechanisms allow standards to be set based
9 upon the performance of the best, rather than the worst
10 aircraft. ICAO's pass/fail-type certification standard
11 was set such that the large majority of new aircraft
12 planes delivered in 2019 already comply with the 2028
13 requirements for the reason that it should pass less
14 fuel-efficient planes. By our initial estimate, EPA's
15 aircraft standard could be set at least 8 percent more
16 stringent if averaging and banking were allowed. We
17 encourage EPA to consider this approach in its final
18 rule.

19 Thank you again for the opportunity to comment on
20 this important proposal and for the additional time.
21 ICCT will be submitting detailed comments to the docket
22 soon, and I am happy to clarify any questions you might

1 have today.

2 MS. GOODMAN: Thank you for your comment.

3 Does the EPA have any questions?

4 MR. CHARMLEY: No, it doesn't look like we do,
5 Jeanne.

6 So thank you, Mr. Rutherford, for your testimony
7 today.

8 MS. GOODMAN: Our next speaker is Tanya Hahnel.
9 Please unmute yourself and state your name and
10 affiliation for the record.

11 MS. HAHNEL: Hi. My name is Tanya Hahnel. And I
12 also an East Boston resident and a parent. Thank you
13 for having me. I always learn a lot when I attend my
14 local meetings and, obviously, these hearings about FAA
15 regulations and the EPA's role in protecting our health
16 and welfare.

17 So I just wanted to -- I am not saying anything
18 new. I think it is just important that after you hear
19 from someone like Dan Rutherford, who is such an
20 amazingly detailed and knowledgeable speaker, that you
21 also hear that we are listening and paying attention
22 locally.

1 I can walk to Terminal A at Boston's Logan
2 Airport. And I have a two-year-old daughter. And it
3 is very clear to me that the EPA is lagging behind what
4 we as citizens expect from a regulatory body that is
5 supposed to be looking out for our interests.

6 The fact that you are not taking this opportunity
7 to regulate in-service engines and in-service planes,
8 rather than just new ones is incredibly disappointing
9 in my opinion because I know as someone who flies
10 regularly that that is a missed opportunity. There are
11 a lot of older planes out there that are continuing to
12 pollute at our airports and affect the health and
13 welfare of the children and families who are breathing
14 that air around the airports. And we could be
15 regulating them. So I would like to see the EPA step
16 up on that front.

17 I also want to echo that just measuring CO2 in an
18 age when we know that there are other pollutants
19 affecting our health and welfare is unacceptable. In
20 East Boston, we have been asking for the EPA to measure
21 fine particulate matter and other pollutants, other
22 than CO2, for over the better part of a decade. So the

1 fact that this regulation is not taking advantage of
2 the opportunity to do so -- you know, that is all we
3 are asking for, is tracking so that we can start to
4 have data. And we have actually taken matters into our
5 own hands in East Boston. We are starting to measure
6 fine particulate matter and other pollutants on our
7 back porches with air-quality, you know, tools on our
8 own as residents. So the fact that the EPA can't step
9 up and, you know, do what ordinary environmental
10 justice grassroots organizations and residents are
11 doing out of their own pockets, I mean, that is just
12 appalling to me, quite frankly, because we see in East
13 Boston the effects.

14 My child goes to the East Boston Neighborhood
15 Health Center. And they have a higher incidence of
16 childhood asthma and, you know, adults', you know, lung
17 issues than anyplace else in Massachusetts. Between
18 Chelsea and East Boston, you know, we have health
19 effects that are clearly linked to the airport. And we
20 have had the highest rates of COVID-19 of anywhere in
21 the state far and away: Revere, Chelsea, and East
22 Boston. And it is really not -- it doesn't take a

1 genius to figure out that lung issues are related to
2 living around the airport. So these are real health
3 issues.

4 So I appreciate and I am, you know, so
5 appreciative of the different experts who have
6 testified and who are tracking this at independent
7 agencies around the country, but at the same time, as
8 the EPA, you are really accountable to us as the
9 citizens. And so I just want to echo that as a parent,
10 a resident, a taxpayer, I expect that the EPA is going
11 to change its standards and take into account, you
12 know, testimony by Mr. Rutherford about the 10 ways
13 that you could be strengthening this new rule. Thank
14 you.

15 MS. GOODMAN: Thank you for your comments.

16 Does the EPA have any questions?

17 MR. CHARMLEY: No, I don't believe that we do.

18 So thank you, Tanya, for your testimony today.

19 MS. GOODMAN: So I would like to ask again if Anne
20 Hollander is on the line. I do not see her name. If
21 you have called in and you are only on a telephone,
22 please press *3 so that I can unmute you.

1 (Pause.)

2 MS. GOODMAN: And not seeing that, if William
3 Vadino is on the line, please press *3 to let me know
4 you are here.

5 (Pause.)

6 MS. GOODMAN: Okay. At this time, we have no one
7 else scheduled to speak. If there is anyone who did
8 not register to speak but would like to speak, please
9 use the chat box at the bottom of the screen to
10 identify yourself or you can call (888) 528-8331.

11 And, once again, if you joined in a listen-only
12 phone line and you would like to speak, please press *3
13 on your phone line or you can send an email to
14 public_hearing@abtassoc.com. That is a-b, as in boy,
15 t, as in Tom, a-s-s-o-c.com.

16 And we will pause to see if anyone else would like
17 to make a statement.

18 (Pause.)

19 MS. GOODMAN: We are now at the end of our
20 session. EPA, are you ready to adjourn the virtual
21 hearing?

22 MR. CHARMLEY: Thank you, Jeanne. Yes, I am.

1 So I wanted to thank all of the speakers and the
2 participants who dialed in to listen today and who are
3 still on the line. We appreciate everyone's
4 participation, but at this point in time as we do not
5 have any other individuals who are interested in
6 providing testimony, we are going to go ahead and
7 conclude today's virtual hearing at approximately 12:15
8 Eastern Time. So thank you, everyone.

9 (Whereupon, at 12:15 p.m., the hearing was
10 adjourned.)

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