

START OF TRANSCRIPT

[00:00:27] YOU. THIS IS COMMISSION VICE PRESIDENT
[00:00:30] TOSHIKO HASAGAWA CONVENING THIS SPECIAL
[00:00:32] MEETING OF JUNE 13, 2023. THE TIME IS
[00:00:37] WE ARE MEETING IN PERSON TODAY AT THE
[00:00:39] PORT OF SEATTLE HEADQUARTERS BUILDING IN
[00:00:41] THE COMMISSION CHAMBERS. THE PURPOSE OF
[00:00:43] THE MEETING IS TO HOLD A STUDY SESSION
[00:00:45] REGARDING AVIATION ENVIRONMENTAL ISSUES.
[00:00:47] PRESENT WITH ME TODAY ARE COMMISSIONERS
[00:00:49] CALKINS FELLEMAN AND ONLINE FOR THE
[00:00:51] FIRST 30 MINUTES. IT'S COMMISSIONER
[00:00:53] MOHAMED, SHE'LL BE JOINING US IN PERSON
[00:00:54] IN A LITTLE BIT. COMMISSIONER CHO IS
[00:00:56] ABSENT AND EXCUSED FROM THE MEETING.
[00:00:59] THIS SESSION IS BEING RECORDED AND
[00:01:00] BROADCASTED BY SEATTLE COLLEGE'S CABLE
[00:01:03] TELEVISION AND IS AVAILABLE ON THE
[00:01:04] PORT'S WEBSITE. THE STUDY SESSION IS
[00:01:07] OPEN TO THE PUBLIC. HOWEVER, AS IT IS A
[00:01:09] WORKING SESSION FOR THE COMMISSIONER,
[00:01:11] THERE'S NO PUBLIC COMMENT OR ACTION
[00:01:13] TODAY. THE NEXT PUBLIC COMMENT PERIOD
[00:01:16] WILL OCCUR AT OUR REGULAR BUSINESS
[00:01:18] MEETING LATER THIS AFTERNOON AT 12:00
[00:01:20] P.M.. SO AT THIS TIME, I'M GOING TO HAND
[00:01:23] IT OVER TO EXECUTIVE DIRECTOR STEVE
[00:01:24] METRUCK TO OPEN THE SESSION. AND THE
[00:01:26] MEETING IS EXPECTED TO LAST ABOUT 2
[00:01:28] HOURS, SO WE'LL BE MINDFUL OF PROVIDING
[00:01:30] TIME TO GET THROUGH THE FULL
[00:01:31] PRESENTATION TO YOU, STEVE. THANK YOU.
[00:01:34] THANK YOU, COMMISSIONER. COMMISSIONER,
[00:01:36] GOOD MORNING, AND THANK YOU FOR
[00:01:38] CONVENING TODAY'S AVIATION ENVIRONMENTAL
[00:01:40] STUDY SESSION. AS YOU KNOW, IN ALIGNMENT
[00:01:42] WITH OUR SUSTAINABILITY OBJECTIVES, THE
[00:01:44] PORT HAS SET AMBITIOUS GOALS FOR
[00:01:46] ENCOURAGING AIRCRAFT EMISSION REDUCTIONS
[00:01:48] BY OUR PARTNERS, INCLUDING SUPPORTING
[00:01:50] VOLUNTARY MEASURES BY AIRLINES, AS WELL
[00:01:52] AS ADVOCATING FOR POLICIES AT THE STATE
[00:01:54] AND FEDERAL LEVEL THAT INCENTIVIZE AND
[00:01:56] SUBSIDIZE THE TRANSITION TO SUSTAINABLE
[00:01:58] AVIATION FUELS. FULL UTILIZATION OF SAF
[00:02:02] BY AIRLINES IS A GLOBAL OPPORTUNITY THAT
[00:02:05] POLICYMAKERS AND INDUSTRY LEADERS ARE
[00:02:07] LEANING INTO MORE AND MORE THAN EVER.
[00:02:09] BUT THERE ARE STILL SIGNIFICANT
[00:02:11] CHALLENGES TO ACHIEVING THIS GOAL, FROM
[00:02:13] FEEDSTOCK AVAILABILITY TO REFINING
[00:02:15] CAPACITY TO COSTS. HOWEVER, WE REMAIN
[00:02:18] COMMITTED, AND I'M PROUD OF THE WORK
[00:02:20] THAT YOU, COMMISSIONER, PORT STAFF AND
[00:02:21] OUR PARTNERS HAVE PLAYED OVER THE LAST
[00:02:23] YEARS TO SUPPORT THIS IMPORTANT
[00:02:25] TRANSITION, AND I REMAIN OPTIMISTIC. WE
[00:02:28] HAVE ALSO BEGUN TO SEE EXCITING
[00:02:29] ANNOUNCEMENTS FROM THE PRIVATE SECTOR
[00:02:31] ABOUT INVESTMENTS THAT WILL BRING SAF
[00:02:33] PRODUCTION TO WASHINGTON STATE. TODAY'S
[00:02:35] STUDY SESSION WILL FOCUS ON THE RESEARCH

[00:02:37] AND ADVOCACY THAT THE PORT HAS ENGAGED
[00:02:40] IN ON THIS TOPIC, AS WELL AS OUR
[00:02:41] THOUGHTS ON NEXT STEPS FOR OUR
[00:02:43] CONTINUING EFFORTS. AND I LOOK FORWARD
[00:02:45] TO HEARING YOUR FEEDBACK, YOUR QUESTIONS
[00:02:47] AND YOUR SUGGESTIONS. SO WITH THAT, I'M
[00:02:49] GOING TO HAND IT OVER TO SANDRA KILROY,
[00:02:51] OUR SENIOR DIRECTOR OF ENGINEERING OR
[00:02:54] NOT ENVIRONMENT AND SUSTAINABILITY.
[00:02:56] GREAT. THANK YOU. THANK YOU, EXECUTIVE
[00:02:58] DIRECTOR METRUCK. AND GOOD MORNING,
[00:03:00] COMMISSIONERS. THE PORT HAS SET CLEAR
[00:03:03] GOALS FOR REDUCING OUR GREENHOUSE GAS
[00:03:05] EMISSIONS, AND THESE GOALS ARE BOTH FOR
[00:03:08] OURSELVES AND FOR OUR BUSINESS PARTNERS.
[00:03:11] THESE GOALS DRIVE OUR ACTIONS TO ENGAGE
[00:03:14] IN AND SOLVE THE VERY COMPLEX PROBLEM OF
[00:03:17] HOW TO DECARBONIZE OUR AVIATION
[00:03:20] INDUSTRY. TODAY WE WILL FOCUS IN ON THE
[00:03:23] ROLE OF SUSTAINABLE AVIATION FUEL AND
[00:03:25] YOU'LL HEAR US REFER TO THAT AS SAF.
[00:03:28] THROUGHOUT TODAY'S PRESENTATION, THE
[00:03:31] PORT TEAM AND OUR GUEST SPEAKERS WILL
[00:03:33] DISCUSS OUR PAST, OUR CURRENT AND OUR
[00:03:35] FUTURE EFFORTS TO SUPPORT THE PRODUCTION
[00:03:37] AND USE OF SAF. BRINGING SAF
[00:03:41] TO SCALE FOR USE HERE AND GLOBALLY IS NO
[00:03:44] EASY TASK, BUT THE PORT HAS LEANED IN TO
[00:03:47] LEND OUR LEADERSHIP, OUR EXPERTISE, OUR
[00:03:50] PASSION, DETERMINATION AND OUR VOICE TO
[00:03:52] SUPPORTING AN INDUSTRY TRANSFORMATION.
[00:03:56] I WANT TO THANK MANAGING DIRECTOR LANCE
[00:03:58] LITTLE AND THE AVIATION DIRECTORS FOR
[00:04:00] THEIR CONTINUED SUPPORT OF OUR
[00:04:02] COLLECTIVE WORK ON THIS ISSUE. AND THANK
[00:04:05] THE COMMISSION AND EXECUTIVE DIRECTOR
[00:04:07] METRUCK FOR YOUR STRONG LEADERSHIP.
[00:04:10] BEING THE GREENEST PORT IN NORTH AMERICA
[00:04:12] TAKES COLLECTIVE VISION AND ACTION AND
[00:04:15] WE ARE AT A UNIQUE TIME TO MAKE A
[00:04:17] DIFFERENCE AND TO DRIVE CHANGE,
[00:04:18] ESPECIALLY IN THIS AREA OF SUSTAINABLE
[00:04:21] AVIATION FUEL. I WANT TO THANK THE STAFF
[00:04:24] FOR THEIR TIME TO PREPARE FOR TODAY'S
[00:04:25] SESSION. MY HOPE IS THAT YOU WILL LEAVE
[00:04:30] TODAY WITH A GREATER AWARENESS OF WHERE
[00:04:32] WE'RE AT WITH SUSTAINABLE AVIATION FUEL
[00:04:34] AND A CLEAR UNDERSTANDING OF OUR PORT
[00:04:36] STRATEGY. WE LOOK FORWARD TO HEARING
[00:04:38] YOUR QUESTIONS, YOUR INSIGHTS, YOUR
[00:04:41] FEEDBACK TO FURTHER INFORM AND REFINE
[00:04:43] THIS STRATEGY MOVING FORWARD. WE DO HAVE
[00:04:47] A LOT OF INFORMATION FOR YOU TODAY. I
[00:04:50] THINK YOU'LL FIND IT HOPEFULLY
[00:04:52] FASCINATING. I AM GOING TO ASK, IF
[00:04:55] POSSIBLE, THAT YOU HOLD QUESTIONS ON A
[00:04:58] SLIDE BY SLIDE BASIS. WE HAVE BUILT IN
[00:05:02] LOTS OF INTENTIONAL BREAKS FOR Q AND A
[00:05:06] AFTER A SETS OF SLIDES. CLEARLY, IF YOU
[00:05:10] HAVE A CLARIFYING QUESTION ON A SLIDE,
[00:05:14] PLEASE DO. BUT WE'D LIKE TO GET THROUGH
[00:05:17] POCKETS OF INFORMATION BEFORE OPENING IT
[00:05:20] UP TO Q AND A. THAT WOULD BE OUR

[00:05:22] REQUEST. SO THANK YOU FOR YOUR
[00:05:26] TIME TODAY. I'D LIKE TO NOW PASS IT TO
[00:05:28] SARAH COX WHO IS OUR DIRECTOR OF
[00:05:30] AVIATION, ENVIRONMENT AND
[00:05:31] SUSTAINABILITY, AND SHE WILL KICK OFF
[00:05:33] THE PRESENTATION. GREAT,
[00:05:37] THANK YOU. GOOD MORNING, COMMISSIONERS
[00:05:38] AND EXECUTIVE DIRECTOR METRUCK. AS SANDY
[00:05:41] NOTED, I'M SARAH COX, THE DIRECTOR OF
[00:05:43] ENVIRONMENT AND SUSTAINABILITY AT THE
[00:05:44] AIRPORT. NEXT SLIDE PLEASE.
[00:05:51] AND THANK YOU FOR THE OPPORTUNITY FOR
[00:05:53] BOTH THE PORT TEAM AND OUR EXTERNAL
[00:05:56] TECHNICAL EXPERTS TO PRESENT TO YOU.
[00:05:58] TODAY. WE'LL BE PROVIDING A LEVEL SET ON
[00:06:01] SUSTAINABLE AVIATION FUEL INDUSTRIES,
[00:06:04] CURRENT PRODUCTION LEVELS, THE FORECAST
[00:06:06] AND HOW MUCH GROWTH IS NEEDED TO REACH
[00:06:08] OUR CARBON REDUCTION GOALS. THEN WE WILL
[00:06:11] DISCUSS SUPPORT'S, ROLE AND STRATEGY IN
[00:06:13] BRINGING STAFF TO SEATAC AIRPORT. AND
[00:06:16] LASTLY, THERE WILL BE A FOCUS ON CURRENT
[00:06:20] AND FUTURE STATE AND FEDERAL POLICY
[00:06:23] AREAS AND THE ROLE US. COMMISSIONERS CAN
[00:06:26] CONTINUE TO CONTRIBUTE IN POLICY CHANGE
[00:06:28] THAT PROMOTES SAF MANUFACTURING AND
[00:06:30] DISTRIBUTION. NEXT SLIDE, PLEASE.
[00:06:36] SO FOR TODAY, WE WILL BE PROVIDING AN
[00:06:39] OVERVIEW OF THE PORT'S GOALS,
[00:06:43] THE CARBON EMISSIONS AND THE ROLE OF
[00:06:45] STAFF. WE'LL THEN PROVIDE A STAFF
[00:06:48] REFRESHER ON FEEDSTOCK AND PRODUCTIONS
[00:06:50] BECAUSE THERE'S BEEN A LOT OF INNOVATION
[00:06:53] AND MOVEMENT IN THIS AREA, A REVIEW OF
[00:06:56] THE PORT'S ROLE AND OUR STAFF STRATEGIC
[00:06:58] PLAN, THE STATE AND FEDERAL POLICY
[00:07:01] UPDATE, AS WELL AS NEXT STEPS AND
[00:07:03] DISCUSSION. AND AS SANDY NOTED, WE WILL
[00:07:06] HAVE BREAKS FOR QUESTIONS THROUGHOUT THE
[00:07:07] PRESENTATION. NEXT SLIDE, PLEASE.
[00:07:20] LET'S SEE, DO WE GO ONE TOO MANY? THERE
[00:07:23] WE GO. THANK YOU. AND AS YOU'RE AWARE,
[00:07:26] OUR MISSION AND CENTER AGENDA GOALS
[00:07:28] INCLUDE SUPPORTING ECONOMIC DEVELOPMENT
[00:07:30] IN AN ENVIRONMENTALLY RESPONSIBLE
[00:07:32] MANNER. AS YOU WILL SEE FURTHER INTO THE
[00:07:34] PRESENTATION, OUR SAF STRATEGY PLAN
[00:07:36] INTEGRATES BOTH OF THESE GOALS INTO OUR
[00:07:38] OPERATIONS. NEXT SLIDE, PLEASE.
[00:07:43] THE CENTURY AGENDA GOAL FOUR, TO BE THE
[00:07:45] GREENEST PORT IN NORTH AMERICA,
[00:07:46] INCLUDES AN OBJECTIVE TO REDUCE SCOPE
[00:07:48] THREE EMISSIONS BY 50% IN 2030 AND
[00:07:51] CARBON NEUTRAL BY 2050. AND IN 2017,
[00:07:55] THE COMMISSION APPROVED A SAF MOTION
[00:07:57] SPECIFYING THE SAF TARGETS TO HELP
[00:07:59] ACHIEVE OUR SCOPE THREE GOALS. AND I
[00:08:02] WILL NOW INTRODUCE STEPHANIE MINE, OUR
[00:08:04] CLIMATE PROGRAM MANAGER, WHO WILL
[00:08:06] PROVIDE MORE SPECIFICS ON SAF USAGE,
[00:08:09] EMISSIONS AT SEA, AND OUR STRATEGIC PLAN
[00:08:12] TO BRING SAF TO SEA. THANK YOU.
[00:08:15] THANK YOU, SARAH. NEXT SLIDE.

[00:08:19] SO, TO REALLY PUT ALL OF THE GOALS THAT
[00:08:21] SARAH JUST DESCRIBED THAT WE HAVE FOR
[00:08:23] BOTH SUSTAINABLE AVIATION FUEL AND OUR
[00:08:26] SCOPE THREE EMISSIONS IN PERSPECTIVE, I
[00:08:29] WANTED TO PROVIDE THIS OVERVIEW OF THE
[00:08:32] SCOPE THREE EMISSIONS AT SEATTLE
[00:08:35] AIRPORT. JUST TO BE CLEAR, SCOPE THREE
[00:08:37] EMISSIONS ARE THOSE EMISSIONS THAT WE
[00:08:39] HAVE NO OWNERSHIP OR CONTROL OVER, BUT
[00:08:42] OCCUR ON OUR PROPERTIES. AND SO FOR THE
[00:08:46] EMISSION INVENTORY THAT YOU SEE HERE,
[00:08:48] THESE INCLUDE SOURCES LIKE GROUND
[00:08:51] TRANSPORTATION EMISSIONS, THOSE VEHICLES
[00:08:54] COMING TO AND FROM THE AIRPORT TO USE
[00:08:55] OUR FACILITY, AND THEN ALSO ANY AIRCRAFT
[00:08:58] RELATED EMISSIONS. AND THESE ARE JUST
[00:09:00] THOSE EMISSIONS THAT OCCUR IN THE
[00:09:01] LANDING, TAKEOFF AND GROUND BASED CYCLE.
[00:09:04] BUT WHAT YOU CAN SEE HERE IS WHEN YOU
[00:09:06] STACK THOSE TOGETHER, THEY ARE
[00:09:10] VERY MUCH DEPENDENT ON AIRCRAFT
[00:09:13] OPERATIONS, WHICH IS THE ORANGE LINE AT
[00:09:14] THE TOP THAT, AS YOU SEE AIRCRAFT
[00:09:16] OPERATIONS RISE, SO TOO DO THE SCOPE
[00:09:19] THREE EMISSIONS. AND IN ORDER TO MEET
[00:09:22] THAT 50% BY 2030 GOAL THAT WE HAVE,
[00:09:26] WHICH IS THE RED LINE, YOU CAN SEE THAT
[00:09:28] WE NEED SIGNIFICANT REDUCTION IN
[00:09:30] AIRCRAFT EMISSIONS IN ORDER TO MEET
[00:09:32] THOSE GOALS. NEXT SLIDE.
[00:09:36] ANOTHER WAY TO PUT THAT IN PERSPECTIVE
[00:09:37] IS TO LOOK AT ALL OF THE JET A THAT IS
[00:09:40] DISPENSED BY THE AIRLINES AT OUR
[00:09:41] AIRPORT. AND YOU CAN SEE THAT VERY SAME
[00:09:44] TREND HERE. I'VE ACTUALLY INCLUDED THE
[00:09:47] SORT OF COVID ERA AND THE PORT COVID
[00:09:49] RECOVERY IN IN THIS THIS
[00:09:53] ILLUSTRATION. AND WHAT YOU CAN SEE IS
[00:09:55] THIS IS IN HUNDREDS OF MILLIONS OF
[00:09:56] GALLONS. SO AT THE PEAK IN 2019,
[00:10:00] WE USED ALMOST CLOSE TO 700 MILLION
[00:10:02] GALLONS AT THIS AIRPORT.
[00:10:06] MAKE SURE EVERYONE'S MUTED ONLINE. AND
[00:10:08] THEN, AS YOU CAN SEE, THE RECOVERY IS
[00:10:11] HAPPENING PRETTY QUICKLY. AND IN FACT,
[00:10:13] MEMORIAL DAY WEEKEND, I DON'T KNOW IF
[00:10:15] YOU HEARD THE NEWS, BUT PASSENGER LEVELS
[00:10:17] WERE REACHING PRE COVID NUMBERS. SO WE
[00:10:19] REALLY DO SEE THAT THE AMOUNT OF JET A
[00:10:22] THAT AIRLINES ARE USING AT OUR AIRPORT
[00:10:23] IS SHOWING AN INCREASE AND THAT
[00:10:27] BASICALLY THAT TREND IS COMING BACK ON
[00:10:30] TRACK. NEXT SLIDE.
[00:10:35] SO WHAT DOES THIS MEAN FOR HOW
[00:10:39] THE INDUSTRY IS TACKLING THOSE EMISSIONS
[00:10:40] AND WHAT STRATEGIES DO WE NEED TO REDUCE
[00:10:44] THE EMISSIONS AND MEET THE GOALS? THIS
[00:10:47] LOOKS KIND OF COMPLICATED AND MESSY,
[00:10:50] BUT I'LL JUST SORT OF DESCRIBE THE MAJOR
[00:10:51] CATEGORIES OF THIS GRAPH. THIS IS THE
[00:10:55] ILLUSTRATION OF WHAT WE CALL A WEDGE
[00:10:57] DIAGRAM THAT WAS PRODUCED BY THE FAA TO
[00:11:01] SHOW HOW THE BIDEN ADMINISTRATION WOULD

[00:11:03] REACH ITS NET ZERO BY 2050 GOALS.
[00:11:06] AND WHAT YOU SEE IS THAT THERE WAS THAT
[00:11:09] SORT OF DIP FROM THE COVID
[00:11:13] ERA. BUT YOU CAN SEE THAT THE
[00:11:14] PROJECTIONS FOR THE INCREASE IN
[00:11:16] EMISSIONS IS CLIMBING ON UP. AND THE
[00:11:20] DIFFERENT COLORS REPRESENT THE DIFFERENT
[00:11:21] TYPES OF STRATEGIES THAT WOULD BE
[00:11:23] REQUIRED TO MEET THOSE EMISSION
[00:11:25] REDUCTIONS. AND YOU CAN SEE THE SORT OF
[00:11:27] RED COLORED ONES RELY ON EFFICIENCY OF
[00:11:30] THE AIRCRAFT ITSELF, RENEWING THE FLEET
[00:11:33] AND CHANGING OUT THE ENGINES. AND THEN
[00:11:36] YOU SEE A SMALL WEDGE IN BLUE OF REALLY
[00:11:38] SORT OF THE NEW TECHNOLOGIES THAT MIGHT
[00:11:40] BE OUT THERE, SUCH AS ELECTRIC OR
[00:11:41] HYDROGEN THAT CAN REPLACE MAYBE SOME OF
[00:11:44] THE SHORT RANGE FLIGHTS LONGER INTO THE
[00:11:46] FUTURE. BUT WHAT YOU SEE DOMINATED BY
[00:11:49] GREEN IS REALLY STRATEGIES THAT RELATE
[00:11:51] TO SUSTAINABLE AVIATION FUEL. WE ARE
[00:11:54] STILL RELIANT VERY MUCH ON LIQUID
[00:11:57] ENERGY, DENSE HYDROCARBON FUELS BECAUSE
[00:12:00] OF THE LEGACY FLEETS AND THE DISTANCES
[00:12:03] THAT WE'RE TRAVELING. SO THE ONLY
[00:12:05] STRATEGY THAT WE KNOW WE CAN RELY ON TO
[00:12:09] MEET THOSE GOALS IS SUSTAINABLE AVIATION
[00:12:12] FUEL. SO TODAY WHAT WE REALLY HOPE TO DO
[00:12:15] IS HAVING SET THIS
[00:12:19] OUTLOOK, WE HAVE A GREAT NEED FOR SAF
[00:12:23] AND WE NEED A LOT OF IT AND WE NEED IT
[00:12:25] SOON. SO TODAY'S FOCUS IS REALLY TO
[00:12:28] EXPLORE THAT TOPIC AND TO TALK ABOUT HOW
[00:12:31] MUCH WE HAVE AND HOW MUCH WE NEED MOVING
[00:12:33] INTO THE FUTURE. SO WHAT
[00:12:38] WE'D LIKE TO DO NEXT IS REALLY WE KNOW
[00:12:40] THAT NOT ALL OF THE COMMISSIONER MEMBERS
[00:12:42] HAD THE BENEFIT OF PREVIOUS SAF STUDY
[00:12:45] SESSIONS. SO WE WANTED TO DO A BIT OF
[00:12:47] LEVEL SETTING ON WHAT SAF IS, WHAT IT'S
[00:12:49] MADE FROM, WHAT ITS BENEFITS ARE FOR
[00:12:52] EVERYONE'S BENEFIT, AND TO HAVE SOME
[00:12:54] LEVEL SETTING. AND SO TO DO THAT, WE'VE
[00:12:57] INVITED KATHY. THEY'RE THE COMMERCIAL
[00:12:59] AVIATION ALTERNATIVE FUELS INITIATIVE.
[00:13:01] THEY'RE A MEMBERSHIP BASED ORGANIZATION
[00:13:03] THAT INCLUDES AIRLINES, SAF PRODUCERS
[00:13:05] AND OTHER PARTNERS. AND WE'VE INVITED
[00:13:07] THEM TO PROVIDE THAT OVERVIEW. AND CHRIS
[00:13:09] TINDALL IS THE ASSISTANT DIRECTOR AND
[00:13:12] BUSINESS TEAM LEAD OF CAFFEINE. THAT'S
[00:13:14] THEIR ACRONYM. AND WAS PREVIOUSLY THE
[00:13:17] DIRECTOR FOR OPERATIONAL ENERGY
[00:13:19] UNDERNEATH THE DEPUTY ASSISTANT
[00:13:21] SECRETARY OF NAVY FOR ENERGY. SO I'D
[00:13:23] LIKE TO NOW INVITE CHRIS.
[00:13:27] THANK YOU VERY MUCH, STEPHANIE. I REALLY
[00:13:29] DO APPRECIATE BEING A PART OF THIS.
[00:13:33] AND TO THE COMMISSIONER,
[00:13:36] TO EXECUTIVE DIRECTOR METRUCK AND
[00:13:39] DIRECTOR KILROY AND DIRECTOR COX, THANK
[00:13:42] YOU VERY MUCH FOR ALLOWING ME TO BE HERE
[00:13:44] AND TO BE A PART OF THIS OVERALL

[00:13:47] DISCUSSION. NEXT SLIDE, PLEASE,
[00:13:49] MICHELLE.
[00:13:53] SO, JUST WANTED TO HIGHLIGHT THIS
[00:13:56] PICTURE ITSELF.
[00:13:59] GO BACK ONE, PLEASE.
[00:14:02] JUST WANTED TO POINT OUT THAT THIS IS A
[00:14:04] PICTURE TAKEN IN MARCH OF 2016, UNITED
[00:14:08] AIRLINES STARTED THE CONTINUOUS
[00:14:11] OPERATION OR CONSUMPTION OF SUSTAINABLE
[00:14:15] AVIATION FUEL AT LOS ANGELES AIRPORT.
[00:14:18] AND THAT'S BEEN GOING ON EVER SINCE.
[00:14:21] EACH AIRPORT, AS YOU KNOW, DOES NOT HAVE
[00:14:24] A UNITED TANK AND AN AMERICAN AIRLINES
[00:14:26] TANK, DELTA TANK. THEY ARE ALL SORT
[00:14:30] OF PUT IN THERE TOGETHER. AND SO EACH
[00:14:32] INDIVIDUAL AIRLINE, WHEN THEY'RE
[00:14:35] REFUELING AT LAX, WILL GET SOME
[00:14:37] MOLECULES OF SUSTAINABLE AVIATION FUEL,
[00:14:40] EVEN THOUGH UNITED IS THE ONLY ONE WHO
[00:14:42] CAN REALLY CLAIM IT BECAUSE THEY'RE THE
[00:14:44] ONES WHO ACTUALLY PAID FOR IT. NEXT
[00:14:46] SLIDE, PLEASE.
[00:14:52] SO I WANT TO GIVE YOU A LITTLE BIT OF AN
[00:14:53] UPDATE ON CAFFEINE.
[00:14:57] AS STEPHANIE POINTED OUT, WE ARE THE
[00:14:59] COMMERCIAL AVIATION ALTERNATIVE FUELS
[00:15:01] INITIATIVE. WE'RE A PUBLIC PRIVATE
[00:15:03] PARTNERSHIP AND WE HAVE FOUR MAJOR
[00:15:06] SPONSORS THAT ARE THERE. THE AEROSPACE
[00:15:09] INDUSTRIES ASSOCIATION, FEDERAL AVIATION
[00:15:12] ADMINISTRATION, THE AIRPORTS COUNCIL,
[00:15:14] INTERNATIONAL, AND THE AIRLINES FOR
[00:15:17] AMERICA. SO WE ARE THERE TO HELP SERVE
[00:15:21] THE WHOLE AVIATION INDUSTRY. AND EVEN
[00:15:25] THOUGH COMMERCIAL AVIATION IS IN OUR
[00:15:27] NAME, WE ARE ALSO HELPING OUT WITH
[00:15:30] BUSINESS AVIATION ALSO. SO WE ARE
[00:15:33] THERE, WE HAVE ABOUT 1800
[00:15:37] PLUS OR MINUS MEMBERS IN OUR MEMBERSHIP
[00:15:41] AND THEY RANGE ALL THE WAY FROM
[00:15:43] FEEDSTOCK PROVIDERS ALL THE WAY TO THE
[00:15:46] AIRLINES AND EVERY
[00:15:49] ENTITY IN BETWEEN THAT. SO WE'RE TRYING
[00:15:52] TO HELP THE OVERALL
[00:15:56] AVIATION INDUSTRY FOR THE DEVELOPMENT
[00:15:59] AND DEPLOYMENT OF SUSTAINABLE AVIATION
[00:16:01] FUEL ACROSS THE BOARD. NEXT SLIDE,
[00:16:04] PLEASE.
[00:16:11] SO JUST TO GIVE YOU A LITTLE BIT OF,
[00:16:15] I GUESS, A DEFINITION DESCRIBED FOR
[00:16:18] SUSTAINABLE AVIATION FUEL, SOMETIMES
[00:16:21] WE'LL REFER TO IT AS BIOJET AVIATION
[00:16:23] BIOFUEL OR ALTERNATIVE AVIATION FUEL.
[00:16:27] AND THERE'S A FEW OTHERS THAT MAY BE OUT
[00:16:29] THERE, BUT WE'LL MAINLY BE TALKING ABOUT
[00:16:31] SAF. BUT ALL OF THOSE ARE INCLUSIVE
[00:16:34] THERE. SO WITH THIS PARTICULAR SAF,
[00:16:38] ALL THE SAME PROPERTIES, THE CHEMICAL
[00:16:40] PROPERTIES OF SUSTAINABLE AVIATION FUEL
[00:16:44] IS THE SAME AS JET A. THERE'S NO CHANGES
[00:16:47] NEEDED FOR ANY INFRASTRUCTURE THAT CAN
[00:16:51] GO INTO THE SAME FUEL TANK ALONG
[00:16:55] WITH FOSSIL FUEL. AND THAT IS NOT A

[00:16:58] PROBLEM AT ALL. THE SUSTAINABLE PART IS
[00:17:01] THAT INSTEAD OF THE FEEDSTOCKS COMING
[00:17:04] FROM A HOLE IN THE GROUND CRUDE OIL,
[00:17:07] WE'RE ACTUALLY GETTING IT FROM THINGS
[00:17:09] LIKE MUNICIPAL SOLID WASTE, OR WOOD
[00:17:11] WASTE, OR WOODY BIOMASS,
[00:17:15] EVEN WASTE COOKING OILS, USED COOKING
[00:17:18] OILS, THOSE ARE ALL POTENTIAL FEEDSTOCKS
[00:17:22] THAT CAN BE PUT INTO DIFFERENT PATHWAYS.
[00:17:25] AND THOSE PATHWAYS ARE BOTH BIOCHEMICAL
[00:17:28] AND THERMOCHEMICAL PROCESSES THAT ARE
[00:17:31] USING BASICALLY THE
[00:17:35] HYDROGEN AND CARBON SYNTHESIZED INTO
[00:17:39] AN ACTUAL JET FUEL. NEXT SLIDE,
[00:17:43] PLEASE.
[00:17:48] SO ONE OF THE PATHWAYS THAT IS
[00:17:51] BEING DEVELOPED IS ONE THAT'S CALLED
[00:17:54] POWER TO LIQUIDS. AND MANY PEOPLE HAVE
[00:17:56] BEEN TALKING ABOUT IT. THERE'S A LOT OF
[00:17:59] WORK IN EUROPE THAT IS WORKING ON
[00:18:03] THE POWER TO LIQUIDS.
[00:18:06] ALL OF THIS, ALL SAFS NEED A SOURCE OF
[00:18:09] CARBON AND HYDROGEN. THAT CARBON MAY BE
[00:18:12] COMING, AS I MENTIONED, FROM THE
[00:18:13] FEEDSTOCKS LIKE THE WOODY BIOMASS.
[00:18:16] AND IN SOME CASES THERE ARE SOME
[00:18:19] COMPANIES THAT ARE TRYING TO GET IT OUT
[00:18:21] OF THE AIR. AND I'LL GO OVER THAT IN A
[00:18:24] SECOND. BUT THE FEEDSTOCKS THAT WE
[00:18:27] WERE MENTIONING THOUGH, THE USED COOKING
[00:18:28] OIL AND A WOODY WASTE AND A WOODY
[00:18:31] BIOMASS, THERE ARE SOME LIMITS TO THAT,
[00:18:34] ESPECIALLY WHEN WE'RE TALKING ABOUT USED
[00:18:35] COOKING OILS. A LOT OF THAT'S GOING INTO
[00:18:38] BIODIESEL AND NOT NECESSARILY INTO
[00:18:41] SUSTAINABLE AVIATION FUEL, BUT BY
[00:18:46] SOME OF THESE COMPANIES THAT ARE WORKING
[00:18:48] ON PTL, THEY'RE ACTUALLY ABLE TO GET
[00:18:51] THAT CARBON FROM CARBON DIOXIDE OUT OF
[00:18:54] THE ATMOSPHERE. THOSE PROCESSES ARE
[00:18:58] BEING DEVELOPED. ONE OF THOSE IS A
[00:19:00] COMPANY THAT'S WORKING ON THAT IS
[00:19:03] TWELVE, AND I KNOW THAT THEY ARE
[00:19:06] SOMEWHAT HEADQUARTERED IN THE PACIFIC
[00:19:09] NORTHWEST AS WELL. AND SO THAT'S VERY
[00:19:12] ENCOURAGING. WE HAVE TALKED WITH THE CEO
[00:19:15] THERE ALONG WITH OUR DEVELOPMENT TEAM
[00:19:18] AND ARE HELPING THEM ACROSS THE BOARD
[00:19:22] AND WITH CAFFEINE. THE NICE THING ABOUT
[00:19:24] IT IS WE DON'T PICK WINNERS. WE'RE
[00:19:26] TRYING TO DEVELOP IT AND
[00:19:30] CREATE AS MANY INDUSTRY COMPANIES THAT
[00:19:34] WE CAN THAT ARE ACTUALLY PRODUCING THE
[00:19:37] SUSTAINABLE AVIATION FUEL. WITH THESE
[00:19:41] PTO COMPANIES THOUGH, THEY DO NEED AN
[00:19:45] AWFUL LOT OF POWER, ESPECIALLY WHEN
[00:19:48] YOU'RE TALKING ABOUT GETTING THE
[00:19:49] HYDROGEN. AND SOME OF THE HYDROGEN RIGHT
[00:19:51] NOW IS COMING FROM A PROCESS CALLED
[00:19:54] ELECTROLYSIS. AND THAT'S WHERE YOU'RE
[00:19:56] BASICALLY ELECTROLYZING WATER TO TURN IT
[00:19:59] INTO THE HYDROGEN AND THE OXYGEN,
[00:20:02] THAT'S THE H 20 THAT COMES OUT OF THAT.

[00:20:05] AND SO FROM THAT HYDROGEN THEN IS
[00:20:10] WHERE WE THEN TAKE THAT AND PUT IT IN TO
[00:20:13] MAKE THAT SYNTHETIC HYDROCARBON. AND
[00:20:16] AGAIN, IT DOES REQUIRE AN AWFUL LOT OF
[00:20:19] POWER AND THAT'S WHY A LOT OF THESE
[00:20:21] COMPANIES ARE ALSO WORKING ON RENEWABLE
[00:20:24] ENERGY SOURCES. SOLAR AND WIND ARE
[00:20:28] TWO OF THE BIGGEST ONES THAT PEOPLE HAVE
[00:20:31] REALLY STARTED TO TAP INTO. SO THIS IS
[00:20:35] JUST ONE OF THE PATHWAYS THAT IS
[00:20:38] BEING DEVELOPED CURRENTLY. RIGHT NOW WE
[00:20:40] HAVE SEVEN DIFFERENT PATHWAYS,
[00:20:43] ANNEXES THAT ARE WAYS TO MAKE SAF.
[00:20:48] NEXT SLIDE PLEASE.
[00:20:52] SO SOME OF THOSE FEEDSTOCKS
[00:20:56] I WANTED TO SORT OF HIGHLIGHT FOR YOU
[00:20:59] SOME OF THE PRODUCTION POTENTIALS THAT
[00:21:01] COME OUT OF THAT. AND CERTAINLY YES,
[00:21:05] THERE ARE SOME LIMITATIONS. MUNICIPAL
[00:21:07] SOLID WASTE, ANY MAJOR CITY
[00:21:11] WILL CERTAINLY HAVE A LOT OF LANDFILLS
[00:21:14] AND SO YOU CAN USE THAT. MUNICIPAL SOLID
[00:21:17] WASTE PROBLEM WITH THAT OBVIOUSLY IS
[00:21:19] THAT YOU STILL HAVE TO TAKE OUT ALL
[00:21:23] THE METALS. YOU HAVE TO TAKE OUT ANY
[00:21:25] RECYCLABLES AS WELL IN ORDER TO GET
[00:21:29] TO THAT CARBONATIOUS TYPE OF MATERIALS
[00:21:31] THAT YOU'RE REALLY WANTING. FORESTRY
[00:21:34] WASTE RESIDUES, WOOD PROCESSING WASTE,
[00:21:38] ALL OF THOSE ARE MAINLY IN THAT WOOD
[00:21:41] INDUSTRY IN SOME CASES. SOME PEOPLE ARE
[00:21:44] LINKED IN WITH SOME OF THE SAWMILLS TO
[00:21:48] ACTUALLY USE THE SAWDUST AND USE THAT
[00:21:50] FOR THE FEEDSTOCKS. AGRICULTURAL WASTE,
[00:21:55] CORN STOVER AND SUGAR CANE, BE GAS,
[00:21:58] THOSE ARE THE REMNANTS FROM THOSE TWO
[00:22:00] INDUSTRIES. YOU CAN CERTAINLY USE THAT
[00:22:03] AS WELL TOO. BUT AGAIN, THERE ARE
[00:22:06] LIMITATIONS TO THAT. AND THEN WASTE FOOD
[00:22:09] PRODUCTION OILS, THAT'S THE USED COOKING
[00:22:11] OILS WE TALKED ABOUT. INDUSTRIAL LOFT
[00:22:13] GASES. THERE'S ONE COMPANY THAT'S ABLE
[00:22:16] TO TAKE CARBON MONOXIDE FROM
[00:22:20] A STEEL PLANT AND USE THAT
[00:22:23] IN ORDER TO TURN THAT INTO SUSTAINABLE
[00:22:25] AVIATION FUEL, WHICH IS NICE. AND THEN
[00:22:29] THE BOTTOM ONE THERE, THE OIL AND
[00:22:30] CELLULOSIC CROPS. THERE'S A LOT OF
[00:22:33] DIFFERENT TYPES OF PURPOSE GROWN OIL
[00:22:37] FEEDSTOCKS LIKE CAMLINA,
[00:22:40] CARINATA, JATROPHA,
[00:22:43] PANGAMIA. ALL OF THOSE ARE ACTUALLY
[00:22:46] FEEDSTOCKS THAT COME FROM PURPOSE GROWN
[00:22:50] PLANTS, BASICALLY. BUT AGAIN, THOSE ARE
[00:22:53] SOME LIMITATIONS TOO. AND THEN THE
[00:22:56] BOTTOM ONE, OBVIOUSLY, WE ALREADY TALKED
[00:22:58] ABOUT THE POWER TO LIQUIDS. THERE'S
[00:23:00] PLENTY OF CO2 THAT'S IN THE ATMOSPHERE
[00:23:02] THAT WE CAN HARNESS.
[00:23:05] AND BY DOING THAT,
[00:23:09] IT DOESN'T NECESSARILY OPEN IT UP. BUT
[00:23:11] THERE ARE CERTAINLY SOME LIMITATIONS,
[00:23:13] LIKE I MENTIONED, WITH THE POWER THAT'S

[00:23:16] NEEDED FOR THAT AS WELL. NEXT SLIDE,
[00:23:20] PLEASE, CHRIS, CAN I ASK YOU TO JUST
[00:23:23] PAUSE THERE? BEFORE WE MOVE ON TO
[00:23:25] CONSUMPTION AND PRODUCTION, I WOULD WANT
[00:23:28] TO PAUSE AND SEE IF THE COMMISSIONER
[00:23:30] HAVE ANY QUESTIONS ON THE PREVIOUS SET
[00:23:34] OF SLIDES.
[00:23:39] COMMISSIONER CALKINS,
[00:23:43] DOES THIS CHART THAT WE'RE LOOKING AT
[00:23:45] HERE, IT DOESN'T APPEAR TO FACTOR
[00:23:49] IN THE COSTS OF EACH OF THESE DIFFERENT
[00:23:53] SOURCES. I RECALL A COUPLE OF YEARS AGO,
[00:23:56] AS WE WERE TALKING ABOUT WOODY BIOMASS,
[00:23:58] THAT ONE OF THE BIGGEST CHALLENGES IS
[00:24:00] IT'S DISPERSED OVER THE ENTIRETY OF THE
[00:24:01] PACIFIC NORTHWEST. HOW DO WE GET IT TO A
[00:24:03] CENTRAL PROCESSING POINT? AND IN DOING
[00:24:05] SO, WE'RE LIKELY GOING TO UNDO ALL OF
[00:24:07] THE CARBON BENEFITS WE'D RECEIVE FROM
[00:24:10] IT BECAUSE WE'D BE TRUCKING IT IN CARBON
[00:24:14] POWERED TRUCKS. SO IS THAT FACTORED INTO
[00:24:17] THESE POTENTIAL RESOURCES?
[00:24:20] NO, SIR. THESE ARE JUST THE NUMBER OF
[00:24:24] MILLIONS OF TONS, METRUCK TONS, THAT ARE
[00:24:27] AVAILABLE. SO THE COST IS NOT FED INTO
[00:24:31] THIS PARTICULAR THING. THIS IS JUST WHAT
[00:24:33] MAY BE OUT THERE ON THE FOREST FLOOR OR
[00:24:38] IN THE FARM, THE FARM FLOOR. SO THOSE
[00:24:42] ARE JUST WHAT'S AVAILABLE THAT MAY BE
[00:24:44] OUT THERE FOR THIS PARTICULAR SLIDE.
[00:24:47] AND WE DO HAVE UPCOMING SLIDES ABOUT THE
[00:24:51] COST AND THE RELATIVE COSTS RELATED TO
[00:24:53] THESE DIFFERENT FEEDSTOCKS. SO STAY
[00:24:56] TUNED. WE HAVE MORE ON COST COMING.
[00:24:59] GREAT. AND THEN IF WE ADD UP ALL OF
[00:25:02] THESE RED BARS, HOW MANY GALLONS ROUGHLY
[00:25:05] WOULD THAT BE EQUIVALENT TO? IF WE'RE
[00:25:07] THINKING ABOUT 26 BILLION GALLONS IS THE
[00:25:10] I THINK YOU SAID THE DOMESTIC NEED.
[00:25:12] WHAT IS THIS EQUIVALENT TO ROUGHLY?
[00:25:16] WELL, IT DOES DEPEND I DON'T HAVE AN
[00:25:19] ANSWER FOR YOU, SIR, BUT WE CAN
[00:25:23] CERTAINLY DO A ROUGH ORDER OF MAGNITUDE.
[00:25:26] I GUESS IT DEPENDS ALSO ON THE ACTUAL
[00:25:30] PATHWAY THAT YOU'RE USING. SOME OF THE
[00:25:33] PATHWAYS MAY USE MORE THE FEEDSTOCK THAN
[00:25:36] OTHERS, BUT THEY'RE USING THAT MAYBE
[00:25:40] BECAUSE THE CAPEX FOR THAT PARTICULAR
[00:25:42] PLANT MAY BE LOWER THAN ANOTHER ONE.
[00:25:47] SO I CAN'T REALLY ANSWER THAT DIRECTLY,
[00:25:51] BUT CERTAINLY WE CAN FIND OUT WHAT
[00:25:55] THAT WOULD ENTAIL. I DO THINK, THOUGH,
[00:25:57] THAT THE AMOUNT THE USDA
[00:26:01] AND DOE DID A STUDY,
[00:26:05] THE BILLION TON STUDY, AND FROM THAT
[00:26:08] THEY WERE ABLE TO DETERMINE EXACTLY HOW
[00:26:11] MUCH THAT IS OUT THERE. I DO FEEL THAT
[00:26:15] WE DO HAVE ENOUGH OF THOSE THAT ARE IN
[00:26:18] THE RED BARS TO GET TO 26 BILLION
[00:26:20] GALLONS. AND TO YOUR POINT, THOUGH,
[00:26:23] ABOUT AGGREGATING, FOR INSTANCE, WOODY
[00:26:26] BIOMASS, THAT CERTAINLY IS A PROBLEM.
[00:26:29] BUT IN AN UPCOMING SLIDE, I'LL SHOW YOU

[00:26:33] THAT WE WANT TO PUT THE BIPOC REFINERY
[00:26:37] CLOSE TO WHERE THE FEEDSTOCKS ARE. AND
[00:26:39] THE REASON FOR THAT, IT'S JUST EASIER TO
[00:26:42] GET TO PUMP LIQUID FUEL THAN
[00:26:46] IT IS TO, LIKE YOU SAY, METRUCK ALL OF
[00:26:49] THAT WOODY BIOMASS COMING FROM THE
[00:26:51] FOREST FLOOR OR WHEREVER. BUT WHEN
[00:26:54] YOU ALSO THINK ABOUT IT FROM THE
[00:26:58] STANDPOINT OF CARBON REDUCTIONS,
[00:27:00] BECAUSE THOSE TREES HAVE ACTUALLY TAKEN
[00:27:04] CARBON OUT OF THE AIR IN THEIR
[00:27:08] LIFESPAN, THEN THAT FEEDSTOCK ALREADY
[00:27:12] HAS A LOT OF CARBON IN IT. SO THAT
[00:27:15] WHEN WE DO CONVERT IT INTO SUSTAINABLE
[00:27:17] AVIATION FUEL, SOMETIMES WE GET ANYWHERE
[00:27:21] FROM MAYBE 50% TO 80% LESS CARBON
[00:27:24] REDUCTION ACROSS THE WHOLE LIFECYCLE,
[00:27:26] WHICH WOULD INCLUDE TRANSPORTING THOSE
[00:27:29] LOGS AND TIMBER TO AN ACTUAL BI
[00:27:32] REFINERY. THANK YOU,
[00:27:37] COMMISSIONER FELLEMAN,
[00:27:41] FOLLOWING ON THAT POINT, OBVIOUSLY,
[00:27:42] MUNICIPAL SOLID WASTE IS NEARBY A LOT OF
[00:27:45] PLACES, SO IT CERTAINLY HAS SOME APPEAL
[00:27:47] TO THAT AND LOOK FORWARD TO THE KING
[00:27:49] COUNTY STUDY. BUT I GUESS I WANT TO GO
[00:27:51] BACK TO THE MORE OF THE FUNDAMENTALS
[00:27:53] THAT STEPHANIE BROUGHT UP WITH REGARDS
[00:27:55] TO THE SCOPE THREE EMISSIONS AT SEA.
[00:27:57] AND I REALLY APPRECIATE YOU PROVIDING
[00:28:01] THAT FIGURE ON THE JET A DISPENSED AT
[00:28:04] SEA, GOING ALL THE WAY UP TO 2022 AND
[00:28:06] SHOWING THAT INCREASE. BUT OF COURSE,
[00:28:08] OUR INVENTORIES ALWAYS LAG OUR CURRENT
[00:28:11] STATUS. BUT I THINK IT'S VERY
[00:28:14] INFORMATIVE TO SEE THE RELATIVE PERCENT
[00:28:17] OF THE I LOVE THIS NEW TERM.
[00:28:21] LTO RIGHT. THAT LANDING,
[00:28:25] TAKEOFF, AND OPERATIONS.
[00:28:29] I'M JUST WONDERING, THE TRAJECTORY OF
[00:28:31] THE AIRCRAFT OPERATIONS,
[00:28:35] THE SLOPE OF THAT LINE WILL MATTER A
[00:28:37] LOT. AND WITH STOPS AT 2019, DO YOU
[00:28:40] I WOULD ASSUME YOU HAVE SOME ESTIMATES
[00:28:43] GOING FORWARD REGARDING THAT AND AND THE
[00:28:46] RELATIVE PERCENTAGE OF THESE OTHER
[00:28:48] CONTRIBUTIONS SO WE CAN WEIGH OUR
[00:28:51] EFFORTS. YEAH, AND I DON'T KNOW IF
[00:28:54] YOU'RE ABLE TO JUST GO TWO SLIDES BACK
[00:28:57] FROM THIS ONE. YEAH, THIS ONE WE DO
[00:29:00] HAVE, ACTUALLY, THE 2020 EMISSIONS, BUT
[00:29:02] THEY DROP PRETTY DRAMATICALLY. AND THEN
[00:29:05] THE 2021 AND 2022, WE'RE BUILDING THAT
[00:29:09] INVENTORY NOW. SO WE FELT THAT THIS DROP
[00:29:12] OFF WITHOUT AN ANSWER OF THAT GROWING
[00:29:14] WAS MAYBE A DECEIVING SLIDE TO SUGGEST
[00:29:16] THAT WE WERE GETTING CLOSER TO MEETING
[00:29:18] OUR GOAL. BUT IN FACT, IT WAS A
[00:29:19] WORLDWIDE PANDEMIC THAT CAUSED THOSE
[00:29:22] EMISSIONS. BUT AS YOU CAN SEE, THAT
[00:29:24] YELLOW LINE IS AIRCRAFT OPERATIONS AT
[00:29:27] OUR AIRPORT, AND IT IS THE DRIVER BEHIND
[00:29:30] THESE SCOPE THREE EMISSIONS. SO THE

[00:29:33] FORECASTS ARE THAT OUR AIRCRAFT
[00:29:35] OPERATIONS ARE GOING TO CONTINUE TO
[00:29:37] GROW. THE DATA WE HAVE COLLECTED TO DATE
[00:29:40] FOLLOWS THAT TREND. SO WHEN WE DO
[00:29:42] PUBLISH THE INVENTORY UP TO DATE, YOU
[00:29:46] WILL SEE IT PRETTY CLOSELY FOLLOWING THE
[00:29:50] SAME TREND THAT YOU SAW THE JET FUEL IN
[00:29:52] THE SUBSEQUENT SLIDE, WHERE IT DROPS,
[00:29:55] BUT THEN IT STARTS GROWING AGAIN. AND
[00:29:57] THE PROJECTIONS ARE THAT IT WILL
[00:29:58] CONTINUE TO GROW AND FOLLOW THE US
[00:29:59] PATTERN THAT YOU SEE ALSO IN THE FAA
[00:30:02] SLIDE. AND THEN IF I COULD JUST FOLLOW
[00:30:03] UP. AT THE SAME TIME, THERE IS SOME
[00:30:05] DIMINUTION PER AIRCRAFT DUE TO
[00:30:08] TECHNOLOGY INVESTMENT, CORRECT? YES, SO
[00:30:11] THERE IS SOME OF THAT AND WE ARE SEEING
[00:30:14] MORE EFFICIENT AIRCRAFT. ACTUALLY, JUST
[00:30:16] IN THE LAST YEAR WE SAW A PRETTY
[00:30:19] TREMENDOUS GROWTH IN OUR AIRLINES
[00:30:22] TURNING OVER THEIR FLEET AND BRINGING IN
[00:30:24] A LOT MORE EFFICIENT AIRCRAFT. BUT I
[00:30:27] ALSO THOUGHT THERE WAS A TREND TOWARDS
[00:30:28] LARGER PLANES ON AVERAGE, BECAUSE LIKE
[00:30:30] WITH SHIPS, WE HAVE MORE TEUS WITH LESS
[00:30:34] VESSELS BECAUSE OF THE SIZE OF
[00:30:35] INDIVIDUAL VESSELS. WE'RE TALKING ABOUT
[00:30:39] MORE LANDINGS AND TAKEOFFS AS WELL AS
[00:30:41] POTENTIALLY BIGGER PLANES. I CAN'T SPEAK
[00:30:44] TO ALL OF THE TRENDS AND WE PROBABLY
[00:30:46] NEED OUR OPERATIONS TEAM HERE TO FULLY
[00:30:48] DESCRIBE THIS. BUT WHAT WE DID SEE IS
[00:30:51] PRIOR TO COVID, WE SAW MORE OF THE
[00:30:54] INTERNATIONAL FLIGHTS, SORT OF LOOKING
[00:30:55] AT WHERE THERE WERE THESE LARGE MIDDLE
[00:30:58] EASTERN HUBS, THEY WOULD LOOK AT GETTING
[00:31:01] THOSE LARGER AIRCRAFT, BUT WE ACTUALLY
[00:31:03] SEE THE A 380, WHICH WE DON'T EVEN HAVE
[00:31:05] AT OUR AIRPORT. BUT THOSE REALLY BIG
[00:31:07] JUMBO JETS, THEY'RE STOPPING PRODUCTION
[00:31:10] OF THOSE AND MOVING MORE TO THOSE MID
[00:31:13] RANGE OR EVEN FOR THE LARGER
[00:31:15] INTERNATIONAL, THEY'RE NOT THESE DOUBLE
[00:31:17] DECKERS ANYMORE. SO WE'RE NOT SEEING
[00:31:19] ACTUALLY AS MUCH OF THAT THE SUPER JUMBO
[00:31:23] PLAINS. BUT WE PROBABLY NEED OUR
[00:31:24] OPERATIONS TEAM TO SPEAK FURTHER ABOUT
[00:31:27] THE OTHER SPECIFICS. YEAH, FOR THE
[00:31:30] RECORD, WE'VE BEEN JOINED IN PERSON BY
[00:31:32] COMMISSIONER MOHAMED. SHE'S BEEN
[00:31:33] LISTENING ONLINE TO THIS POINT. SO I'LL
[00:31:35] TURN TO YOU AND SEE IF YOU HAVE ANY
[00:31:36] QUESTIONS FOR STAFF AT THIS MOMENT.
[00:31:39] OKAY, SO BUILDING OFF OF COMMISSIONER
[00:31:41] FELLEMAN'S QUESTIONS, THE BIDEN
[00:31:44] ADMINISTRATION'S GOALS TO BE CARBON
[00:31:47] NEUTRAL BY 2050 DEMONSTRATE THE NEED FOR
[00:31:49] STAFF. I'M WONDERING WHERE THE OTHER
[00:31:51] STRATEGIES THAT THEY IDENTIFIED, LIKE
[00:31:55] NEW AIRCRAFT TECHNOLOGY AND OPERATIONS
[00:31:57] IMPROVEMENT, FIT INTO OUR STRATEGY TO
[00:32:00] REACH OUR GOALS AT SCA.
[00:32:04] WELL, WE HAVE MANY STAFF MEMBERS THAT

[00:32:07] SIT ON COMMITTEES ABOUT ELECTRIFICATION
[00:32:10] AND WE HAVE ALSO PARTICIPATED IN SOME
[00:32:13] NATIONAL STUDIES THAT ARE LOOKING AT
[00:32:15] HYDROGEN AND WHAT ROLE AIRPORTS MIGHT
[00:32:17] PLAY AS THERE ARE TRANSITIONS TO THAT.
[00:32:20] SO WE'RE ACTIVELY FOLLOWING THAT AREA.
[00:32:24] AND WE HAVE SOME STUDIES, ESPECIALLY AS
[00:32:27] WE'RE LOOKING AT THE FUTURE GROWTH OF
[00:32:28] OUR ELECTRICAL DEMAND AT THE AIRPORT.
[00:32:30] WE HAVE FACTORED IN WHAT KIND OF GROWTH
[00:32:33] WE MIGHT NEED TO SUPPORT SOME OF THE
[00:32:35] SMALLER DISTANCE AIRCRAFT BECAUSE THAT
[00:32:39] SAME TREND IS SHOWING THAT IT'S REALLY
[00:32:41] BY 2050, IT WILL STILL ONLY BE SORT OF
[00:32:44] REGIONAL AIRCRAFT THAT ARE LIKELY TO BE
[00:32:46] ABLE TO TRANSITION TO ELECTRIC. SO WE
[00:32:49] ARE ENGAGED IN THE SPACE AND FOLLOWING
[00:32:54] WHERE WE NEED TO BE AS AIRPORTS TO BE
[00:32:58] RESPONSIVE TO THOSE CHANGES. BUT WE
[00:33:01] HAVEN'T ACTIVELY THERE ARE NO
[00:33:05] COMMERCIAL AIRCRAFT RIGHT NOW THAT ARE
[00:33:07] DEMANDING THOSE FUELS, BUT WE ARE
[00:33:09] ACTIVELY ENGAGED IN THE SPACE NATIONALLY
[00:33:11] AND INTERNATIONALLY. AND THEN THE SCALE
[00:33:14] OF OUR NEED FOR STAFF AT SEA
[00:33:17] IN ORDER TO MEET OUR OWN GOALS AND THE
[00:33:19] GOALS FOR OUR PARTNERS.
[00:33:23] WOULD YOU SAY THAT IT ALIGNS WITH WHAT'S
[00:33:25] DEMONSTRATED ON SLIDE NINE? I WOULD SAY
[00:33:29] THAT THAT'S VERY ACCURATE.
[00:33:32] WE'RE DOMINATED BY NARROW BODY NATIONAL
[00:33:35] FLIGHTS AT OUR AIRPORT, ALONG WITH
[00:33:37] INTERNATIONAL. SO THOSE TRENDS ARE VERY
[00:33:41] MUCH THE WAY WE'D LOOK AT IT HERE.
[00:33:44] THANK YOU.
[00:33:47] GREAT. THANK YOU. CHRIS, IF YOU WANT TO
[00:33:49] CONTINUE. SO IF WE FAST FOR THE SLIDE
[00:33:53] DECK, I THINK IT'S SLIDE 15 THERE.
[00:33:57] RIGHT? THANK YOU. OKAY, THANK YOU.
[00:34:01] NO PROBLEM. AND THANK YOU FOR THOSE
[00:34:04] QUESTIONS AS WELL. SO, CURRENTLY, WHEN
[00:34:07] WE LOOK AT OUR CONSUMPTION THAT WE'VE
[00:34:08] HAD, WE HAVE BEEN TRACKING THAT BOTH
[00:34:12] ON THE GOVERNMENT SIDE AND ON THE
[00:34:14] COMMERCIAL SIDE, AND ON THE GOVERNMENT
[00:34:17] SIDE, WHICH YOU SEE THERE ALL THE WAY
[00:34:19] BACK TO 2007, THE US. AIR FORCE AND THE
[00:34:22] US. NAVY, THEY DID A COUPLE OF
[00:34:26] DIFFERENT PROJECTS AND DID A COUPLE OF
[00:34:29] DIFFERENT MAJOR TECHNOLOGY
[00:34:35] ADVANCEMENTS, I GUESS YOU COULD SAY,
[00:34:37] WITH THE FISHER TROPES PATHWAY, THE FT,
[00:34:41] THAT PARTICULAR ONE WAS TESTED WITH
[00:34:44] THE AIR FORCE IN A B 52, AND THEN
[00:34:48] WITH THE NAVY WITH THEIR GREAT GREEN
[00:34:50] FLEET PROJECT. FROM 2012 TO 2016,
[00:34:55] WE DID A LOT OF RESEARCH AND DEVELOPMENT
[00:34:59] AND HELPED WITH THE AMERICAN SOCIETY
[00:35:03] OF TESTING OF MATERIALS FOR THEM TO BE
[00:35:06] ABLE TO TAKE THAT DATA THAT WE WERE ABLE
[00:35:09] TO GENERATE AND USE THAT FOR QUALIFYING
[00:35:15] MORE AND CERTIFYING MORE PATHWAYS FOR
[00:35:19] THAT. AND THAT'S WHERE WE'RE NOW UP TO

[00:35:22] THE ACTUAL SIX OR SEVEN DIFFERENT
[00:35:25] ANNEXES AT THIS POINT. SO WHEN
[00:35:29] YOU SEE THIS, THERE'S A HUGE UPTICK
[00:35:34] IN 2022. WE WERE ALMOST
[00:35:38] 15.8 MILLION GALLONS AT THAT POINT,
[00:35:43] AND WE'RE DEFINITELY ON TRACK TO EXCEED
[00:35:46] THAT IN 2023. I THINK A LOT OF THAT IS
[00:35:49] BEING HELPED BY THE BLENDERS TAX CREDIT
[00:35:52] AS A PART OF THE IRA, IN THAT THOSE
[00:35:56] PRODUCERS THAT ARE OUT THERE ARE SAYING,
[00:35:58] HEY, YOU KNOW WHAT? I CAN GET A LITTLE
[00:35:59] BIT EXTRA MONEY BY SELLING THE STAFF.
[00:36:02] AND SO THEY'RE DEFINITELY ON TRACK FOR
[00:36:05] EXCEEDING THE 2022 NUMBERS AT THIS
[00:36:09] POINT. WHEN YOU LOOK AT IT,
[00:36:12] YES, WE DEFINITELY HAVE WORLD ENERGY,
[00:36:15] WHICH IS DOWN IN PARAMOUNT, CALIFORNIA,
[00:36:18] BUT THEN WE ALSO HAVE FINLAND'S NEST
[00:36:21] DAY. THEY'VE SOLD A LOT OF STAFF
[00:36:26] INTO THE CALIFORNIA AND TO THE US.
[00:36:30] DOMESTIC MARKET AS WELL, TOO. AND SO
[00:36:34] WE CERTAINLY ARE RELYING AND WE ARE
[00:36:36] TRACKING THOSE PARTICULAR IMPORTS AS
[00:36:39] WELL. SO THIS IS ACTUALLY THE
[00:36:43] AMOUNT OF NEAT MILLION GALLONS PER YEAR
[00:36:46] THAT HAVE BEEN CONSUMED. AND NEAT
[00:36:48] MILLION, THAT JUST NEAT MEANS THAT WAS
[00:36:52] THE SUSTAINABLE AVIATION FUEL PORTION.
[00:36:54] SO IN THE CASES WHERE IT'S MIXED AT A 30
[00:36:58] TO 70 BLEND, THAT 30% IS WHAT WE'RE
[00:37:01] TRACKING. WE'RE NOT TRACKING THE AMOUNT
[00:37:03] OF FOSSIL FUEL THAT WAS BLENDED WITH
[00:37:05] THAT IN ORDER TO MAKE THE JET. WE'RE
[00:37:08] ACTUALLY ONLY TALKING ABOUT THE SAP
[00:37:10] PORTION WHEN WE TALK ABOUT IN 2022,
[00:37:14] THE 15.8 MILLION GALLONS THAT WERE
[00:37:16] ACTUALLY CONSUMED. OKAY, NEXT SLIDE,
[00:37:20] PLEASE.
[00:37:24] OKAY. SO RIGHT NOW WE KNOW ABOUT SOME
[00:37:29] PRODUCTION FORECASTS THAT SOME OF THESE
[00:37:32] ARE ALL PUBLIC ANNOUNCEMENTS THAT HAVE
[00:37:35] BEEN THAT HAVE BEEN MADE. AND SO YOU SEE
[00:37:38] THAT BY THE END OF 2025,
[00:37:42] WE HOPE TO BE ALMOST AT A BILLION
[00:37:44] GALLONS OF ACTUAL CAPACITY,
[00:37:48] PRODUCTION CAPACITY, AND THAT IS ALL
[00:37:51] DOMESTIC. AND YOU CAN SEE ALL THE
[00:37:53] NUMBERS THERE. PAST THAT,
[00:37:57] IT'S KIND OF HARD TO TELL, EVEN THOUGH
[00:38:00] THERE ARE SOME PUBLIC ANNOUNCEMENTS OUT
[00:38:01] THERE ALL THE WAY. WE NORMALLY TRACK IT
[00:38:04] AT A FIVE YEAR SCALE. SO OUT
[00:38:08] TO 2028. THE PROBLEM WITH THAT
[00:38:11] IS THAT THERE'S SO MUCH FLUX IN THE
[00:38:15] AMOUNT OF WERE THEY
[00:38:18] ABLE TO GET FINANCING. AND SO A LOT OF
[00:38:22] TIMES WE'LL HAVE COMPANIES THAT WE PUT
[00:38:26] ON THIS CHART, BUT THEN WE HAVE TO TAKE
[00:38:27] THEM OFF BECAUSE THEY'RE NOT ABLE TO
[00:38:29] PRODUCE. WE'RE NOT ABLE TO GET
[00:38:31] FINANCING, OR WE'RE CONSTANTLY MOVING
[00:38:34] THEM FROM THE LEFT TO THE RIGHT, AS IT
[00:38:37] SAYS. OKAY, SO WE'RE NOT ABLE TO PRODUCE

[00:38:40] IN 2024, SO WE'RE GOING TO MOVE IT TO
[00:38:42] 2025, FOR INSTANCE. SO THIS
[00:38:46] SORT OF GIVES YOU A SNAPSHOT.
[00:38:49] SO 1 BILLION GALLONS BY 2025,
[00:38:52] AND WITH A GOAL OF 3 BILLION GALLONS
[00:38:56] BY 2030, HOPEFULLY WE'LL BE ABLE TO BE
[00:38:59] THERE. ONE OTHER POINT THAT I WANT TO
[00:39:01] POINT OUT ON THIS IS THAT THIS IS
[00:39:03] PRODUCTION CAPACITY, AND SO THESE
[00:39:07] PARTICULAR COMPANIES ARE ABLE TO PRODUCE
[00:39:10] AT THAT LEVEL. HOWEVER, WE ALSO
[00:39:13] HAVE TO MAKE SURE THAT THE AIRLINES ARE
[00:39:16] PURCHASING THAT FUEL. AND AS WE TALK
[00:39:18] ABOUT IN A LATER SLIDE ABOUT THE PRICE
[00:39:22] OR THE VALUE OF SAF, THAT DOES
[00:39:25] CERTAINLY VARY. AND SO IT'S A MATTER OF
[00:39:28] THE APPETITE FOR THE AIRLINES TO BE ABLE
[00:39:30] TO PURCHASE ALL OF THIS PRODUCTION
[00:39:34] CAPACITY. OKAY, NEXT SLIDE, PLEASE.
[00:39:41] OKAY, AND SO THIS IS WHERE WE START TO
[00:39:43] GET INTO THE PRICE IN
[00:39:48] A LOT OF DIFFERENT CASES. AS I MENTIONED
[00:39:50] TO YOU, WE HAVE SEVEN DIFFERENT ANNEXES
[00:39:55] HEFA, THE HYDROPROCESS, ESTERS AND FATTY
[00:39:58] ACIDS. SORRY FOR THE LONG ACRONYMS, BUT
[00:40:01] THEY'RE THERE. SO THROUGH THAT HEFA,
[00:40:04] SAF THAT RIGHT NOW
[00:40:08] IS VALUED AT AROUND \$7 A GALLON. THAT'S
[00:40:11] WITHOUT THE POLICY SUPPORT. WHEN YOU DO
[00:40:14] GASIFICATION OR POWER TO LIQUIDS AND THE
[00:40:17] FISHER TROPES PATHWAY, IT MAY BE A
[00:40:20] LITTLE BIT MORE PER TON OF CO2 THAT
[00:40:23] WE'RE TRYING TO ABATE. AND THEN THE
[00:40:26] ALCOHOL TO JET IS ANOTHER PATHWAY,
[00:40:29] AND THAT MAY COST A LITTLE BIT MORE.
[00:40:32] AND SO WHEN YOU LOOK AT THAT ACROSS THE
[00:40:34] BOARD, IT COULD BE ANYWHERE FROM TWO TO
[00:40:38] EIGHT TO TEN TIMES HIGHER THAN
[00:40:41] TRADITIONAL FOSSIL JET. AND IT ALSO
[00:40:44] DEPENDS ON THE FEEDSTOCK. IT DEPENDS ON
[00:40:47] GETTING ALL THAT FEEDSTOCK TO THE BUYER
[00:40:51] FINDRY ITSELF. AND SO THERE'S A LOT OF
[00:40:54] THAT THAT YOU HAVE TO PLAY INTO WITH
[00:40:56] LOGISTICS. I'LL PAUSE AT THIS POINT TO
[00:40:59] SEE IF THERE ARE ANY QUESTIONS ON THE
[00:41:02] PRICE RELATED TO THIS PARTICULAR CHART
[00:41:05] AND SEE IF THERE'S ANY OTHER QUESTIONS
[00:41:08] THAT YOU MAY HAVE ON THE PRICE.
[00:41:15] YES.
[00:41:19] OKAY. I GUESS THERE'S NONE.
[00:41:23] NO, I'VE I'VE GOT A QUICK QUESTION FOR
[00:41:25] YOU I'M REALLY INTRIGUED BY SO I'VE
[00:41:28] STARTED TO GET INVOLVED IN THESE
[00:41:29] CONVERSATIONS AROUND POWER TO X AND IT'S
[00:41:31] THE FIRST TIME I'VE HEARD THIS SORT OF
[00:41:33] SUBSET POWER TO LIQUIDS. AND I
[00:41:38] IMAGINE THE REASON THE BAND IS SO WIDE
[00:41:41] ON THIS IS BECAUSE IT'S SO DEPENDENT
[00:41:44] UPON THE COST OF THE INPUT ENERGY.
[00:41:48] SO WHETHER IT'S WIND OR SOLAR OR SOME
[00:41:52] OTHER FORM OF RENEWABLE AND SO
[00:41:56] ARE WE LOOKING AT SORT OF EVEN IN THE
[00:41:59] BEST CASE SCENARIO THAT POWER TO LIQUID

[00:42:03] SAF IS NOT EVER GOING TO BE ABLE TO
[00:42:06] BREAK BELOW THAT BOTTOM NUMBER?
[00:42:14] I THINK THAT WE WILL BE ABLE TO. THE
[00:42:16] PROBLEM THAT WE HAVE WITH THAT RIGHT
[00:42:18] NOW, COMMISSIONER, IS THAT IT IS STILL A
[00:42:22] VERY NASCENT INDUSTRY OVERALL FOR STAFF.
[00:42:26] WE'VE ONLY BEEN AROUND LESS THAN TWO
[00:42:28] DECADES AND SO WE ARE STILL WORKING ON
[00:42:33] THE TECHNOLOGY DEVELOPMENT AND TRYING TO
[00:42:36] MAKE IT MORE EFFICIENT. YES, THE
[00:42:39] RENEWABLE ENERGY PIECE CERTAINLY PLAYS A
[00:42:42] BIG PART OF THAT. AND SOME OF THESE
[00:42:45] COMPANIES THAT MAY BE OUT THERE, THEY
[00:42:46] MAY BE SAYING, OKAY, WELL, WE'RE JUST
[00:42:48] GOING TO GET OUR POWER FROM THE GRID.
[00:42:50] WELL, THAT DOESN'T NECESSARILY HELP
[00:42:51] THEIR CARBON INTENSITY SCORE. WE WANT
[00:42:54] THEM TO HAVE AS LOW OF A CARBON
[00:42:57] INTENSITY SCORE AS POSSIBLE. AND THAT'S
[00:42:59] WHERE SOME OF THEM, LIKE JIVO, ARE
[00:43:03] CERTAINLY WORKING TO INCORPORATE
[00:43:07] BOTH WIND POWER AND SOLAR POWER INTO
[00:43:10] THEIR PROCESS SO THAT THEY ARE ALMOST A
[00:43:14] NET NEGATIVE CARBON EMISSION.
[00:43:19] AT THE END OF THE DAY, THAT'S WHAT
[00:43:21] THEY'RE SHOOTING FOR. A LOT OF THESE
[00:43:22] COMPANIES ARE ACTUALLY SHOOTING FOR
[00:43:24] THAT, THAT AT THE END OF THE DAY,
[00:43:28] WHEN YOU'RE GOING THROUGH THE FULL
[00:43:29] LIFECYCLE, THAT AFTER YOU PUT IT INTO
[00:43:32] THE JET AND IT FLIES ON THAT PARTICULAR
[00:43:35] STAFF, THEN YOU ACTUALLY HAVE LESS
[00:43:38] CARBON THROUGH
[00:43:41] THE WHOLE LIFECYCLE OF THAT. YES, IT MAY
[00:43:44] COST A LITTLE BIT MORE INITIALLY, BUT I
[00:43:47] THINK THAT THROUGH TIME THESE THINGS
[00:43:50] WILL BECOME MORE AND MORE MORE
[00:43:52] EFFICIENT. WHEN YOU COMPARE THIS TWO
[00:43:55] DECADES LONG INDUSTRY COMPARED TO 100
[00:43:59] PLUS FOSSIL FUEL INDUSTRY,
[00:44:02] IT'S SOMEWHAT SOMETIMES HARD TO COMPETE
[00:44:05] FROM THAT PERSPECTIVE. YEAH, IT REMINDS
[00:44:08] ME OF A QUOTE I READ LAST NIGHT THAT
[00:44:10] SAID WAS ABOUT SOMETHING TOTALLY
[00:44:12] DIFFERENT, BUT I THINK IT APPLIES HERE,
[00:44:14] WHICH IS CHANGE HAPPENS VERY SLOWLY AND
[00:44:17] THEN ALL AT ONCE. AND I THINK THERE
[00:44:20] WILL BE A TIPPING POINT IN A LOT OF
[00:44:22] THESE TECHNOLOGIES WHERE ALL OF A SUDDEN
[00:44:24] THIS WORK THAT HAS BEEN GRINDINGLY SLOW
[00:44:27] SEEMS TO JUST HAPPEN OVERNIGHT. AND I
[00:44:29] CAN SEE IT HAPPENING WITH A COUPLE OF
[00:44:31] THESE PATHWAYS. ALSO, I WANT TO NOTE
[00:44:34] THAT THE LAST TWO WEEKENDS IN NORTHERN
[00:44:37] EUROPE, WALL STREET JOURNAL REPORTED
[00:44:39] THAT THE WHOLESALE PRICE OF ENERGY
[00:44:41] ACTUALLY WENT NEGATIVE. AND IT'S BECAUSE
[00:44:43] THEY HAVE BROUGHT SO MUCH RENEWABLES ON
[00:44:45] THAT DURING THIS TIME OF YEAR WHEN THERE
[00:44:47] ISN'T REALLY AN AIR CONDITIONING NEED OR
[00:44:48] A HEATING NEED AND THERE'S A SURPLUS OF
[00:44:51] ENERGY AND THERE'S A LOT OF BASELOAD.
[00:44:53] THEY CAN'T TURN OFF CERTAIN NUCLEAR

[00:44:55] FACILITIES AND OTHER THINGS. THEY'RE
[00:44:57] LITERALLY HAVING TO PAY PEOPLE TO TAKE
[00:44:58] ELECTRICITY OFF THE GRID. AND IF THERE
[00:45:00] WERE MECHANISMS BY WHICH WE COULD CREATE
[00:45:02] STORABLE FORMS OF ENERGY LIKE LIQUID
[00:45:06] THAT COULD BE TURNED ON WHEN EFFECTIVELY
[00:45:10] THE PRICE OF RENEWABLES OR PRICE OF GRID
[00:45:13] ELECTRICITY IS NEGATIVE, THEN ALL OF A
[00:45:16] SUDDEN YOU CREATE A FINANCING MECHANISM
[00:45:18] THAT I THINK IS QUITE POSITIVE. BUT
[00:45:20] AGAIN, IN NORTHERN
[00:45:24] EUROPE THEY HAVE A FORCING FUNCTION IN
[00:45:29] THE RUSSIAN INVASION OF UKRAINE THAT HAS
[00:45:31] REALLY ACCELERATED RENEWABLES EXPANSION
[00:45:33] IN THAT AREA AND SO IT'S CREATED THAT
[00:45:34] DYNAMIC. THANKFULLY, WE DON'T HAVE THAT
[00:45:37] FORCING FUNCTION HERE, BUT I DO THINK
[00:45:39] TECHNOLOGICALLY IT'S POSSIBLE. AND SO
[00:45:42] I'M VERY INTRIGUED AT THE POSSIBILITY OF
[00:45:46] IN THAT EARLIER CHART WHERE YOU SHOWED
[00:45:47] ALL THE RED BARS AND THEN YOU SHOWED
[00:45:49] THAT UNLIMITED SUPPLY AND THE GREEN BAR
[00:45:51] OF PTL. I THINK THERE'S REAL PROMISE
[00:45:53] THERE AND WE SHOULD BE PAYING CLOSE
[00:45:55] ATTENTION TO THAT. YES, SIR,
[00:45:58] THANK YOU VERY MUCH. VERY GOOD COMMENT.
[00:46:00] AND YOU'RE EXACTLY RIGHT ON THE ENERGY
[00:46:02] STORAGE SIDE. YES, IT COULD BE
[00:46:05] BATTERIES, IT COULD BE LIQUID, IT COULD
[00:46:06] BE A LOT OF DIFFERENT THINGS THAT YOU
[00:46:09] USE FOR THAT STORAGE OF THE ENERGY.
[00:46:12] AND THAT IS WHERE WE WANT TO BE FOR
[00:46:14] SURE, BECAUSE WE WON'T BE ABLE TO USE
[00:46:16] ALL OF IT IF WE HAVE LIKE THEY HAVE IN
[00:46:19] EUROPE IN OVERPRODUCTION OR
[00:46:24] OVERPRODUCTION OF THAT RENEWABLE POWER.
[00:46:27] AND THAT'S OKAY, THAT'S NOT A PROBLEM,
[00:46:30] BUT IT'S A SITUATION WHERE YOU WANT TO
[00:46:32] BE IN, THAT'S FOR SURE. OKAY, NEXT SLIDE
[00:46:35] PLEASE. WE'VE GOT SOME MORE QUESTIONS
[00:46:37] HERE. I'M SORRY. COMMISSIONER FELLEMAN,
[00:46:42] THANK YOU VERY MUCH. THIS HAS BEEN
[00:46:43] GREAT. I HAVE TWO QUESTIONS, ONE RELATED
[00:46:47] TO THE DIFFERENT PRODUCTION COMING
[00:46:50] ONLINE. I KEEP ON SEEING FULCRUM
[00:46:53] BEING PUSHED FURTHER AND FURTHER TO THE
[00:46:55] RIGHT AND WAS WONDERING IF YOU HAD ANY
[00:46:58] INSIGHT ON THAT OR IF THERE ARE ANY
[00:47:01] OTHER PRODUCERS THAT ARE LOOKING AT THE
[00:47:05] USE OF MUNICIPAL SOLID WASTE.
[00:47:11] YES, SIR. IF WE GO BACK TO
[00:47:15] THE SLIDE ON PRODUCTION OR PRODUCTION,
[00:47:18] PLEASE. YES, SIR.
[00:47:22] WITH FULCRUM, THEY ARE ACTUALLY
[00:47:25] PRODUCING NOW, BUT THEY'RE PRODUCING
[00:47:31] WHAT THEY'RE GETTING OUT OF IT IS A
[00:47:33] CRUDE OIL THAT THEY'RE THEN ACTUALLY
[00:47:38] TAKING TO ANOTHER REFINERY FOR REFINING
[00:47:41] INTO SUSTAINABLE AVIATION FUEL.
[00:47:44] AND SO NONE IN THIS CHART,
[00:47:47] BUT WE DO HAVE BECAUSE THEY WERE
[00:47:50] ACTUALLY PRODUCING IN 2022,
[00:47:53] THEY'RE ACTUALLY TO THE LEFT, WE'RE

[00:47:56] TALKING ABOUT THE SIERRA PROJECT IN
[00:47:58] NEVADA. THE FULCRUM THAT YOU SEE IN 2025
[00:48:01] IS THEIR CENTERPOINT PROJECT AT 31
[00:48:05] MILLION GALLONS. THAT'S THE SECOND ONE
[00:48:07] THAT THEY PLAN ON OPENING UP AND THAT'S
[00:48:10] IN THE CHICAGO METROLAND AREA.
[00:48:13] THANK YOU. ARE THEY THE ONLY COMPANY
[00:48:15] THAT'S PURSUING THIS? I SAW SOMETHING IN
[00:48:18] ENGLAND THAT THEY WERE JUST FEDERAL
[00:48:22] GOVERNMENT WAS PROVIDING SOME TAX
[00:48:24] INCENTIVES. I THOUGHT IT WSDOT
[00:48:26] SPECIFICALLY FOR MUNICIPAL SOLID WASTE,
[00:48:29] RIGHT? YES, SIR. THERE ARE A NUMBER OF
[00:48:32] OTHER COMPANIES THAT ARE OUT THERE
[00:48:34] LOOKING AT THIS LONZA TECH IS ONE OF
[00:48:38] THOSE THAT IT'S IN DEVELOPMENT WITH
[00:48:42] A COMPANY DOWN IN AUSTRALIA, AND THEY'RE
[00:48:44] ACTUALLY GOING TO BE USING BOTH
[00:48:47] MUNICIPAL SOLID WASTE AND CONSTRUCTION
[00:48:50] AND DEMOLITION WASTE IN ORDER TO USE
[00:48:53] THOSE FEEDSTOCKS. THIS PARTICULAR
[00:48:56] COMPANY IS ACTUALLY A CONSTRUCTION
[00:48:58] COMPANY, AND THEY'VE GOT A SPIN OFF TO
[00:49:00] MAKE THIS SUSTAINABLE AVIATION FUEL FROM
[00:49:03] THAT WASTE PRODUCT. THERE'S ANOTHER ONE
[00:49:06] THAT WE'VE BEEN IN TOUCH WITH CALLED
[00:49:09] WASTE FUELS, AND THEY ARE IN THE
[00:49:13] PROCESS OF DEVELOPING A PROJECT IN THE
[00:49:15] PHILIPPINES NEAR MANILA,
[00:49:19] WHERE THEY WILL ACTUALLY BE USING THAT
[00:49:23] MUNICIPAL SOLID WASTE THERE IN AMERICA.
[00:49:26] YES, THERE ARE A FEW THAT HAVE NOT
[00:49:30] MADE ANY PUBLIC ANNOUNCEMENTS, BUT THERE
[00:49:33] ARE SOME OTHER ONES THAT ARE LOOKING AT
[00:49:35] MUNICIPAL SOLID WASTE, SIR. GREAT. AND
[00:49:38] JUST ONE QUESTION. SO WHEN YOU LOOK AT
[00:49:40] THE TOTAL PRODUCTION GOING ON HERE,
[00:49:44] SO IN ORDER FOR THE AIRLINES TO MEET
[00:49:46] THEIR, IT'S NOT REALLY A COP 27 GOAL,
[00:49:49] RIGHT? THEY'RE NOT OBLIGATED BY THAT.
[00:49:51] BUT I THOUGHT IN EUROPE, THEY HAVE SOME
[00:49:53] ACTUAL AVIATION. HOW FAR AWAY ARE WE
[00:49:56] FROM WHAT IS FORECAST TO BE THE NEED?
[00:50:01] SO WHAT YOU'RE REFERRING THERE TO, SIR,
[00:50:04] IS CORCIA. THAT'S THE CARBON
[00:50:08] OFFSETTING REDUCTION SCHEME FOR
[00:50:11] INTERNATIONAL AVIATION. AND SO ALL OF
[00:50:15] THE COUNTRIES, ALL THE STATES THAT HAVE
[00:50:18] SAID THAT THEY WILL ABIDE BY THAT RIGHT
[00:50:21] NOW, IT'S IN A VOLUNTARY STAGE, BUT THE
[00:50:24] MANDATORY PHASE WILL ACTUALLY COMMENCE
[00:50:26] IN 2027. AND SO ANY
[00:50:30] COUNTRY THAT'S DOING ANY INTERNATIONAL
[00:50:32] AVIATION, AND OBVIOUSLY SEATTLE WILL BE
[00:50:34] DOING A LARGE PORTION OF THAT GOING
[00:50:38] WESTWARD, THEY WILL CERTAINLY NEED TO
[00:50:42] ABIDE BY THAT AS WELL.
[00:50:46] CORCIA IS ONE OF THOSE THAT IS CERTAINLY
[00:50:49] VERY PROMINENT IN EUROPE, BUT IT'S
[00:50:53] ALSO PROMINENT GLOBALLY AS WELL, WHICH
[00:50:55] YOU'RE ALSO REFERRING TO IN THE EU.
[00:50:59] THEY HAVE A COUPLE OF DIFFERENT
[00:51:01] MANDATES. THE REFUEL EU MANDATE

[00:51:05] IS OUT THERE. AND SO A LOT OF THE
[00:51:08] AIRLINES ARE BEING FACED WITH, IF I
[00:51:11] DON'T USE STAFF, I HAVE TO
[00:51:14] PAY SORT OF LIKE A PENALTY PER
[00:51:18] MILE THAT THEY'RE DOING. AND SO THAT'S
[00:51:21] WHERE THAT IS COMING INTO PLAY. AGAIN,
[00:51:23] MANDATORY IN 2027, BUT JUST VOLUNTARY AT
[00:51:27] THIS POINT. IF YOU LOOK AT 2025
[00:51:30] AS YOU HAVE IN THIS FORECAST OF
[00:51:32] PRODUCTION, AND THIS IS JUST
[00:51:36] US. PRODUCTION, RIGHT? THAT'S US.
[00:51:39] RIGHT? THAT'S CORRECT. AND NESTY
[00:51:41] PROBABLY EQUALS THAT UNTO ITSELF OR
[00:51:43] SOMETHING LIKE THAT. BUT HOW
[00:51:47] FAR OFF ARE WE FOR THAT 2027 GOAL?
[00:51:53] IS IT 10%? WHAT IS
[00:51:56] THAT 2027 GOAL FOR IN
[00:52:00] TERMS OF PERCENTAGE?
[00:52:05] THE PERCENTAGE I BELIEVE IS I
[00:52:09] HAVE TO GO BACK AND CHECK, BUT I BELIEVE
[00:52:10] IT'S 2% IN 2027.
[00:52:14] BUT I'LL HAVE TO LOOK AT THAT AND GET
[00:52:17] BACK TO YOU, SIR. OKAY, SO DOES IT EVEN
[00:52:20] TO ACHIEVE 2%, DO WE HAVE THE PRODUCTION
[00:52:22] ONLINE TO GET THERE?
[00:52:27] WELL, THE 3 BILLION
[00:52:30] GALLON GOAL THAT WE HAVE FOR 2030,
[00:52:33] THAT'S 10% OF OUR TOTAL DOMESTIC
[00:52:38] CONSUMPTION, AND THAT IS BOTH
[00:52:40] INTERNATIONAL AND DOMESTIC FLIGHTS.
[00:52:43] WHAT THE AMOUNT IS OF THE INTERNATIONAL
[00:52:45] COMMUNITY, OF THAT 20 OF THAT 326
[00:52:49] BILLION GALLONS THAT'S BEING CONSUMED OF
[00:52:52] THE TOTAL FOSSIL JET. I WOULD HAVE TO
[00:52:55] DO SOME MORE RESEARCH ON FINDING OUT HOW
[00:52:57] MUCH OF THAT IS ACTUALLY THE
[00:52:58] INTERNATIONAL PERSPECTIVE, BUT VERY GOOD
[00:53:01] POINT, SIR. THANK YOU. COMMISSIONER
[00:53:03] MOHAMMED, I HAVE A QUICK QUESTION.
[00:53:07] YOU EMPHASIZED INVESTING IN PROCURING
[00:53:10] STAFF AND HOW IMPORTANT THAT IS FOR THE
[00:53:13] AIRLINES AND THAT UNITED AIRLINES
[00:53:16] HAS INVESTED IN THE INFRASTRUCTURE AND
[00:53:19] THE FUEL IN LOS ANGELES. I'M WONDERING,
[00:53:21] IS THE PURCHASING PRICE OF THAT FUEL
[00:53:24] DIFFERENT FOR THE OTHER AIRLINES
[00:53:26] OPERATING THERE?
[00:53:30] NO. SO FOR THE OTHER AIRLINES THAT
[00:53:33] ARE OPERATING THERE, THEY'RE PAYING
[00:53:36] FOSSIL JET PRICES, SO THEY'RE NOT PAYING
[00:53:39] ANY PREMIUM AT ALL. IT'S ONLY UNITED
[00:53:42] THAT'S PAYING THE PREMIUM AND THEY'RE
[00:53:44] ALSO THEN THE ONLY ONES THAT CAN CLAIM
[00:53:46] THAT THEY'RE USING SUSTAINABLE AVIATION
[00:53:48] FUEL FROM LAX, EVEN THOUGH IT'S GOING
[00:53:51] INTO THE SAME TANK AND ALL OF THE
[00:53:54] AIRLINES WILL BE UPLIFTING SOME
[00:53:59] OF THOSE MOLECULES OF SAF.
[00:54:01] THAT'S HELPFUL. THANK YOU.
[00:54:07] THANK YOU. CHRIS, YOU CAN
[00:54:10] CONTINUE. WE HAVE ABOUT NEXT SLIDE AND
[00:54:13] WE WERE THEN GOING TO HAVE ANOTHER
[00:54:15] FERRIES OF QUESTIONS. WE'RE A LITTLE

[00:54:17] BEHIND ON OUR AGENDA. THAT'S FINE. BUT
[00:54:20] CHRIS, IF YOU COULD GO THROUGH THOSE
[00:54:21] LAST SIX OF YOUR PART RELATIVELY
[00:54:24] QUICKLY, WE'LL STOP AGAIN FOR QUESTIONS
[00:54:26] AND THEN WE'RE GOING TO MOVE INTO OUR
[00:54:29] STRATEGY OF WHAT WE'RE ACTUALLY TAKING
[00:54:31] IN TERMS OF ACTIONS. THANK YOU.
[00:54:35] YES, MA'AM. YEAH, SO THIS PARTICULAR
[00:54:37] SLIDE IS GOING TO THAT POINT THAT WAS
[00:54:41] BROUGHT UP BEFORE ABOUT TRUCK THE
[00:54:46] WOODY BIOMASS AND ALL THE DIFFERENT
[00:54:49] FEEDSTOCKS FROM THE DIFFERENT AREAS.
[00:54:52] THERE'S CERTAINLY A LOT OF FEEDSTOCKS
[00:54:53] THAT ARE UP IN THE PACIFIC NORTHWEST.
[00:54:55] THERE'S EVEN A LOT UP IN MAINE.
[00:54:59] IN THE NORTHEAST CERTAINLY HAS A LOT UP
[00:55:02] THERE AS WELL, TOO. BUT THEN GETTING
[00:55:05] THAT TO AN AIRPORT THAT COULD USE IT,
[00:55:09] LIKE NEW YORK IN THE CASE WITH MAINE,
[00:55:12] THEN YOU'LL CERTAINLY HAVE A PART OF
[00:55:15] THAT THAT YOU GOT TO WORRY ABOUT. THE
[00:55:19] LONZA JET FACILITY THAT'S DOWN IN
[00:55:22] GEORGIA THAT IS LOCATED ABOUT THREE HOUR
[00:55:26] DRIVE FROM SOPERTON, GEORGIA UP TO
[00:55:30] ATLANTA, WHICH IS OBVIOUSLY A VERY MAJOR
[00:55:33] HUB. SO YES, YOU'D STILL HAVE TO TRUCK
[00:55:36] IT. BUT THIS POINT OF THIS SLIDE IS THAT
[00:55:40] THE SAP IS NOT PRODUCED EXACTLY WHERE
[00:55:44] YOU NEED IT. THEY'RE NOT GOING TO BE
[00:55:45] PRODUCING IT RIGHT NEXT TO THE AIRPORT
[00:55:48] UNLESS YOU'RE OUT IN LA. AND ARE
[00:55:50] PRODUCING IT AT PARAMOUNT AND THEY'VE
[00:55:52] JUST PUT IT IN THE PIPELINE. ALL RIGHT,
[00:55:54] NEXT SLIDE, PLEASE.
[00:55:58] OKAY. THE POINT HERE IS THAT
[00:56:03] WE HAVE TO MAKE SURE THAT IT MEETS ALL
[00:56:05] THE JET A SPECIFICATIONS. AS I MENTIONED
[00:56:08] TO YOU BEFORE, THERE ARE SEVEN DIFFERENT
[00:56:10] ANNEXES. FIVE OF THEM ARE LIMITED TO A
[00:56:13] 50 50 BLEND AND THERE'S TWO THAT ARE
[00:56:16] LIMITED ONLY TO A 10% BLEND.
[00:56:18] AND THAT'S JUST BECAUSE OF SOME OF THE
[00:56:21] PROPERTIES WITHIN THAT STAFF THAT'S
[00:56:24] BEING PRODUCED. SO AT
[00:56:28] AN AIRPORT OR BEFORE AN AIRPORT IS WHERE
[00:56:30] YOU HAVE TO BLEND BOTH YOUR JET A, YOUR
[00:56:33] FOSSIL AND YOUR STAFF TOGETHER AND
[00:56:38] IT COULD BE A COUPLE OF DIFFERENT WAYS
[00:56:40] OF DOING THAT, BLENDING. BUT THEN THEY
[00:56:42] PUT IT INTO THE PIPELINE, IT GETS TO THE
[00:56:44] AIRPORT TANK FARM AND THEN TO THE WING
[00:56:47] OF THE PLANE. WE DO HAVE SOME PATHWAYS
[00:56:51] THAT HAVE BEEN IDENTIFIED BUT NOT YET
[00:56:53] APPROVED FOR A FULLY SYNTHETIC SAF. SO
[00:56:57] THAT THEY COULD USE 100% SAF WITH NO
[00:57:00] FOSSIL COMPONENT WHATSOEVER. AND THAT'S
[00:57:03] SORT OF WHERE WE WANT TO BE FOR SURE IN
[00:57:05] 2050. WE HOPE THAT THE AMERICAN SOCIETY
[00:57:09] OF TESTING AND MATERIALS TASK FORCE
[00:57:11] THAT'S NOW STOOD UP FOR LOOKING AT THAT,
[00:57:14] HOPEFULLY THEY'LL HAVE A PATHWAY OR TWO
[00:57:19] THAT'S APPROVED IN THE NEXT TWO,
[00:57:22] POSSIBLY TWO OR THREE YEARS FROM NOW.

[00:57:26] SO THAT'S CERTAINLY GOING TO HELP US TO
[00:57:29] GET TO OUR GOALS FOR SURETY. ALL RIGHT,
[00:57:31] NEXT SLIDE.
[00:57:37] OKAY, SO THIS IS BASICALLY HOW
[00:57:43] WE'RE LOOKING AT OUR LIFE CYCLE CARBON
[00:57:45] EMISSIONS. WHEN YOU THINK ABOUT ON THE
[00:57:48] LEFT, HOW THE NORMAL FOSSIL INDUSTRY
[00:57:52] WORKS, WHERE YOU'RE EXTRACTING THE CRUDE
[00:57:55] OIL, YOU'RE TRANSPORTING IT TO A
[00:57:57] REFINERY, THEN YOU'RE TRANSPORTING
[00:58:02] IT TO WHERE YOU NEED TO FOR YOUR
[00:58:05] AIRPORTS COMPARED TO THE STAFF.
[00:58:10] AND THAT'S MORE CYCLICAL WHERE YOU MAY
[00:58:12] BE GROWING SOME FEEDSTOCKS,
[00:58:15] YOU'RE TRANSPORTING IT, YOU'RE
[00:58:17] PROCESSING IT AND REFINING IT, GETTING
[00:58:19] IT TO THE AIRPORT, AND THEN OUT OF THE
[00:58:22] TAILPIPE OF AN AIRCRAFT CERTAINLY COMES
[00:58:25] CO₂. THAT IS THEN HELPING TO FEED
[00:58:29] THOSE FEEDSTOCKS THAT YOU'VE BEEN
[00:58:31] GROWING. AND SO WHEN YOU LOOK AT THE
[00:58:34] FULL LIFECYCLE, INCLUDING ALL THAT
[00:58:36] TRANSPORT AND PROCESSING, ET CETERA,
[00:58:38] THE LIFECYCLE GREENHOUSE GAS EMISSION
[00:58:41] PROFILE IS SIGNIFICANTLY
[00:58:45] REDUCED WHEN YOU COMPARE IT TO THE
[00:58:48] PETROLEUM BASED JET FUEL.
[00:58:52] OKAY, NEXT SLIDE.
[00:58:57] WE WANT TO ALSO SHOW YOU WHEN I WAS
[00:59:00] MENTIONING ANYWHERE FROM 50% TO 80%
[00:59:02] REDUCTION. THESE ARE THE DIFFERENT TYPES
[00:59:05] OF PART OF THOSE PATHWAYS. WHEN YOU
[00:59:08] COMPARE IT TO THE VERY TOP THERE THE
[00:59:10] CRUDE TO CONVENTIONAL JET FUEL,
[00:59:13] THAT'S WHERE WE HAVE TO COMPARE
[00:59:15] OURSELVES TO. WHEN YOU LOOK AT THE TOTAL
[00:59:18] AMOUNT OF LIFE CYCLE GREENHOUSE GAS
[00:59:20] EMISSIONS, YOUR GRAMS PER CO₂ EQUIVALENT
[00:59:26] PER MEGAJOULE, THAT'S BASICALLY HOW
[00:59:29] THEY'RE LOOKING AT THAT. SO YOU CAN SEE
[00:59:31] WHERE IN SOME OF THE CASES WE DO HAVE UP
[00:59:35] TO AN 80% REDUCTION.
[00:59:39] AND THEN IF WE ALSO THEN LOOK AT CASES
[00:59:44] WHERE YOU'RE USING THAT RENEWABLE
[00:59:46] ENERGY, THEN YOU COULD HAVE EVEN
[00:59:48] GREATER. AND IN SOME CASES SOME OF THOSE
[00:59:50] ARE GOING TO BE CLAIMING AN ACTUAL
[00:59:54] NEGATIVE GREENHOUSE GAS REDUCTION,
[00:59:57] WHICH IS A REALLY GOOD THING. I ALSO
[00:59:59] WANTED TO POINT OUT TOO THAT SAF WILL
[01:00:02] BURN CLEANER, WHICH ACTUALLY REDUCES THE
[01:00:05] CONTRAILS AT HIGHER ALTITUDES. SORRY FOR
[01:00:13] THE MISSPELLING THERE, BUT YEAH, AT
[01:00:14] HIGHER ALTITUDES WE COULD ACTUALLY
[01:00:17] REDUCE CONTRAILS. OKAY, NEXT SLIDE
[01:00:20] PLEASE. AND THEN
[01:00:23] OVERALL, WHEN YOU LOOK ACROSS THE BOARD
[01:00:25] AT YOUR SOCKS AND YOUR
[01:00:29] PARTICLES THAT YOU ARE TRYING TO REDUCE,
[01:00:33] OBVIOUSLY WHEN YOU HAVE A 50% BLEND,
[01:00:36] YOU'RE ABLE TO REDUCE IT QUITE A BIT.
[01:00:38] AND THEN YOU ALSO HAVE THE OTHER CARBON
[01:00:41] MONOXIDE CARBON DIOXIDE. AND YOUR NO_x

[01:00:46] CERTAINLY HAS A PLAY IN IT, BUT IT'S
[01:00:48] MAINLY A SOX AND THE PARTICULATE MATTER
[01:00:51] THAT WE'RE TRYING TO REDUCE OVERALL WITH
[01:00:55] OUR STAFF. OKAY, NEXT SLIDE PLEASE.
[01:01:01] OKAY, SO WE CAFFEINE HAVE BEEN WORKING
[01:01:05] ACROSS THE BOARD WITH MANY PEOPLE THAT
[01:01:07] HAVE BEEN ENABLING THE EXPANSION OF THE
[01:01:10] SAP INDUSTRY. AS I MENTIONED, CERTAINLY
[01:01:13] THE AIRLINES, BUSINESS, AVIATION, AND
[01:01:16] THEN EVEN FREIGHT UPS, FEDEX, THEY'RE
[01:01:19] ALSO WORKING TO PURCHASE AND
[01:01:23] TRY TO FUND AS MUCH OF THE EXPENSES AS
[01:01:27] THEY POSSIBLY CAN. IT CERTAINLY IS A BIG
[01:01:30] PART, IS A POLICY ASPECT FROM
[01:01:34] THE INTERNATIONAL PERSPECTIVE ALL THE
[01:01:36] WAY DOWN TO THE STATE AND REGIONAL.
[01:01:38] WHEN YOU'RE LOOKING AT THAT ACROSS THE
[01:01:40] BOARD, THERE ARE A NUMBER OF DIFFERENT
[01:01:42] NONPROFITS AND OTHER COALITION GROUPS
[01:01:45] THAT ARE WORKING. LIKE FOR INSTANCE,
[01:01:47] BREAKTHROUGH ENERGY IS CERTAINLY OUT
[01:01:50] THERE AS WELL, WHICH IS NICE. AND THEN
[01:01:53] SOME PRODUCERS AND EVEN THE AIRLINES ARE
[01:01:57] ACTUALLY HELPING TO EXPAND
[01:02:01] THAT ACROSS THE BOARD. THEY REALIZE THAT
[01:02:03] THERE IS A HUGE DEMAND IN A VERY SMALL
[01:02:07] SUPPLY SO THEY KNOW THAT THEY
[01:02:11] CAN FILL IT. AND FOR SOME OF THOSE
[01:02:13] PRODUCERS THAT ARE OUT THERE,
[01:02:16] EVEN THOUGH THEY MAY NOT HAVE ANY STEEL
[01:02:18] IN THE GROUND AS OF YET, ONCE THEY DO
[01:02:22] ONCE THEY DO GET SOME SOME PRODUCTION
[01:02:24] GOING, EVERYBODY'S GOING TO GET A
[01:02:26] CONTRACT. AND THAT'S A BEAUTIFUL THING.
[01:02:28] AND THAT'S WHAT I TELL ALL OF THE PEOPLE
[01:02:30] OUT THERE PRODUCING NOW, IS THAT THERE
[01:02:32] IS NO COMPETITION. WE SHOULD HAVE A LOT
[01:02:35] OF COLLABORATION GOING ON BECAUSE
[01:02:37] EVERYBODY'S GOING TO GET A CONTRACT
[01:02:39] ACROSS THE BOARD. OKAY, NEXT SLIDE
[01:02:43] PLEASE. OKAY, SO BOTTOM
[01:02:47] LINE, YOU CAN READ THIS, I DON'T NEED TO
[01:02:49] READ IT TO YOU, BUT I WANT TO JUST POINT
[01:02:52] OUT THAT WE DO DEFINITELY THERE WITH A
[01:02:55] FOURTH MAJOR BULLET POINT DOWN. WE NEED
[01:02:57] MORE PRODUCTION QUICKLY AND BASICALLY
[01:03:01] IN ORDER TO GET TO OUR GOALS, WE NEED TO
[01:03:03] DOUBLE OUR PRODUCTION CAPACITY EACH YEAR
[01:03:06] IN ORDER TO GET THERE. AND PART OF THAT
[01:03:09] IS GOING TO BE COMING FROM THE AMOUNT OF
[01:03:12] POLICIES THAT ARE THERE TO HELPING TO
[01:03:14] BRING DOWN THAT PRICE. AND CERTAINLY
[01:03:17] THERE IS SOME CAPITAL EXPENDITURES
[01:03:21] THAT NEED TO BE PUT OUT THERE. THEY ARE
[01:03:25] WORKING ON TRYING TO REDUCE THEIR
[01:03:26] OPERATIONAL EXPENSES, TRYING TO MAKE
[01:03:29] THINGS MORE EFFICIENT AND THEN OF COURSE
[01:03:32] INCORPORATING RENEWABLE ENERGY INTO THAT
[01:03:35] OVERALL OPERATION OF THEIR PLANTS AS
[01:03:37] WELL. TOO. OKAY, NEXT SLIDE. AND I
[01:03:40] BELIEVE WE'RE OPEN FOR QUESTIONS AT THIS
[01:03:42] POINT. YEAH, FIRST I WOULD LOVE TO JUST
[01:03:45] THANK CHRIS FOR JOINING US TODAY.

[01:03:48] BEFORE WE GO INTO MORE QUESTIONS AND
[01:03:50] TAKING THE TIME TO GIVE YOU THIS
[01:03:52] HOLISTIC BACKGROUND OF WHAT'S HAPPENING
[01:03:55] WITH SUSTAINABLE AVIATION FUEL.
[01:03:58] THE NEXT SECTION BEFORE WE DO QUESTIONS,
[01:04:01] THE NEXT SECTION OF THE PRESENTATION
[01:04:03] WILL BE GOING INTO OUR COLLABORATION,
[01:04:05] RESEARCH AND POLICIES,
[01:04:08] STATE AND FEDERAL POLICIES ON WHAT WE'RE
[01:04:10] DOING TO HELP WITH THE PRODUCTION OF
[01:04:12] STAFF. BUT THIS WOULD BE A PAUSE TO ASK
[01:04:16] CHRIS OR THE TEAM ANY QUESTIONS ON WHAT
[01:04:19] YOU'VE HEARD UP UNTIL NOW.
[01:04:22] THANK YOU COMMISSIONER CALKINS AT
[01:04:27] RISK OF EXCITING THE TINFOIL HAT CROWD.
[01:04:29] I AM CURIOUS ABOUT THE CONTRAILS
[01:04:31] IMPACTS. I THINK IT WAS ACTUALLY AN
[01:04:33] ALASKA AIRLINES DOCUMENT THAT I READ AT
[01:04:37] SOME POINT ABOUT THEIR EFFORTS TO REDUCE
[01:04:40] GLOBAL WARMING THAT MENTIONED THAT
[01:04:42] CONTRAILS MIGHT BE UP TO 50% OF THE
[01:04:46] CAUSE OF WARMING. IT'S DIRECT WARMING
[01:04:48] BECAUSE IT LITERALLY IS CREATING MORE OF
[01:04:50] A GREENHOUSE EFFECT. AND I KNOW THAT THE
[01:04:53] EFFORTS INITIALLY WERE HOW DO WE PREVENT
[01:04:56] PLANES FROM CREATING CONTRAILS BECAUSE
[01:04:58] IT'S THIS PERFECT MIXTURE OF THE
[01:05:00] EMISSIONS COMING OUT OF THE TAILPIPE,
[01:05:02] BUT ALSO THE CONDITIONS IN THE AIR. AND
[01:05:05] SO IF YOU DEVIATE LOWER ALTITUDE,
[01:05:08] RAISED ALTITUDE, SOMETHING, YOU CAN
[01:05:10] USUALLY PREVENT THEM FROM HAPPENING OR
[01:05:12] STOP THEM FROM HAPPENING AT THE TIME.
[01:05:15] BUT WHAT YOU'RE TALKING ABOUT HERE IS
[01:05:17] POTENTIALLY JUST A FUEL THAT BURNS
[01:05:20] CLEANER, SO IT'S NOT PRODUCING THE
[01:05:21] PARTICULATE THAT CREATES THE DROPLETS IN
[01:05:24] THE FIRST PLACE. SO I'D LOVE TO HEAR A
[01:05:26] LITTLE BIT MORE ABOUT THAT AND HOW MUCH
[01:05:28] POTENTIAL THERE IS FOR THAT. AND THEN
[01:05:30] THE OTHER QUESTION I HAVE IS THINKING
[01:05:34] ABOUT AND THIS MIGHT GET KICKED TO THE
[01:05:37] NEXT CONVERSATION, BUT AS WE'RE THINKING
[01:05:39] ABOUT POLICY, I'M REALLY CURIOUS TO KNOW
[01:05:42] HOW MUCH POTENTIAL THERE IS FOR
[01:05:44] DIVERSION, EITHER DOMESTICALLY OR
[01:05:46] INTERNATIONALLY. IF WE TAKE A VERY
[01:05:48] STRONG POSITION AROUND USING SAF AND A
[01:05:52] COMPETING AIRPORT DOESN'T, ARE WE GOING
[01:05:55] TO LOSE COMMERCIAL VIABILITY
[01:05:58] BECAUSE, HEY, I CAN BUY MY JET FUEL
[01:06:01] CHEAPER THERE, AND SO THEREFORE I'M
[01:06:03] GOING TO CHOOSE A ROUTE THERE OR I'M NOT
[01:06:04] GOING TO FILL UP OR I'M ONLY GOING TO
[01:06:06] FILL UP WHAT I NEED. AND SO THEREFORE,
[01:06:07] WE END UP JUST SORT OF PUSHING THE
[01:06:09] PROBLEM AWAY, AS WE'VE SEEN ON THE
[01:06:12] MARITIME SIDE WITH SOME OF OUR
[01:06:13] ENVIRONMENTAL INITIATIVES.
[01:06:16] SO LET ME ANSWER, OR ATTEMPT TO ANSWER
[01:06:20] THE QUESTION, THE LAST ONE FIRST, AND
[01:06:22] THAT IS WHEN YOU'RE TALKING ABOUT
[01:06:24] COMPETITION, WHEN YOU'RE TALKING ABOUT

[01:06:26] ESPECIALY FOR INTERNATIONAL AVIATION,
[01:06:29] THINK ABOUT THE AIRPORTS THAT ARE AROUND
[01:06:31] YOU. VANCOUVER CERTAINLY IS
[01:06:35] ONE OF THOSE. AND I COULD TELL YOU THAT
[01:06:37] BRITISH COLUMBIA AND CANADA WRITE LARGE
[01:06:40] IS WORKING ON SUSTAINABLE AVIATION FUEL
[01:06:43] INITIATIVES ALSO. AND BRITISH
[01:06:47] COLUMBIA DOES HAVE A LOW CARBON FUEL
[01:06:50] PROGRAM THAT CERTAINLY IS VERY HELPFUL.
[01:06:53] AND SO THEY ARE NOT KICKING IT
[01:06:56] DOWN THE ROAD OR THEY'RE NOT SAYING, OH
[01:06:58] YEAH, WE'RE NOT GOING TO DO THAT. THEY
[01:07:00] ARE ACTUALLY TAKING THAT ON FIRSTHAND.
[01:07:05] AND I THINK THAT MOST OF THE DOMESTIC
[01:07:08] AIRPORTS ARE REALLY LOOKING AT THIS
[01:07:11] REALLY HARD, AND THEY'RE
[01:07:15] LOOKING AT IT FROM THE STANDPOINT THAT
[01:07:18] YOU HAVE TO REMEMBER THAT THE AIRLINES
[01:07:20] ARE THE ONES ULTIMATELY PAYING FOR THEIR
[01:07:22] JET FUEL, AND SO THEY'RE THE ONES WHO
[01:07:24] ARE PAYING FOR THE STAFF AND ANY DELTA
[01:07:27] THAT MAY BE THERE. AND THEY'VE ALL
[01:07:30] SOMEWHAT COMMITTED TO THAT. AND THE ONES
[01:07:33] THAT YOU MENTIONED AND WE'VE MENTIONED
[01:07:35] ALREADY, UNITED, ALASKA,
[01:07:37] DELTA, AMERICAN, ALL THE MAJOR AIRLINES
[01:07:42] ARE ACTUALLY SAYING AND HAVE ALREADY
[01:07:46] DONE SOME OFFTAKE AGREEMENTS WITH SOME
[01:07:48] OF THE TECHNOLOGY PROVIDERS THAT ARE OUT
[01:07:50] THERE. SO I THINK THAT'S CERTAINLY GOOD.
[01:07:52] IN RELATION TO YOUR QUESTION ABOUT
[01:07:55] CONTRAILS, THE AMOUNT OF
[01:07:59] PARTICULATES COMING OUT OF THE TAILPIPE
[01:08:00] CERTAINLY ARE THE MAJOR PART OF THAT.
[01:08:02] AND YES, IF YOU HAVE A SYNTHETIC
[01:08:04] HYDROCARBON THAT BAKE IS BASICALLY
[01:08:08] MAKING FROM THE GROUND UP,
[01:08:11] THEY ARE CLEANER, AND SO THEY'RE CLEANER
[01:08:14] BURNING AND SO YOU WOULD HAVE LESS
[01:08:16] CONTRAILS. CAN WE ELIMINATE THEM
[01:08:18] COMPLETELY? PERSONALLY, I DON'T THINK
[01:08:21] SO. IT DEPENDS ON THE ATMOSPHERE THAT
[01:08:23] YOU'RE FLYING THROUGH. IT DEPENDS ON THE
[01:08:25] ALTITUDE OF THE JET STREAM, ET CETERA,
[01:08:27] ET CETERA. SO ELIMINATING THEM
[01:08:30] COMPLETELY USING SAF? NO, I DON'T THINK
[01:08:34] THAT'S AND I DON'T WANT TO BE I DON'T
[01:08:37] WANT TO BE WRONG ON THAT. BUT IT WILL
[01:08:39] REDUCE IT GO TO ZERO? I DON'T THINK SO.
[01:08:44] COMMISSIONER FELLEMAN. THANKS AGAIN.
[01:08:48] I'M LOOKING AT THE GRAPHIC ON PAGE,
[01:08:53] HARD TO READ THE ONE THAT SHOWS THE
[01:08:56] LIFECYCLE OF GHG REDUCTIONS WITH CEPH.
[01:09:01] THE ONE WITH THE RED CIRCLE? YES. TWO
[01:09:03] THINGS OF QUESTION. ONE IS. WHERE IS
[01:09:06] MSW? AND THE OTHER ONE IS WHY IS ALGAE
[01:09:10] SO INTENSE?
[01:09:18] I DON'T KNOW WHY MSW IS NOT ON HERE
[01:09:21] UNLESS I'M MISSING IT. THE REASON FOR
[01:09:24] THE ALGAE IS THAT WE
[01:09:27] KNOW THAT WHEN YOU ARE PRODUCING ALGAE
[01:09:31] AND THE ALGAE OIL, THE AMOUNT OF ACTUAL
[01:09:34] CRUDE ALGAE OIL THAT YOU'RE GETTING PER

[01:09:37] ACRE IS QUITE HIGH COMPARED TO AN OIL
[01:09:41] FEEDSTOCK LIKE CAMELAN OR CARINATA.
[01:09:45] THE PROBLEM THAT YOU GET WHEN YOU GO TO
[01:09:47] HIGHER AND HIGHER SCALES, ESPECIALLY
[01:09:49] WHEN YOU'RE LOOKING AT PATHWAYS OR THE
[01:09:55] ACTUAL PATHWAYS
[01:09:59] THAT THEY'RE GROWING THE ALGAE IN,
[01:10:01] THAT'S SUBJECT TO A LOT OF PESTS
[01:10:05] BIRDS. AND SO YOU YOU HAVE TO WORRY
[01:10:09] ABOUT THOSE PARTICULAR PATHWAYS BECOMING
[01:10:13] JUST BECOMING A PROBLEM
[01:10:17] FOR GETTING OUT ALL OF THE STUFF THAT'S
[01:10:20] GOING IN THERE BECAUSE IT'S STUFF THAT
[01:10:22] MAY FALL OUT OF THE SKY. IF YOU'RE
[01:10:24] TALKING ABOUT AN OPEN POND PATHWAY, IN
[01:10:27] SOME CASES THEY'RE USING PLASTIC
[01:10:31] BAGS AND THEY'RE USING THAT.
[01:10:33] THE OTHER PROBLEM WITH ALGAE IS YOU
[01:10:37] DO HAVE TO HAVE A CO2 SOURCE IN ORDER TO
[01:10:40] HELP FOR THE ALGAE TO GROW.
[01:10:43] SO IN SOME CASES I SAW IN JAPAN,
[01:10:46] THEY'RE LOCATING THEM NEXT TO A POWER
[01:10:48] PLANT AND THEY'RE USING THOSE POWER
[01:10:50] PLANT GASES IN ORDER TO FEED THE ALGAE
[01:10:53] POND AND THEREFORE GROW SOME ALGAE,
[01:10:57] WHICH IS A GOOD THING. BUT YES, IT'S A
[01:10:58] VERY WIDE RANGE. YOU'RE EXACTLY RIGHT,
[01:11:01] BUT IT JUST DEPENDS ON HOW THEY'RE
[01:11:03] GETTING THAT ALGAE OIL. I CAN'T HELP BUT
[01:11:07] ACKNOWLEDGE THE IRONY OF NEEDING THE CO2
[01:11:09] TO PRODUCE THE CEPH. DO YOU
[01:11:13] HAVE ANY GUESS THERE ABOUT WHERE MSW
[01:11:15] WOULD FIT INTO THAT CURVE? I CAN
[01:11:19] SPEAK TO THAT BRIEFLY. JUST THINKING
[01:11:21] ABOUT THE CARBON INTENSITY SCORE THAT I
[01:11:24] KNOW THAT FULCRUM HAS APPLIED WHEN
[01:11:26] THEY'VE BEEN PUTTING IN APPLICATIONS FOR
[01:11:29] THEIR CARBON INTENSITY SCORE FOR THE LOW
[01:11:31] CARBON FUEL STANDARD. AGAIN,
[01:11:34] THE PROCESS IS AN ISSUE HERE.
[01:11:37] THE MORE YOU CAN GET ALL OF THE PLASTICS
[01:11:39] OUT AND ANYWAYS, PLASTICS THAT HELPS
[01:11:42] YOUR CARBON INTENSITY SCORE. SO THEY
[01:11:44] HAVE APPLIED FOR I THINK A CARBON
[01:11:46] INTENSITY SCORE THAT IS IN THE 75%
[01:11:49] REDUCTION RANGE.
[01:11:52] AGAIN, EVERY FACILITY DEPENDING ON HOW
[01:11:55] CLOSE THE FEEDSTOCK IS, WHETHER THEY CAN
[01:11:58] GET ALL THE PLASTICS OUT, WHETHER THEY,
[01:12:00] YOU KNOW, WHERE IT ALL COMES FROM,
[01:12:01] IMPACTS THAT SCORE, HOW MUCH
[01:12:03] TRANSPORTATION, BUT FROM MY
[01:12:05] UNDERSTANDING OF FULCRUM'S APPLICATION
[01:12:07] IT'S IN THAT 75% REDUCTION RANGE. AND I
[01:12:09] DON'T KNOW CHRIS, IF YOU'VE GOT MORE TO
[01:12:11] ADD TO THOSE SCORES, YEAH,
[01:12:14] I THINK THAT'S CORRECT FOR SURE. AND
[01:12:19] WE'LL MAKE SURE WE GET ACCURATE DATA ON
[01:12:22] THIS ONE FOR FUTURE, BUT THANK YOU.
[01:12:27] I THINK PROBABLY OUR FOLLOWING
[01:12:28] CONVERSATION IS GOING TO BE A LOT ABOUT
[01:12:29] PRICE AND THINGS LIKE THIS.
[01:12:32] BUT WHAT I UNDERSTAND IS THAT IN THE

[01:12:35] COURSE OF PRODUCING SAF YOU'RE PRODUCING
[01:12:38] RENEWABLE DIESEL WHICH IS MORE THE
[01:12:39] PROFIT CENTER. AND THAT IF THERE WAS A
[01:12:45] LARGE UPTAKE AGREEMENT TO MEET THIS
[01:12:47] DEMAND THAT THE DIESEL COULD HELP GET
[01:12:51] THE NET COST DOWN. AND I WAS JUST
[01:12:53] WONDERING HOW MUCH POLICIES
[01:12:57] HAVE BEEN DEVELOPED, HOW MUCH AIRLINES
[01:13:00] HAVE BEEN ACTUALLY TAKING ADVANTAGE OF
[01:13:01] THE POLICIES THAT HAVE BEEN DEVELOPED AS
[01:13:05] WELL AS DOING THIS COMBINATION OF
[01:13:07] RENEWABLE DIESEL AS WELL AS SAF. SO I
[01:13:10] MIGHT ASK THAT WE HOLD THAT QUESTION
[01:13:13] BECAUSE I THINK WE'RE GOING TO START
[01:13:14] GETTING INTO QUESTIONS RELATED TO THE
[01:13:16] NEXT SET OF PRESENTATIONS. COMMISSIONER
[01:13:18] MOHAMED. THANK YOU. I HAVE A QUICK
[01:13:20] QUESTION. THIS IS ONE THAT I FEEL LIKE
[01:13:22] OFTEN COMES UP. THE COMPREHENSIVE
[01:13:24] ANALYSIS THAT'S CONSIDERED FOR THE
[01:13:25] ENTIRE SUPPLY CHAIN. IS THAT, CHRIS,
[01:13:29] SOMETHING THAT YOU GUYS ARE LOOKING INTO
[01:13:31] OR TRACKING? WHAT THE TRANSPORTATION
[01:13:33] METHODS ARE WHEN EMPLOYED,
[01:13:37] THE FEEDSTOCK DELIVERY, WHAT ARE THE
[01:13:40] ASSOCIATED EMISSION OR ENVIRONMENTAL
[01:13:42] CONSIDERATION THAT'S GIVEN THERE
[01:13:46] CERTAINLY YEAH, WE'RE NOT NECESSARILY
[01:13:48] TRACKING THAT, BUT EACH INDIVIDUAL
[01:13:49] COMPANY DOES DO THAT BECAUSE THEY KNOW
[01:13:52] THAT IT'S GOING TO HARM THEIR PARTICULAR
[01:13:56] CARBON INTENSITY SCORE. SO IN A LOT OF
[01:13:59] CASES WITH WOOD WASTE AND WOOD PRODUCTS
[01:14:04] THEY WANT TO SORT OF PUT THEIR
[01:14:06] BIOREFINERY IN AN AREA THAT IS WHERE
[01:14:10] THEY'RE ABLE TO GET TO FEEDSTOCKS AND
[01:14:13] YOU SORT OF DRAWING A CIRCLE, MAYBE IT
[01:14:15] HAS ABOUT A 35 MILES RADIUS AND SO ALL
[01:14:19] OF THE DIFFERENT WOOD COMES FROM THAT
[01:14:21] PARTICULAR CIRCLE, AS IT WERE.
[01:14:25] AND SO YOU ALSO WANT TO MAKE SURE YOU'RE
[01:14:27] CLOSE TO A RAIL LINE SO THAT YOU COULD
[01:14:30] ACTUALLY GET SOME OF THAT WOOD PRODUCTS
[01:14:34] IN VIA RAIL. AND THEN ONCE YOU'RE
[01:14:37] ACTUALLY PRODUCING THE FUEL, YOU'RE
[01:14:39] PUTTING IT ON A RAIL CAR AND YOU'RE
[01:14:41] SHIPPING IT OUT TO AN AIRPORT OR
[01:14:45] TO THE PIPELINE SOMEWHERE. SO THEY DO
[01:14:48] LOOK AT THAT. YES. AND COMMISSIONER
[01:14:50] MOHAMMED, ONE POINT OF CLARIFICATION IS
[01:14:52] THAT THAT CARBON INTENSITY SCORE THAT WE
[01:14:54] TALKED ABOUT, THAT IS THE REGULATORY
[01:14:57] MECHANISM THAT THE PRODUCERS USE TO
[01:14:59] GENERATE THE FINANCIAL CREDITS. AND SO
[01:15:03] THAT CARBON INTENSITY SCORE METHODOLOGY
[01:15:06] IS SET DOWN IN REGULATION LIKE IN THE
[01:15:08] LOW CARBON FUEL STANDARD OR IN OUR CLEAN
[01:15:10] FUEL STANDARD. SO THERE IS A WHOLE
[01:15:12] AUDITING PROCEDURE FOR MAKING SURE THAT
[01:15:14] EACH PART OF THAT. CARBON INTENSITY
[01:15:16] SCORE PATHWAY IS FOLLOWING THAT
[01:15:18] PROCEDURE AND ENSURING THAT THEY CAN'T
[01:15:20] QUALIFY FOR THOSE INCENTIVES UNTIL ALL

[01:15:23] OF THAT IS MET. AND THEN I JUST HAVE ONE
[01:15:26] QUICK QUESTION FOR SANDRA, STEPHANIE,
[01:15:28] AND SARAH.
[01:15:34] IF OTHER AIRPORTS AREN'T NECESSARILY
[01:15:37] PROVIDING STAFF, THEN ARE OUR STAFF
[01:15:42] USE GOALS AND OUR REDUCTIONS
[01:15:44] CALCULATIONS BASED UPON OUTGOING FLIGHTS
[01:15:47] ONLY BECAUSE WE'RE FUELING UP HERE AT
[01:15:50] SCA? YES. SO THE WAY THAT THE
[01:15:55] CALCULATIONS RELATE TO THE INVENTORY
[01:15:57] THAT I SHOWED AT THE VERY BEGINNING OF
[01:15:59] OUR PRESENTATION, THAT'S ALL BASED ON
[01:16:02] EMISSIONS ASSOCIATED WITH OUR AIRPORT
[01:16:04] AND FUELING UPLIFTED HERE. SO IF YOU
[01:16:07] FUELED IN LOS ANGELES AND LANDED HERE ON
[01:16:09] SAF, IT DOESN'T GET COUNTED IN OUR
[01:16:11] SCORE. AND WE'RE ACTUALLY WORKING WITH
[01:16:13] AN INTERNATIONAL GROUP OF AIRLINES,
[01:16:15] AIRPORTS SORRY TO TALK ABOUT HOW
[01:16:17] AIRPORTS ARE REFLECTING THIS IN THE
[01:16:19] INVENTORIES, BECAUSE, AGAIN, WE DON'T
[01:16:21] OWN OR CONTROL THOSE EMISSIONS. SO WE'RE
[01:16:23] TALKING ABOUT WHAT THE RIGHT PATHWAY IS
[01:16:26] OR WHAT THE RIGHT METHODOLOGY IS TO
[01:16:27] ALLOCATE. AND RIGHT NOW, IT'S BASED ON
[01:16:30] WHAT IS FUELED HERE AND TO BE ABLE TO
[01:16:32] SHARE INFORMATION WITH EACH OTHER SO
[01:16:35] THAT WE REALLY HAVE A BETTER IDEA OF OUR
[01:16:37] EMISSIONS REDUCTIONS FOR BOTH OUTGOING
[01:16:40] AND INCOMING FLIGHTS. OKAY. WE'VE GOT A
[01:16:43] LOT TO GET THROUGH AND NOT A LOT OF TIME
[01:16:44] TO GET THROUGH, RIGHT? THANK YOU,
[01:16:46] CHRIS, FOR JOINING US. THANK YOU,
[01:16:47] CHRIS. WELCOME. AND I'LL BE HERE.
[01:16:51] I'LL JUST BE IN THE BACKGROUND, BUT I'LL
[01:16:53] LISTEN IN FOR THE WHOLE THING. THANK YOU
[01:16:55] AGAIN. ALL RIGHT, SO NEXT SLIDE.
[01:16:58] SO I WILL TRY AS QUICKLY AS POSSIBLE TO
[01:17:01] REVIEW THE PORT'S ROLE AND THE STRATEGIC
[01:17:05] PLAN. AS COMMISSIONER HASAGAWA POINTED
[01:17:07] OUT, WE DON'T OWN OR CONTROL THESE
[01:17:09] SOURCES. SO HOW DO WE, AS AN AIRPORT
[01:17:11] PLAY A ROLE HERE? AND SO GIVEN THE
[01:17:15] SUPPLY AND PRICE ISSUES THAT YOU'VE JUST
[01:17:17] HEARD ABOUT FROM CHRIS'S PRESENTATION,
[01:17:19] WHAT IS OUR ROLE? AND JUST FOR A WAY OF
[01:17:22] BACKGROUND FOR THOSE COMMISSIONER WHO
[01:17:24] WEREN'T HERE PRIOR TO 2015,
[01:17:27] REALLY, IN THE EARLY HISTORY OF THIS
[01:17:29] AIRPORT, WE WERE PARTS OF DIFFERENT
[01:17:31] GROUPS THAT WERE STUDYING THIS TOPIC AND
[01:17:33] SAYING, WE'RE INTERESTED IN IT. WE HAVE
[01:17:35] THE BENEFIT OF AIRLINES LIKE ALASKA,
[01:17:38] WHO WERE EARLY PARTNERS IN THIS, AND
[01:17:41] BOEING AND OTHERS IN OUR BACKYARD. SO
[01:17:44] WE'VE STARTED MAYBE IN A ROLE OF SAYING,
[01:17:46] WELL, WE REALLY LIKE THIS STUFF. WE WANT
[01:17:48] MORE OF IT, BUT WHAT DO WE DO? AND SO IN
[01:17:51] 2015, WE SHIFTED MORE TO REALLY
[01:17:54] LEANING INTO THE ECONOMIC DEVELOPMENT
[01:17:56] PART OF THE PORT'S MISSION TO SAY,
[01:17:58] WELL, WHAT COULD WE DO TO SHIFT TO A
[01:18:00] MARKET DEVELOPMENT ROLE? ARE THERE

[01:18:01] THINGS THAT WE CAN DO THAT ARE MORE
[01:18:04] SUPPORTIVE AND HELPED BRING MORE OF THIS
[01:18:07] INDUSTRY HERE TO WASHINGTON STATE? NEXT
[01:18:10] SLIDE. SO AS PART OF
[01:18:13] THAT, WE STARTED AN EXPLORATION IN 2015
[01:18:16] OF SAYING, WELL, WHAT ARE THE DIFFERENT
[01:18:18] BUCKETS OF ROLES THAT THE PORT WITHIN
[01:18:21] OUR REGULATORY AUTHORITY KNOWING? WE
[01:18:23] DON'T BUY THIS FUEL, WE DON'T CONTROL
[01:18:25] ANY OF THIS. WHAT CAN WE DO IN THE SPACE
[01:18:28] THAT WE OCCUPY. AND SO ONE, OF COURSE,
[01:18:30] IS LOOKING AT INFRASTRUCTURE
[01:18:32] INTEGRATION. AS CHRIS MENTIONED,
[01:18:35] YOU DON'T HAVE THE SAF COMING FROM THE
[01:18:38] SAME SOURCES AS THE REFINERIES. SO HOW
[01:18:41] DO WE INTEGRATE IT? IS THERE SOMETHING
[01:18:42] WE CAN DO TO HELP WITH STORAGE,
[01:18:44] RECEIVING AND BLENDING? THEN THERE'S THE
[01:18:46] INCREMENTAL COST ISSUE. ARE THERE
[01:18:48] THINGS, ARE THERE POLICIES WE CAN
[01:18:49] SUPPORT TO BRING DOWN THE COST? ARE
[01:18:51] THERE OTHER INNOVATIVE PROGRAMS THAT WE
[01:18:53] CAN HELP WITH? AND THEN FINALLY
[01:18:55] ATTRACTING SAF PRODUCTION FACILITIES TO
[01:18:58] THE STATE? THAT WAS REALLY WELL. IS
[01:18:59] THERE SOME ROLE WE CAN PLAY IN HELPING
[01:19:02] TO DEVELOP THE INDUSTRY HERE? AND I'LL
[01:19:05] TALK A LITTLE BIT MORE ABOUT THAT AS I
[01:19:07] DIVE IN. NEXT SLIDE. SO,
[01:19:10] AS PART OF THOSE MAJOR QUESTIONS, THOSE
[01:19:13] MAJOR BUCKETS, WE DID SOME FOUNDATIONAL
[01:19:15] RESEARCH THAT REALLY SORT OF KICKED OFF
[01:19:16] IN 2016, THE FIRST ONE BEING AN
[01:19:20] INFRASTRUCTURE FEASIBILITY STUDY TO LOOK
[01:19:22] AT HOW BEST TO INTEGRATE ANY DELIVERY OF
[01:19:25] SAF AND BLENDING INTO THE PIPELINE SO
[01:19:28] THAT IT CAN GET HERE AS EFFECTIVELY AND
[01:19:29] EFFICIENTLY AS POSSIBLE. THAT
[01:19:31] FEASIBILITY STUDY WAS THE FIRST OF ITS
[01:19:33] KIND AND HAS NOW BEEN DUPLICATED OR
[01:19:36] COPIED AT OTHER AIRPORTS BECAUSE IT SORT
[01:19:38] OF REALLY SET THE TONE FOR HOW AN
[01:19:40] AIRPORT COULD HELP FACILITATE ANSWERING
[01:19:43] SOME OF THOSE QUESTIONS. THEN WE ALSO
[01:19:46] WERE PART OF A STUDY LOOKING AT
[01:19:47] INNOVATIVE FUNDING FOR STAFF AT US.
[01:19:50] AIRPORTS. WE HAVE MORE RESTRICTIONS
[01:19:53] AS FAA FEDERAL REGULATED FACILITIES
[01:19:57] AND ALSO AS A PORT COMPARED TO
[01:20:01] MAYBE IN EUROPE WHERE YOU HAVE A PRIVATE
[01:20:03] AIRPORT. THEY CAN PLAY A DIFFERENT
[01:20:05] FINANCIAL ROLE THAN WE CAN. SO WE DID
[01:20:07] SOME FOUNDATIONAL WORK TO UNDERSTAND,
[01:20:08] WITHIN THE LIMITS OF OUR AUTHORITY,
[01:20:10] WHAT ROLE CAN WE PLAY FINANCIALLY. NEXT
[01:20:13] SLIDE. SO THAT REALLY LED TO, IN 2018,
[01:20:17] THE ADOPTION OF THE PORT'S SAF STRATEGY
[01:20:20] THAT HAD FOUR KEY COMPONENTS. AND WHAT
[01:20:23] I'LL DO IN THE INTEREST OF TIME, I'LL
[01:20:24] WALK THROUGH THE MAJOR UPDATES IN THESE
[01:20:26] FOUR AREAS. I WILL POINT OUT WE HAVE A
[01:20:29] SPECIAL DEEP DIVE INTO THE POLICY SIDE
[01:20:31] OF THINGS BECAUSE I KNOW THAT'S WHERE

[01:20:32] COMMISSIONERS HAVE BEEN INCREDIBLY
[01:20:34] SUPPORTIVE AND ARE ALSO LOOKING FOR MORE
[01:20:36] INFORMATION ABOUT WHAT ELSE WE CAN DO IN
[01:20:38] THAT SPACE. SO I'LL QUICKLY WALK THROUGH
[01:20:40] THOSE KEY COMPONENTS AND THEN HAND IT
[01:20:42] OVER TO THE DEEP DIVE ON POLICY. NEXT
[01:20:45] SLIDE. SO, IN THE SPACE
[01:20:49] OF COOPERATION AND PARTNERSHIPS, ALSO IN
[01:20:51] 2018 WAS THE FOUNDATION OF THE AIRLINE
[01:20:53] AIRPORT MOU GROUP. AND THERE THERE WERE
[01:20:56] AIRLINES WHO SIGNED ON TO AN MOU TO LOOK
[01:20:59] AT WHAT DIFFERENT STRATEGIES WE COULD DO
[01:21:01] TO REDUCE GREENHOUSE GAS EMISSIONS AND
[01:21:04] REACH THOSE SAF GOALS THAT YOU HEARD
[01:21:06] ABOUT AT THE BEGINNING OF OUR
[01:21:08] PRESENTATION. AND SO WITH THAT GROUP,
[01:21:11] WE EVALUATED THE ABILITY TO MEET LOCAL
[01:21:15] AND REGIONAL FUEL GOALS AND FIND OUT,
[01:21:18] WELL, DO WE HAVE ENOUGH FEEDSTOCKS IN
[01:21:20] THE PACIFIC NORTHWEST, IN THIS GENERAL
[01:21:22] REGION TO MEET THE SAF GOAL OF 10% AND
[01:21:26] INCREASING PERCENTAGES? SO WE WORKED
[01:21:28] WITH WSU TO DO A FOUNDATIONAL STUDY AND
[01:21:31] LOOK AT WHAT WE HAVE AVAILABLE. AND ONE
[01:21:34] OF THE FINDINGS OF THAT STUDY WAS THAT
[01:21:37] WE HAVE A SIGNIFICANT AMOUNT OF
[01:21:38] MUNICIPAL SOLID WASTE IN THIS REGION TO
[01:21:41] ACTUALLY JUST WITH THAT FEEDSTOCK ALONE
[01:21:43] TO MEET THE SAF GOAL THAT WE HAVE HERE
[01:21:45] AT THE AIRPORT. AND SO STEMMING OUT
[01:21:49] OF THAT WITH COMMISSIONER FELOMAN'S
[01:21:51] LEADERSHIP, HE APPROACHED THE KING
[01:21:52] COUNTY SOLID WASTE DIVISION KNOWING THAT
[01:21:54] THEY HAVE ISSUES WITH THE IMMINENT
[01:21:57] CLOSURE OF THE CEDAR HILLS LANDFILL TO
[01:21:59] DO A MUNICIPAL SOLID WASTE TO LIQUIDS.
[01:22:01] TECHNOECONOMIC FEASIBILITY STUDY AND THE
[01:22:05] RESULTS OF THAT STUDY WILL BE COMPLETED
[01:22:08] THIS YEAR AND WE HOPE IN THE NEXT COMING
[01:22:10] MONTHS TO BE ABLE TO BRIEF YOU ON THE
[01:22:11] FINDINGS OF THAT STUDY. AND THEN
[01:22:14] FINALLY, ANOTHER PARTNERSHIP THAT HAS
[01:22:17] EVOLVED RECENTLY IS THE CASCADIA
[01:22:18] CORRIDOR WHERE WE HAVE SIGNED AN MOU
[01:22:21] WITH PORTLAND AIRPORT AND VANCOUVER
[01:22:23] AIRPORT BECAUSE WE ACTUALLY RECEIVE
[01:22:27] REFINED JET FUEL, FOSSIL JET FUEL FROM A
[01:22:30] LOT OF SIMILAR FACILITIES OR SAME
[01:22:32] FACILITIES. WHAT OPPORTUNITIES DO WE
[01:22:36] HAVE WITH PARTNERSHIP AND SHARED
[01:22:37] PIPELINE THAT WE MIGHT BE ABLE TO DO
[01:22:39] AROUND SUSTAINABLE AVIATION FUEL? SO
[01:22:40] I'LL HAVE AN UPDATE ON THAT SHORTLY.
[01:22:43] NEXT SLIDE. BEFORE I DIVE MUCH
[01:22:47] DEEPER INTO THE SORT OF POLICY AND SOME
[01:22:49] OF THE MARKET MECHANISMS, ONE THING I
[01:22:51] JUST WANTED TO COVER IS THIS IDEA OF THE
[01:22:53] DIFFERENT MECHANISMS THAT WE CAN USE AND
[01:22:55] THAT WE HAVE BEEN PURSUING TO HELP LOOK
[01:22:59] AT WHAT WAYS THE PRICE GAP CAN BE
[01:23:01] ADDRESSED. SO THIS REPRESENTATIVE BARREL
[01:23:05] IS THE THE FRACTIONS IN IT ARE NOT MEANT
[01:23:07] TO BE REPRESENTATIVE OF SPECIFIC VALUES

[01:23:09] AND POLICIES, BUT TO JUST GIVE YOU A
[01:23:10] SENSE OF IT. AND SO WHEN WE LOOK AT THE
[01:23:13] TOTAL COST OF SAF, THAT'S WHAT THIS
[01:23:15] ENTIRE BARREL IS REPRESENTING. BUT THE
[01:23:20] BLUE IS JUST SHOWING BASICALLY WHAT THE
[01:23:22] REGULAR COST OF JET FUEL IS OR WHAT AN
[01:23:24] AIRLINE WOULD TYPICALLY PAY FOR FUEL.
[01:23:26] SO WHAT DO WE DO TO BRING THAT COST
[01:23:28] DOWN? WHAT ARE THE DIFFERENT MECHANISMS?
[01:23:30] SO WE'VE DEFINITELY LOOKED AT POLICY
[01:23:32] INCENTIVES LIKE THE RENEWABLE FUEL
[01:23:36] STANDARDS OR CLEAN FUEL STANDARDS AS
[01:23:38] WELL AS SUPPORTING THE FEDERAL BLENDEES
[01:23:39] TAX CREDIT. THEN THERE ARE OTHER
[01:23:42] MECHANISMS THAT WE CALL CORPORATE OR
[01:23:44] AIRPORT CONTRIBUTIONS WHICH ARE SEPARATE
[01:23:46] FROM POLICY BUT CAN BE FINANCIAL
[01:23:49] INSTRUMENTS THAT COULD BE USED TO HELP
[01:23:50] BRING DOWN THE COST. THOSE POLICY
[01:23:53] INCENTIVES THAT YOU SEE AT THE TOP,
[01:23:55] THOSE ARE RECEIVED BY THE FUEL PRODUCER
[01:23:58] SO THEY EARN THOSE CREDITS AND THEN
[01:24:01] THAT CAN GET TRANSLATED INTO THE FINAL
[01:24:03] COST THAT THEY SELL TO THE AIRLINES.
[01:24:06] BUT WE DON'T HAVE TRANSPARENCY
[01:24:07] NECESSARILY INTO THE EXACT AMOUNT THAT
[01:24:10] IT RESULTS IN, IN THE FINAL PRICE. BUT
[01:24:11] WE KNOW THAT THEY USE THOSE MECHANISMS
[01:24:13] TO REDUCE THE FINAL PRICE. THE CORPORATE
[01:24:16] CONTRIBUTIONS AND AIRPORT CONTRIBUTIONS
[01:24:18] I'LL TALK A LITTLE BIT MORE ABOUT, BUT
[01:24:20] THESE ARE MARKET MECHANISMS THAT LOOK AT
[01:24:23] THE VALUE TO CORPORATIONS, FOR EXAMPLE,
[01:24:25] WHO FLY THEIR EMPLOYEES ON THOSE
[01:24:28] AIRLINES OR MIGHT SHIP PRODUCTS IN THE
[01:24:30] BELLY CARGO OF THE AIRLINE AND SAY WE
[01:24:33] WOULD LIKE THOSE TO BE FUELED ON SAF.
[01:24:35] AND SO IS THERE A MARKET INSTRUMENT WE
[01:24:36] CAN USE TO INCENTIVIZE TO SAY WE AS A
[01:24:39] CORPORATION WOULD LIKE TO ADD TO THIS
[01:24:41] PRICING BUCKET AND BE ABLE TO BUY DOWN
[01:24:44] THE EMISSION CONTRIBUTION OF THOSE
[01:24:47] PRODUCTS OR THOSE PASSENGERS TRAVELING.
[01:24:50] AND THEN WE'VE ALSO LOOKED AT WHETHER
[01:24:52] AIRPORTS CAN ALSO PLAY A ROLE IN THOSE
[01:24:53] MARKET MECHANISMS AND WHETHER THERE ARE
[01:24:55] GRANTS OR THINGS WE CAN DO WITH OUR
[01:24:57] FEDERAL PARTNERS TO HELP INCENTIVIZE.
[01:24:59] NOW WE KNOW THAT IN EUROPEAN PRIVATE
[01:25:02] SECTOR AIRPORTS THEY'RE ABLE TO DIRECTLY
[01:25:04] FUND SAF, BUT THAT IS NOT SOMETHING
[01:25:06] WITHIN OUR LEGAL AUTHORITY. NEXT SLIDE.
[01:25:11] SO WE DO HAVE THE DEEP DIVE ON POLICY,
[01:25:14] BUT I DID WANT TO JUST TALK A LITTLE BIT
[01:25:16] ABOUT THE LANDSCAPE CHANGES IN POLICY
[01:25:18] THAT HAVE HAPPENED SINCE I LAST BRIEFED
[01:25:20] THE COMMISSION IN 2020. BUT WHAT WE HAVE
[01:25:22] REALLY SEE, AND COMMISSIONER FELLEMAN,
[01:25:24] YOU MENTIONED THIS, IS THAT THE EU, AND
[01:25:26] ACTUALLY JAPAN JUST ANNOUNCED IT AS
[01:25:28] WELL, IS TAKING THIS MANDATE APPROACH
[01:25:30] AND BASICALLY SAYING WE NEED A SUPPLY
[01:25:34] BLEND OF 2% BY 2025 AND THEN INCREASING

[01:25:37] THAT OVER TIME. SO THAT'S A REGULATORY
[01:25:40] MECHANISM THAT THEY'RE JUST SAYING THIS
[01:25:42] IS WHAT WE WANT AND THIS IS THE MANDATE.
[01:25:44] THE US IN TYPICAL FASHION HAS TAKEN MUCH
[01:25:48] MORE OF AN INCENTIVE APPROACH AND WE
[01:25:50] HAVE STATES CONTRIBUTING TO THOSE
[01:25:51] INCENTIVES WITH THINGS LIKE THE LOW
[01:25:53] CARBON FUEL STANDARD AS WELL AS SPECIFIC
[01:25:56] SAF INCENTIVE BILLS. AND THEN THE
[01:25:58] FEDERAL GOVERNMENT REALLY TO MATCH WITH
[01:26:02] THEIR SAF GRAND CHALLENGE TO INCENTIVIZE
[01:26:04] THE 30 BILLION GALLONS, SORRY, THE 3
[01:26:07] BILLION GALLONS THAT WE NEED. THEY HAVE
[01:26:09] INTRODUCED THE BLENDED TAX CREDIT AS
[01:26:11] WELL AS THINGS TO HELP PRODUCTION. SO A
[01:26:13] LOT OF THE INCENTIVES HERE, THEY REALLY
[01:26:16] HAVE TO BE STACKED TOGETHER IN ORDER TO
[01:26:18] BRING THOSE PRICES DOWN. BUT THEY'RE
[01:26:19] FOCUSED ON BOTH PRODUCTION AND USE AND
[01:26:22] WE'LL DIVE DEEPER INTO THAT MOMENTARILY.
[01:26:24] NEXT SLIDE PLEASE.
[01:26:28] THEN THE UPDATE IN THE MARKET
[01:26:29] DEVELOPMENT SIDE, AND THIS IS WHAT I WAS
[01:26:31] SPEAKING ABOUT WITH CORPORATIONS BEING
[01:26:34] CONTRIBUTING, IS THAT WHAT WE'VE REALLY
[01:26:36] SEEN AND IN FACT, AT OUR LAST SAF STUDY
[01:26:39] SESSION, WE HAD AN ANNOUNCEMENT FROM
[01:26:42] MICROSOFT THAT THEY WERE THE FIRST TO
[01:26:44] DEVELOP A MECHANISM TO BUY A SAF
[01:26:46] CERTIFICATE. AND THAT IS A CONTRACTUAL
[01:26:49] INSTRUMENT WHERE AN AIRLINE CAN
[01:26:51] BASICALLY BUY SAF SEATS OR SAF
[01:26:55] FLOWN CARGO. AND SINCE THAT TIME,
[01:26:59] WHAT WE'VE REALLY SEEN IS THAT THERE
[01:27:01] HAVE BEEN A FORMALIZATION OF THE
[01:27:03] METHODOLOGY AND WHAT WE CALL THE BOOK
[01:27:05] AND CLAIM APPROACH SO THAT THOSE SAF
[01:27:08] BENEFITS THAT THE AIRLINE IS
[01:27:10] CONTRIBUTING TO AND HELPING TO PAY FOR
[01:27:13] THAT SAF THAT THEY'RE ABLE FOR THAT TO
[01:27:15] BE REFLECTED IN THEIR ACCOUNTING BOOKS,
[01:27:18] THAT THEIR GREENHOUSE GAS ACCOUNTING
[01:27:20] THAT COMPANIES LIKE PRICEWATERHOUSE
[01:27:22] COOPERS HAVE NOW PUT THEIR STAMP ON IT
[01:27:24] AND SAID, THOSE ARE INSTRUMENTS THAT WE
[01:27:27] RECOGNIZE, AND THAT THAT IS HELPING TO
[01:27:29] REDUCE THE THE FOOTPRINT OF YOU AS A
[01:27:31] COMPANY FOR YOUR SCOPE. THREE EMISSIONS.
[01:27:33] NOW BECAUSE IT'S A GLOBAL AIR POLLUTANT,
[01:27:37] IT USES A BOOK AND CLAIM APPROACH. AN
[01:27:39] AIR CORPORATION LIKE MICROSOFT, THEY
[01:27:43] MIGHT NOT NECESSARILY HAVE FLYERS ON
[01:27:45] THAT EXACT AIRCRAFT. AND SO IN THE SAME
[01:27:47] WAY THAT WE TALKED ABOUT THAT IF IT GETS
[01:27:49] UPLIFTED AT LAX AND IT MIGHT GET USED BY
[01:27:52] MULTIPLE AIRLINES, IT IS STILL THAT
[01:27:55] CONTRIBUTOR BECAUSE IT'S A GLOBAL
[01:27:56] POLLUTANT. THAT CORPORATION IS ABLE TO
[01:27:59] BOOK AND CLAIM IT AND IT'S ABLE TO BE
[01:28:00] TRACKED CONTRACTUALLY SO THAT NO ONE
[01:28:02] ELSE IS DOUBLE COUNTING IT OR CLAIMING
[01:28:04] IT. SO THERE'S A WHOLE PROCEDURE NOW, A
[01:28:07] MANUAL ABOUT HOW TO DO THIS THAT HAS

[01:28:09] EVOLVED REALLY IN THE LAST THREE YEARS
[01:28:11] BECAUSE THERE'S A LOT OF INTEREST IN THE
[01:28:13] CORPORATE SECTOR FOR THIS. COMMISSIONER
[01:28:15] MOHAMMED, WHO AUDITS THAT MANUAL OR
[01:28:18] WHAT'S THE PROCESS IN PLACE TO MAKE?
[01:28:20] WELL, THE MANUAL RIGHT NOW IS SETTING
[01:28:23] OUT WHAT THE TERMS ARE, BUT THE AUDIT IS
[01:28:24] COMPANIES LIKE THE PRICEWATERHOUSE
[01:28:26] COOPERS WHO DO THE EVALUATION OF THE
[01:28:29] BOOKS, SO TO SPEAK, OF ANY CORPORATION.
[01:28:33] SO IT ISN'T A REGULATORY MECHANISM THAT
[01:28:35] HAS AN AUDIT FUNCTION FROM GOVERNMENT,
[01:28:37] IT IS MORE OF AN AUDIT FUNCTION WITHIN
[01:28:40] THE CLAIMS SYSTEM OF GREENHOUSE GASES.
[01:28:44] NEXT SLIDE. AND THEN FINALLY ON
[01:28:48] OUTREACH AND EDUCATION. I DON'T NEED TO
[01:28:50] DIVE INTO IT TOO MUCH. BUT THE FOCUS
[01:28:52] REALLY FOR US OVER THE LAST THREE OR
[01:28:54] FOUR YEARS HAS BEEN ON EDUCATING
[01:28:56] LEGISLATORS AND WHY THE SAF PRICE
[01:28:59] DIFFERENCE IS WHAT IT IS. WHAT THE
[01:29:01] CHALLENGES? ARE WITH RENEWABLE DIESEL
[01:29:04] PRODUCTION AND THE PRICE DIFFERENCE TO
[01:29:06] INCENTIVIZE THAT VERSUS SAF AND REALLY
[01:29:08] WORKING WITH THAT PORTION OF OUR
[01:29:11] EDUCATION AND OUTREACH. BUT I DID WANT
[01:29:13] TO LET THE COMMISSIONER KNOW THAT WE
[01:29:14] ALSO SEATTLE AIRPORT HAS BEEN RECOGNIZED
[01:29:17] NATIONALLY AND GLOBALLY IN OUR
[01:29:20] LEADERSHIP FOR THE TYPES OF RESEARCH
[01:29:22] PROJECTS THAT WE'VE DONE. AND WE ARE AN
[01:29:25] ADVISOR TO THE SAF GRAND CHALLENGE. THE
[01:29:27] BIDEN ADMINISTRATION'S GRAND CHALLENGE.
[01:29:29] THEY SOUGHT OUR ADVICE IN TERMS
[01:29:31] ESPECIALLY AS IT RELATES TO
[01:29:32] INFRASTRUCTURE INTEGRATION. AND WE'RE
[01:29:34] ALSO A PARTICIPANT ON WORLDWIDE SAF
[01:29:36] INITIATIVES, INCLUDING EU FUNDED
[01:29:38] PROJECTS WHERE THEY WOULD LIKE OUR
[01:29:42] FEEDBACK AND LEADERSHIP IN THIS SPACE
[01:29:44] BECAUSE OF ALL THE FOUNDATIONAL RESEARCH
[01:29:46] THAT'S REALLY BEEN CONDUCTED HERE. NEXT
[01:29:48] SLIDE. SO THE NEXT STEPS BEFORE WE DIVE
[01:29:52] INTO THE POLICY DEEP DIVE ON THOSE
[01:29:55] STRATEGIES THAT I'VE JUST DISCUSSED
[01:29:58] PRIOR IS THAT THAT JOINT CASCADIA
[01:30:02] AIRPORTS GROUP THAT I SPOKE ABOUT WITH
[01:30:04] PORTLAND AND VANCOUVER AIRPORT, WE'RE
[01:30:06] REALLY LOOKING AS OUR NEXT STEP THAT WE
[01:30:08] WANT TO TALK ABOUT WHAT STRATEGIC
[01:30:11] BLENDING AND STORAGE FACILITY LOCATIONS
[01:30:13] WE MIGHT HAVE. AGAIN, BECAUSE WE HAVE A
[01:30:14] SHARED PIPELINE AND ONE MAJOR REFINER
[01:30:17] THAT ALSO DELIVERS THE MAJORITY OF OUR
[01:30:19] FUEL TO ALL THREE AIRPORTS IS THAT IS
[01:30:21] THERE AN OPPORTUNITY TO LOOK AT A
[01:30:23] STRATEGIC FACILITY THAT ALL THREE OF OUR
[01:30:26] AIRPORTS COULD USE OR THAT IS CONNECTED
[01:30:29] TO THE SUPPLY CHAIN OF ALL OF OUR
[01:30:31] AIRPORTS. AND THE FAA ASCENT PROGRAM
[01:30:35] ACTUALLY HAS MONEY THAT WE HAVE JUST
[01:30:38] APPLIED FOR IN CONJUNCTION WITH WSU TO
[01:30:40] HELP SEE IF WE CAN GET THAT LAUNCHED.

[01:30:44] WE ARE ALSO THEN, AS I MENTIONED,
[01:30:46] PUBLISHING THE MSW TO FUEL STUDY. AND
[01:30:48] THEN WE CONTINUE TO EVALUATE THOSE
[01:30:50] INNOVATIVE CONCEPTS THAT WE'RE LOOKING
[01:30:52] AT THESE MARKET BASED MECHANISMS TO
[01:30:54] REDUCE THE INCREMENTAL COST AND INCREASE
[01:30:56] THE AVAILABILITY AT OUR AIRPORTS. SO
[01:30:59] I'LL PAUSE THERE BEFORE WE DO THE DEEP
[01:31:01] DIVE INTO POLICY TO SEE IF THERE ARE ANY
[01:31:03] QUESTIONS.
[01:31:09] THANKS SO MUCH STEPHANIE, AND REALLY OUR
[01:31:11] CREDIT FOR BEING LEADERS HAS MUCH TO DO
[01:31:14] WITH YOUR WORK. SO REALLY APPRECIATE IT.
[01:31:16] THANK YOU.
[01:31:22] AND, AND SO I JUST WANTED TO GO BACK TO
[01:31:24] THAT GRAPHIC, THE BARREL. FAMOUS BARREL.
[01:31:27] YEAH. SO, BUT THE THE FOOTNOTE SAYS
[01:31:30] ILLUSTRATIVE NOT SPECIFIC TO ANY
[01:31:32] PARTICULAR POLICY OR PRICE. BUT IS IT
[01:31:34] PROPORTIONATE? IT ISN'T QUITE
[01:31:37] PROPORTIONATE BECAUSE THE GREEN
[01:31:41] FRACTION, AS WE MENTIONED IN CHRIS'S
[01:31:43] PRESENTATION, THAT GREEN FRACTION IS
[01:31:46] MUCH SMALLER FOR A HEIFER BASED FUEL
[01:31:48] THAN IT IS FOR. IF IT WAS POWER TO
[01:31:50] LIQUIDS, IT WOULD GO OFF THE PIECE OF
[01:31:53] THE PAPER, FRANKLY, BECAUSE IT WOULD BE
[01:31:55] SUCH A HUGE PRICE DIFFERENTIAL. AND SO
[01:31:58] THAT IN A SENSE IS ALREADY WHERE THERE'S
[01:32:01] SOME DISTORTION IN WHAT IT MIGHT BE.
[01:32:03] AND THEN FOR HEFA BASED FUELS.
[01:32:06] SO AGAIN, THOSE ARE THE LIPIDS OR THE
[01:32:10] WASTE COOKING OIL, THOSE SORTS OF
[01:32:12] THINGS. JUST TO CLARIFY WHAT WE MEAN BY
[01:32:14] HEFA, THEY'RE OIL BASED AND THEY USE THE
[01:32:16] SAME BIOCHEMICAL OR SORRY,
[01:32:20] THE CHEMICAL PATHWAY OF REGULAR
[01:32:22] REFINERIES, THAT PRICE GAP
[01:32:26] IS LOWER. AND SO THEREFORE THE POLICY
[01:32:28] INCENTIVES LIKE RINSE, LOW CARBON FUEL,
[01:32:31] STANDARD BLENDERS TAX CREDIT, ACTUALLY
[01:32:33] TAKE UP THE MAJORITY OF THAT FRACTION.
[01:32:36] YOU DON'T NEED AS MUCH CONTRIBUTION FROM
[01:32:38] THOSE OTHER SOURCES WHEN YOU'RE USING
[01:32:40] THOSE LOWER PRICED HEFA BASED SAF. BUT
[01:32:43] AS SOON AS YOU CHANGE THE TYPE OF
[01:32:46] PATHWAY AND THE TECHNOLOGIES ARE MORE
[01:32:48] NASCENT, THE HIGHER THAT PRICE GETS AND
[01:32:50] THE MORE YOU NEED TO LOOK AT OTHER
[01:32:52] MECHANISMS TO FILL THAT GREEN BARREL.
[01:32:55] OKAY, SO JUST STAYING ON THE PRICE
[01:32:57] ISSUE, I'M VERY EXCITED TO HEAR MORE
[01:33:00] ABOUT THAT CASCADE CORRIDOR. IT SEEMS
[01:33:01] REALLY LIKE A REALLY CLEVER THING. AND
[01:33:03] BP WASN'T SPECIFICALLY CALLED OUT IN THE
[01:33:06] PRODUCERS OF THING, ALTHOUGH I THINK
[01:33:08] THEY'RE INVESTOR IN FULCRUM. BUT THE
[01:33:11] IDEA THAT THEY'VE ANNOUNCED SOME
[01:33:13] POTENTIALLY LARGE ADDITIONAL PRODUCTION
[01:33:15] CAPABILITY AT CHERRY POINT IS AN
[01:33:18] INTERESTING COMPONENT TO THAT
[01:33:20] CONVERSATION. BUT ONE THING THAT WASN'T
[01:33:22] MENTIONED IS IN TERMS OF WHEN YOU BUY IN

[01:33:24] BULK, YOU GET A PRICE CHALLENGE. IT'S
[01:33:28] ALWAYS CHEAPER TO BUY GOING TO COSTCO.
[01:33:31] SO THE COSTCO OF STAFF IS WHAT WE
[01:33:35] WANT TO FIND. SO THESE LARGE UPTAKE
[01:33:37] AGREEMENTS I WOULD ASSUME, ARE ONE OF
[01:33:40] THE WAYS THAT THE AIRLINES CAN CERTAINLY
[01:33:42] BUY DOWN THEIR COST. AND THEN THE
[01:33:44] QUESTION ABOUT FOR THE REFINERS AND I DO
[01:33:47] APPRECIATE YOUR POINT THAT WHETHER THEY
[01:33:48] PASS ON THE SAVINGS OR NOT IS OBVIOUSLY
[01:33:51] PROVING NOT TO BE THE CASE IN THE STATE
[01:33:54] RIGHT NOW, BUT THE
[01:33:57] PRODUCTION OF RENEWABLE DIESEL AND THAT
[01:33:59] PROFIT MARGIN. CAN YOU JUST KIND OF GIVE
[01:34:01] AN IDEA THAT I UNDERSTAND IT'S LIKE
[01:34:03] CHEAPER TO PRODUCE RENEWABLE DIESEL THAN
[01:34:05] CONVENTIONAL AND SO THEY'RE MAKING MONEY
[01:34:07] ON THIS SIDE. IF WE JUST LOOK AT THEIR
[01:34:09] OVERALL PROFIT PICTURE. YEAH, JUST VERY
[01:34:12] BRIEFLY, ESPECIALLY THIS HEFA PATHWAY,
[01:34:17] THE SORT OF FIRST STEP IN THE REFINING
[01:34:19] PROCESS BASICALLY GIVES YOU RENEWABLE
[01:34:21] DIESEL. SO IT'S LESS ENERGY INTENSIVE
[01:34:24] AND IT'S SORT OF THE DEFAULT, YOU COULD
[01:34:27] SAY, TO MAKE RENEWABLE DIESEL WHEN
[01:34:29] YOU'RE MAKING RENEWABLE FUELS FROM HEFA.
[01:34:32] SO IT'S AN ADDITIONAL INPUT PROCESS,
[01:34:34] IT'S ADDITIONAL EFFORT, IT'S ADDITIONAL
[01:34:37] COST TO TRANSFORM THAT RENEWABLE DIESEL
[01:34:40] INTO SAF. SO THERE'S ALREADY A BIT OF AN
[01:34:43] ENERGY AND COST PENALTY TO DO THAT. AND
[01:34:45] THERE'S ALSO SOME ONROAD INCENTIVES
[01:34:47] RELATED TO RENEWABLE DIESEL THAT WHEN
[01:34:49] YOU'RE USING THAT, PARTICULARLY IN
[01:34:51] CALIFORNIA, THAT DRIVE THE PRODUCERS TO
[01:34:54] SAY, WELL, IF I CAN MAKE MORE MONEY
[01:34:56] SELLING IT AS RENEWABLE DIESEL, I'M JUST
[01:34:58] GOING TO DO THAT. I'M NOT GOING TO TAKE
[01:34:59] THE STEP TO TURN IT AND CONVERT IT INTO
[01:35:01] SAF. AND SO THE BLENDER'S TAX CREDIT
[01:35:03] FEDERALLY HAS BEEN A BIG PART OF THE
[01:35:07] STEP TO BRINGING THAT DIFFERENTIAL DOWN.
[01:35:10] AND SO FOR THOSE HEFA BASED FUELS, THAT
[01:35:13] BLENDERS TAX CREDIT HAS DONE A LOT TO
[01:35:15] BRING THAT MARGIN DOWN AND INCENTIVIZE
[01:35:17] THOSE PRODUCERS TO ACTUALLY MAKE SAF
[01:35:19] INSTEAD OF RENEWABLE DIESEL.
[01:35:22] JUST A QUICK FOLLOW UP ON THAT. ONE OF
[01:35:24] THE NOTES I HAD WAS ABOUT REFINERY
[01:35:26] RETOOLING AND SORRY TO EAT UP INTO THE
[01:35:29] POLICY DISCUSSION, BUT I KNOW THAT IN
[01:35:32] THE MODELING OF OUR TOTAL CONSUMPTION OF
[01:35:35] LIKE GASOLINE IN THE STATE, THAT THE
[01:35:37] STATE ISN'T GETTING AS MUCH REVENUE FROM
[01:35:41] GAS TAX BECAUSE WE'RE BURNING LESS
[01:35:43] GASOLINE. AND THAT WAS EVEN BEFORE THE
[01:35:47] SIGNIFICANT INCREASE IN THE NUMBER OF
[01:35:48] ELECTRIC VEHICLES. IT WAS BASED ON CAFE
[01:35:50] STANDARDS AND OTHER THINGS. IT WAS JUST
[01:35:52] MAKING CARS MORE EFFICIENT. NOW I READ
[01:35:54] THAT 12% OF ALL CARS BOUGHT IN THE WORLD
[01:35:57] LAST YEAR, NEW CARS BOUGHT WERE
[01:35:58] ELECTRIC. AND THAT FAR SURPASSED

[01:36:00] ANYBODY'S ESTIMATE EVEN A COUPLE OF
[01:36:02] YEARS AGO. SO, AS WE SEE, THIS SORT OF
[01:36:05] REALLY STEEP ADOPTION OF NON
[01:36:09] ICE VEHICLES AND THESE REFINERIES THAT
[01:36:12] ARE ALL SET UP TO SUPPORT THAT MARKET
[01:36:15] ARE NOW LOOKING FOR NEW PRODUCTS TO
[01:36:18] PRODUCE. IS THERE A POTENTIAL UPSIDE FOR
[01:36:22] SAF? AND ARE YOU SEEING THAT IN ANY
[01:36:23] DISCUSSIONS? THAT IS AN EXCELLENT POINT
[01:36:26] AND SUPER OBSERVANT. AND IN FACT, WHEN
[01:36:28] THE FAA MODELED THE DIFFERENT SCENARIOS
[01:36:31] FOR THE FUTURE IN THE GRAPH THAT I
[01:36:34] SHOWED YOU EARLIER, THEY ACTUALLY
[01:36:36] MODELED HIGH AND LOW SCENARIOS FOR HOW
[01:36:39] MUCH ELECTRIFICATION WOULD BE HAPPENING
[01:36:41] IN THE GROUND TRANSPORTATION SECTOR AND
[01:36:43] WHAT THAT IMPACT COULD BE FOR MORE SAF
[01:36:46] PRODUCTION. SO WE HOPE AND ANTICIPATE
[01:36:50] THAT AS THERE'S LESS DEMAND FOR THAT,
[01:36:52] YOU COULD ACTUALLY MOVE MORE OF THAT
[01:36:53] FRACTION, THERE'S LESS DEMAND FOR ONROAD
[01:36:55] FUELS THAT YOU CAN MOVE SOME OF THOSE
[01:36:56] FEEDSTOCKS AND SOME OF THAT USE INTO THE
[01:36:59] HARDER TO ABATE SECTORS LIKE MARINE AND
[01:37:01] AVIATION. SO FOR THOSE WHO WANT TO DO
[01:37:04] SOMETHING FOR STAFF TODAY, GO BUY AN
[01:37:06] ELECTRIC BIKE.
[01:37:09] EXCELLENT.
[01:37:13] ALL RIGHT. AND WITH THAT, IF WE CAN
[01:37:15] ADVANCE THE SLIDES, IT'S NOW TIME FOR
[01:37:17] OUR POLICY DEEP DIVE. SO WE'LL MOVE
[01:37:20] FIRST TO THE FEDERAL POLICY WITH ERIC
[01:37:22] SCHINFELD. ALL RIGHT, WELL, GOOD
[01:37:24] MORNING, COMMISSIONER. HAPPY TO BE HERE.
[01:37:25] I WILL GO VERY QUICKLY SO YOU CAN HEAR
[01:37:27] FROM EXECUTIVE DIRECTOR FITCH AS MUCH AS
[01:37:29] POSSIBLE. THE SHORT VERSION OF THIS
[01:37:32] STORY IS THAT WE HAVE MADE INCREDIBLE,
[01:37:34] INCREDIBLE PROGRESS AT THE FEDERAL
[01:37:35] LEVEL. IT'S FANTASTIC NEWS, LOTS STILL
[01:37:38] TO DO. BUT THE AMOUNT OF MOMENTUM, AS
[01:37:40] SORT OF COMMISSIONER CULKINS REFERENCED
[01:37:42] EARLIER, THAT FEELING THAT WE'RE
[01:37:44] STARTING TO GET TO A TIPPING POINT IS
[01:37:46] REALLY FELT AT THE FEDERAL LEVEL. I WANT
[01:37:48] TO HIGHLIGHT A COUPLE OF RECENT WINS AND
[01:37:50] THEN A COUPLE OF THINGS THAT WE'RE STILL
[01:37:51] WORKING ON. SO TWO MAJOR PARTS OF THE
[01:37:54] INFLATION REDUCTION ACT, WHICH WAS
[01:37:55] PASSED LAST YEAR, THE FIRST, AS
[01:37:57] STEPHANIE HAS MENTIONED A FEW TIMES, IS
[01:37:58] THE SAF BLENDEES TAX CREDITS. SO THAT IS
[01:38:01] RIGHT NOW A DOLLAR 25 PER GALLON FOR
[01:38:03] EACH GALLON OF SAF. THAT IS AT LEAST A
[01:38:06] 50% REDUCTION IN GREENHOUSE GASES. AND
[01:38:09] THEN AN ADDITIONAL PENNY FOR EACH
[01:38:12] PERCENTAGE UP TO A DOLLAR 75. RIGHT? SO
[01:38:14] YOU'RE AT A DOLLAR 25 FOR 50%. YOU'RE AT
[01:38:17] A DOLLAR 50 FOR 75% AND A DOLLAR 75
[01:38:21] FOR 100%. I JUST DID THAT MATH ON MY OWN
[01:38:24] RIGHT THERE. SO VERY EXCITING THAT SAF
[01:38:27] BLENDEES TAX CREDIT IS NOT YET FULLY
[01:38:29] IMPLEMENTED. RIGHT NOW. THE US.

[01:38:31] TREASURY DEPARTMENT IS DOING ITS
[01:38:32] RULEMAKING PROCESS. AND SO ONE OF THE
[01:38:34] THINGS I WANTED TO CALL OUT IS A LOT OF
[01:38:36] EFFORTS THAT WE'VE BEEN INVOLVED IN WITH
[01:38:38] THE LARGER NATIONAL STAFF COALITION TO
[01:38:40] GET OUR MEMBERS OF CONGRESS INVOLVED TO
[01:38:43] COMMUNICATE DIRECTLY TO TREASURY AROUND
[01:38:46] EXACTLY HOW TO IMPLEMENT THIS PROVISION.
[01:38:48] ONE OF THE MOST IMPORTANT THINGS IS HOW
[01:38:50] DO YOU MEASURE THE GREENHOUSE GAS
[01:38:51] REDUCTION? RIGHT? AND SO I WILL NOT GO
[01:38:54] INTO DETAIL ON THE DIFFERENCE BETWEEN
[01:38:56] CORSIA AND GREET. I HONESTLY DON'T KNOW
[01:38:58] THE DIFFERENCE. BUT I CAN TELL YOU THAT
[01:39:00] WE WANT GREET AND NOT JUST CORCIA. SO
[01:39:03] WE'RE WORKING VERY HARD ON THAT. NEXT
[01:39:05] SLIDE, PLEASE.
[01:39:11] THE OTHER PROVISION IN THE INFLATION
[01:39:13] REDUCTION ACT WAS THIS FAST SAF GRANT
[01:39:16] PROGRAM FUELING AVIATION SUSTAINABLE
[01:39:18] TRANSITION VIA SUSTAINABLE AVIATION
[01:39:20] FUELS. SO THAT'S \$300 MILLION. IT'S
[01:39:23] REALLY DIVIDED INTO TWO BUCKETS. ONE IS
[01:39:25] FOR SPECIFICALLY SAF PRODUCTION,
[01:39:27] TRANSPORTATION, BLENDING AND STORAGE.
[01:39:29] THE OTHER IS TECHNICALLY FOR THE
[01:39:31] DEVELOPMENT OF LOW EMISSION AVIATION
[01:39:34] TECHNOLOGIES. SO IT COULD BE BROADER
[01:39:36] THAN SAF. WE HAVE HEARD VERY CLEARLY
[01:39:37] FROM FAA THAT THAT WILL PROBABLY BE USED
[01:39:39] MOSTLY FOR STAFF. SO IT REALLY IS \$300
[01:39:42] MILLION FOR STAFF. WE DID
[01:39:46] TRACK THIS. IT IS LOOKING LIKE I THOUGHT
[01:39:48] IT WAS GOING TO BE THIS FALL. IT'S
[01:39:50] LOOKING LIKE IT WILL BE THE BEGINNING OF
[01:39:51] NEXT YEAR AT THE PORT BECAUSE THEY AGAIN
[01:39:53] ARE STILL DOING THAT PROGRAM DEVELOPMENT
[01:39:56] AND RULEMAKING PROCESS FOR EXACTLY HOW
[01:39:59] THAT GRANT WILL GO OUT. SO WE WILL BE
[01:40:01] READY. I WILL TELL YOU THAT THE FIRST
[01:40:04] APPLICATION WILL PROBABLY NOT BE FROM US
[01:40:06] BECAUSE WE DON'T HAVE ANY SAF PROJECTS
[01:40:08] ON SITE. MOST LIKELY, ALTHOUGH WHO KNOWS
[01:40:10] WHAT WILL HAPPEN NEXT. MOST LIKELY WE
[01:40:12] WILL BE SUPPORTING OUR PARTNERS IN THE
[01:40:14] PRIVATE SECTOR AS THEY APPLY FOR
[01:40:15] FUNDING, LIKE OUR FRIENDS, FOR EXAMPLE,
[01:40:17] AT SKY ENERGY TO GET SOME OF THESE
[01:40:19] DOLLARS TO SUPPORT SCA. NEXT SLIDE.
[01:40:26] SO RIGHT NOW, AS YOU KNOW, LAST FRIDAY
[01:40:29] THE HOUSE AND SENATE BOTH INTRODUCED
[01:40:33] THEIR VERSIONS OF THE FAA
[01:40:34] REAUTHORIZATION BILL. AND I WAS VERY,
[01:40:37] VERY DISAPPOINTED THAT NEITHER THE HOUSE
[01:40:38] OR THE SENATE BILLS CONTAINED ANYTHING
[01:40:40] ABOUT SUSTAINABLE AVIATION FUELS.
[01:40:41] REALLY SURPRISING, TO BE PERFECTLY
[01:40:42] HONEST, PARTICULARLY ON THE SENATE SIDE
[01:40:44] WHERE CHAIR CANTWELL IS WRITING THE
[01:40:46] BILL. AND THAT IS REALLY AGAIN
[01:40:49] DISAPPOINTINGLY BECAUSE OF PARTISAN
[01:40:52] OPPOSITION TO SAF. I REALLY BELIEVED, I
[01:40:55] REALLY HOPED THAT BECAUSE AIRLINES WERE

[01:40:57] REALLY PUSHING FOR SAF AND THIS IS
[01:40:59] REALLY AN INDUSTRY PUSH, THAT THIS WOULD
[01:41:01] BE A BIPARTISAN ISSUE AND HAS NOT BEEN
[01:41:02] SO FAR. AND SO WE ARE NOT SEEING THAT
[01:41:05] BIPARTISAN SUPPORT, AND THEREFORE IT HAS
[01:41:07] CURRENTLY BEEN KEPT OUT OF THE HOUSE AND
[01:41:09] SENATE FAA BILLS. THIS THURSDAY IS THE
[01:41:12] SENATE COMMERCE COMMITTEE MARKUP OF THE
[01:41:14] SENATE VERSION. CHAIR CANTWELL HERSELF
[01:41:17] WILL BE OFFERING AN AMENDMENT ON STAFF.
[01:41:19] AND SO WE'RE WORKING VERY HARD WITH OUR
[01:41:22] NATIONAL COALITION TO GET BIPARTISAN
[01:41:23] SUPPORT FOR THAT AMENDMENT. IT WOULD DO
[01:41:25] A NUMBER OF THINGS, INCREASING THE
[01:41:28] AUTHORIZATION FOR THIS FAST SAF PROGRAM,
[01:41:31] EXTENDING THE BLENDER'S TAX CREDIT TO
[01:41:33] TEN YEARS, AND IT WOULD ALSO MANDATE
[01:41:37] THAT GREAT IS USED BY THE US.
[01:41:39] DEPARTMENT OF TREASURY. AGAIN, WHATEVER
[01:41:41] THAT IS, I DID WANT TO SAY ON THAT
[01:41:43] SECOND BULLET OF TEN YEARS. SO THE WAY
[01:41:45] THE INFLATION REDUCTION ACT INSTITUTED
[01:41:47] THE SAF BLENDERS TAX CREDITS IS THERE'S
[01:41:50] A SAF BLENDER'S TAX CREDIT FOR JUST TWO
[01:41:52] YEARS AND THEN IT TRANSITIONS INTO THE
[01:41:55] OVERALL CLEAN FUELS TAX CREDITS,
[01:41:57] WHICH CHAIRMAN WYDEN, THE SENATE CHAIR
[01:42:00] OF FINANCE, REALLY FELT STRONGLY ABOUT
[01:42:02] THAT ALL OF THE TAX CREDITS SHOULD BE
[01:42:04] FUEL NEUTRAL. AND WE APPRECIATE THAT IN
[01:42:06] THEORY, BUT IN PRACTICE, SAF IS SO FAR
[01:42:09] BEHIND ALL OF THE OTHER ALTERNATIVE
[01:42:11] FUELS THAT WE REALLY BELIEVE THAT WE
[01:42:13] REALLY NEED THAT TEN YEAR PATHWAY TO
[01:42:15] CATCH UP AND THEN GREAT, PUT IT INTO THE
[01:42:16] CLEAN FUEL TAX CREDIT. WE CAN COMPETE
[01:42:19] EQUALLY, BUT WE NEED THAT SORT OF EXTRA
[01:42:21] ADVANTAGE NOW FOR THE NEXT TEN YEARS.
[01:42:23] AGAIN, RIGHT NOW IT'S TWO. SO, NEXT
[01:42:25] SLIDE. TWO OTHER BILLS THAT ARE BEING
[01:42:28] CONSIDERED THIS YEAR BESIDES THE FAA
[01:42:30] BILL IS OF COURSE THE FY 24
[01:42:32] APPROPRIATIONS BILLS. WE HAVE TWO ASKS
[01:42:35] AS PART OF THAT ADDITIONAL FUNDING FOR
[01:42:37] THE BIOENERGY TECHNOLOGIES OFFICE, BETO
[01:42:40] AND THE FAA'S. NEXT YEAR ENVIRONMENTAL
[01:42:43] RESEARCH AIRCRAFT TECHNOLOGIES AND FUELS
[01:42:44] FUND. AND JUST AS EXCITING, IF NOT MORE
[01:42:47] EXCITING, IT'S ALSO THE FARM BILL YEAR.
[01:42:49] AND FARM BILL IS REALLY AN UNDERUTILIZED
[01:42:52] RESOURCE AS IT RELATES TO SAF,
[01:42:54] OBVIOUSLY, PARTICULARLY ON THE FEEDSTOCK
[01:42:56] SIDE OF THINGS, BUT ALSO BECAUSE US
[01:42:58] DEPARTMENT OF AGRICULTURE ACTUALLY HAS
[01:43:00] SIGNIFICANT BIOREFINERY AND LOAN
[01:43:02] GUARANTEE PROGRAMS. SO TWO THINGS THAT
[01:43:04] WE'RE PUSHING AS PART OF OUR NATIONAL
[01:43:05] COALITION. ONE IS TO EXPAND THE
[01:43:09] BIOREFINERY ASSISTANCE PROGRAMS TO SAF
[01:43:11] REFINERIES AND TO CHANGE SOME OF THOSE
[01:43:13] LOANS INTO DIRECT GRANTS, AND THEN TO
[01:43:15] AUTHORIZE A NEW USDA FARM TO FLY CENTER
[01:43:17] WITH A FOCUS ON SAF DEVELOPMENT AND

[01:43:19] COMMERCIALIZATION. SO FARM BILL IS MUCH
[01:43:22] FURTHER BEHIND THAN FAA BILL, BUT WE'LL
[01:43:23] BE CONTINUING TO TRACK THIS AS WE GO
[01:43:25] INTO THE NEXT FEW MONTHS. AND THEN NEXT
[01:43:27] SLIDE, FINAL SLIDE HERE. SO MANY
[01:43:31] OF YOU KNOW THAT LAST YEAR IN THE
[01:43:32] NATIONAL DEFENSE AUTHORIZATION ACT, WE
[01:43:34] WORKED WITH THEN CHAIRMAN OF THE HOUSE
[01:43:36] ARMED SERVICES COMMITTEE, NOW RANKING
[01:43:37] MEMBER ADAM SMITH, TO INSTITUTE A
[01:43:40] PROVISION IN LAST YEAR'S NDA THAT
[01:43:43] DIRECTS THE SECRETARY OF DEFENSE TO
[01:43:44] IDENTIFY TWO BASES FOR DEVELOPMENT OF A
[01:43:48] SUSTAINABLE AVIATION FUEL PLAN. ONE OF
[01:43:50] THOSE FACILITIES NEEDS TO BE A FACILITY
[01:43:52] WITH AN ONSITE REFINERY LOCATED IN
[01:43:54] PROXIMITY TO A MAJOR COMMERCIAL AIRPORT
[01:43:56] THAT IS ALSO ACTIVELY SEEKING TO
[01:43:58] INCREASE THE USE OF SUSTAINABILITY FUEL.
[01:43:59] SO FINGERS CROSSED THAT THAT WOULD BE
[01:44:02] JOINT BASE LEWIS MCCORD NEAR SEATTLE
[01:44:04] TACOMA INTERNATIONAL AIRPORT. RIGHT NOW,
[01:44:06] WE'RE WORKING VERY CLOSELY WITH
[01:44:08] REPRESENTATIVE SMITH AND REPRESENTATIVE
[01:44:09] STRICKLAND AND OTHER MEMBERS OF OUR
[01:44:11] CONGRESSIONAL DELEGATION TO WORK WITH
[01:44:12] DOD TO REALLY HELP SHAPE WHAT THEIR
[01:44:16] PROCESS IS LIKE, TO IDENTIFY WHAT THOSE
[01:44:17] TWO BASES ARE AND ALSO WORKING DIRECTLY
[01:44:19] WITH JBLM IN TERMS OF HELPING TO HELP
[01:44:23] THEM UNDERSTAND WHAT THIS WOULD BE SO
[01:44:25] THEY UNDERSTAND HOW IT COULD FIT INTO
[01:44:26] THEIR OVERALL PLANS. AND THOSE ARE THE
[01:44:29] FEDERAL UPDATES.
[01:44:33] THANKS, ERIC. I THINK WE'LL GO TO MY
[01:44:35] BRIEF REMARKS BEFORE FINAL QUESTIONS.
[01:44:37] AND MICHELLE, IF YOU CAN ADVANCE THE
[01:44:38] SLIDE TWO, I'LL START WITH HOW WE GOT
[01:44:41] HERE. I'M GOING TO ENDEAVOR TO BE AS
[01:44:43] RAPID AS ERIC WITHOUT SPEAKING AS FAST
[01:44:45] AS HE DID. I'M ERIC FITZ. I'M THE
[01:44:47] EXECUTIVE DIRECTOR AT THE WASHINGTON
[01:44:49] PUBLIC PORTS ASSOCIATION, PART OF THE
[01:44:51] COALITION THAT HELPED BRING SENATE BILL
[01:44:53] 54 47 THROUGH TO PASSAGE. AND I'M
[01:44:56] SPEAKING HERE ON BEHALF OF NOT JUST
[01:44:58] WPPA, BUT ON BEHALF OF HOPEFULLY OUR
[01:45:00] COALITION MEMBERS WHO DID HELP
[01:45:02] CONTRIBUTE TO THE PREPARATION OF THIS
[01:45:04] SLIDE, PARTLY BECAUSE I GET NOSTALGIC
[01:45:07] WHENEVER I WALK INTO PIER 69. WE'RE
[01:45:09] GOING TO START WITH A BIT OF A LOOK BACK
[01:45:10] IN TIME. REALLY. I WANT TO EMPHASIZE
[01:45:13] HERE THE ROLE OF THE SUSTAINABLE
[01:45:14] AVIATION BIOFUELS WORK GROUP. IT WAS A
[01:45:16] SMALL LINE ITEM IN THE STATE BUDGET FOR
[01:45:18] SEVERAL YEARS, BUT IT PLAYED A BIG ROLE
[01:45:20] IN PROMOTING LEGISLATIVE CHANGES THAT
[01:45:22] WOULD HELP TO INCENT THE DEPLOYMENT OF
[01:45:25] SUSTAINABLE AVIATION FUEL IN WASHINGTON
[01:45:27] IN 2018. THE RECOMMENDATION FROM THAT
[01:45:29] GROUP WAS THAT A LOW CARBON FUEL
[01:45:31] STANDARD WAS THE MOST IMPORTANT POLICY

[01:45:33] MECHANISM THAT COULD BE PUT IN PLACE.
[01:45:35] BECAUSE OF THAT, PORT OF SEATTLE STARTED
[01:45:37] PUSHING AGGRESSIVELY FOR LCFS, MAKING
[01:45:39] SURE THAT IT HAD THE AVIATION OPT IN
[01:45:41] WHICH THE BILL DID WHEN IT WAS FINALLY
[01:45:44] ADOPTED IN 2021. WHEN LCFS WAS
[01:45:47] ADOPTED IN 2021, WE TURNED OUR ATTENTION
[01:45:50] TO RULEMAKING, AND THIS IS SIGNIFICANT
[01:45:52] BECAUSE WE ASKED THE STATE DEPARTMENT OF
[01:45:54] ECOLOGY TO DO A FEW. THINGS IN
[01:45:56] RULEMAKING WITH A COALITION OF OTHER
[01:45:58] INTERESTED SAF ENTITIES WHICH THEY
[01:46:01] DIDN'T DO. SO THOSE TWO, NOTABLY, WHICH
[01:46:04] HAVE BEEN REFERENCED HERE BEFORE, WERE
[01:46:05] TO REQUIRE A PATHWAY WITHIN THE LOW
[01:46:08] CARBON FUEL STANDARD THAT WOULD ALLOW
[01:46:10] SAF TO EARN CREDITS. THE INITIAL RULE
[01:46:13] FROM ECOLOGY DID NOT HAVE THAT PATHWAY.
[01:46:16] HENCE SAF COULDN'T EARN CREDITS UNTIL
[01:46:18] 2025 THEREBY DELAYING THAT THE PRICE
[01:46:20] IMPACTS THAT WE WERE HOPING THE LCFS
[01:46:23] WOULD HAVE. THE OTHER WAS THE
[01:46:24] ELIGIBILITY FOR BIOMETHANE OR RENEWABLE
[01:46:26] DIESEL TO BE CONSIDERED A FEEDSTOCK.
[01:46:28] THE REASON I NOTE OUR FAILURE IN THAT IS
[01:46:30] THAT WE TURNED THE RULEMAKING CHALLENGES
[01:46:34] INTO PART OF THE LEGISLATION THAT ENDED
[01:46:36] UP BEING BROUGHT FORWARD. THE OTHER
[01:46:38] THING THAT HAPPENED WAS IN FALL OF 2022
[01:46:40] THE SUSTAINABLE AVIATION BIOFUELS WORK
[01:46:42] GROUP RECOMMENDED TO THE LEGISLATURE A
[01:46:44] NUMBER OF TAX PREFERENCES THAT COULD BE
[01:46:46] PUT IN PLACE TO SPEED THE DEPLOYMENT OF
[01:46:49] SAF. AT THAT TIME WE MET WITH
[01:46:52] AMAZON, STEPHANIE, MINE AND I WHEN I WAS
[01:46:54] STILL AT THE PORT OF SEATTLE AND A
[01:46:55] NUMBER OF OTHER FUTURE COALITION
[01:46:57] PARTNERS TO CONTEMPLATE A BILL THAT
[01:46:59] WOULD REQUIRE DEPARTMENT OF ECOLOGY TO
[01:47:01] STUDY WHAT INCENTIVES COULD BE PUT IN
[01:47:03] PLACE. BUT LUCKILY, SENATOR BILLIG FROM
[01:47:05] SPOKANE WHO REPRESENTS SPOKANE AIRPORT
[01:47:08] AND IS ALSO CONVENIENTLY, THE SENATE
[01:47:09] MAJORITY LEADER SAID WHY WOULD WE STUDY
[01:47:11] WHAT INCENTIVES TO PUT IN PLACE WHEN WE
[01:47:13] COULD JUST RUN A BILL PUTTING INCENTIVES
[01:47:15] IN PLACE? IT WAS AYE. LEADERSHIP AND AYE.
[01:47:17] WILLINGNESS TO PUSH THE ENVELOPE THAT
[01:47:19] REALLY HELPED LEND MOMENTUM TO THIS
[01:47:21] EFFORT. SO MICHELLE, IF YOU'LL ADVANCE
[01:47:24] THE SLIDE, I WANT TO TALK NOW ABOUT THE
[01:47:27] IMPORTANT ELEMENTS OF SENATE BILL 54 47.
[01:47:31] THERE WERE TWO BNO TAX PREFERENCES. ONE
[01:47:34] WAS A PREFERENCE FOR MANUFACTURING AND
[01:47:36] WHOLESALE OF STAFF. THE OTHER IS A
[01:47:38] CREDIT FOR PURCHASE AND SALE. SO
[01:47:41] NOTABLY, JUST AS ERIC DESCRIBED THE
[01:47:43] SLIDING SCALE OF THE PURCHASE AND SALE
[01:47:45] TAX CREDIT, FOR 50% CLEANER SAF,
[01:47:49] YOU GET A DOLLAR. FOR 100% CLEANER SAF
[01:47:52] YOU GET \$2. SO THE IDEA IS THAT FOR
[01:47:55] BETTER CARBON INTENSITY OF PRODUCT YOU
[01:47:57] GET A GREATER INCENTIVE AND HOPEFULLY

[01:47:59] THAT WILL HELP EXPAND THE
[01:48:03] BENEFITS THAT FOLKS SEE FROM THIS.
[01:48:06] ALSO KEY TO NOTE THE BILL REQUIRES THAT
[01:48:10] 20 MILLION GALLONS OF IN STATE
[01:48:12] PRODUCTION OCCUR BEFORE YOU CAN GET A
[01:48:14] CREDIT FOR PURCHASE AND SALE. SO THE
[01:48:17] FOCUS OF THE LEGISLATION THAT WE WPPA
[01:48:20] PORT OF SEATTLE AND OTHER COALITION
[01:48:22] MEMBERS SUPPORTED WAS ON DEVELOPMENT AND
[01:48:25] THE EMPLOYMENT AND ECONOMIC DEVELOPMENT
[01:48:27] THAT THAT BRINGS TO COMMUNITIES. THE THE
[01:48:29] BENEFIT FOR USE OF SAF COMES LATER ONCE
[01:48:31] WE HAVE PRODUCTION IN PLACE. THE TIER
[01:48:34] ONE PATHWAY THAT I MENTIONED EARLIER
[01:48:36] REQUIRING ECOLOGY TO MAKE ESSAY OF A
[01:48:38] TIER ONE PATHWAY WAS ALSO IN THE
[01:48:39] LEGISLATION AND THE LEGISLATION REQUIRES
[01:48:42] BIOMETHANE TO BE CONSIDERED AS AN
[01:48:44] ELIGIBLE FEEDSTOCK. THE BILL INCLUDED A
[01:48:46] MULTIPLIER. STEPHANIE MADE REFERENCE, I
[01:48:48] THINK, AS DID ERIC, TO THE OBVIOUS FACT
[01:48:51] THAT RENEWABLE DIESEL IS EASIER TO
[01:48:53] PRODUCE AND EARNS A CREDIT UNDER THE LOW
[01:48:56] CARBON FUEL STANDARD THAT'S EQUAL TO THE
[01:48:57] CREDIT EARNED BY SAF. SO WHY WOULD YOU
[01:49:00] PRODUCE SAF INSTEAD OF RENEWABLE DIESEL?
[01:49:02] WE PUT LANGUAGE IN THE BILL THAT WOULD
[01:49:04] HAVE GIVEN A MULTIPLIER TO SAF AND HENCE
[01:49:07] INCENTED FOR THE SAF PRODUCTION
[01:49:09] ALONGSIDE RENEWABLE DIESEL TO TRY TO
[01:49:11] MAKE BACK SOME OF THE GAINS THAT WE
[01:49:15] NEED. THAT ELEMENT WAS REMOVED. IT WAS
[01:49:18] SOMEWHAT CONTROVERSIAL, NAMELY BECAUSE
[01:49:20] YOU HAD TO AMEND THE LOW CARBON FUEL
[01:49:22] STANDARD STATUTE IN ORDER TO PUT THAT
[01:49:23] MULTIPLIER IN PLACE, WHICH SEVERAL
[01:49:25] ENVIRONMENTAL GROUPS WERE CONCERNED
[01:49:27] ABOUT. I PUT MEMBERS OF THE COALITION UP
[01:49:29] HERE BECAUSE, AS YOU KNOW, WHEN I WORKED
[01:49:30] FOR THE PORT OF SEATTLE, MY MOTTO WAS,
[01:49:32] NOBODY CARES WHAT THE PORT OF SEATTLE
[01:49:33] THINKS, MEANING WE DON'T DO ANYTHING
[01:49:35] WITHOUT OUR PARTNERS, PARTNERS AT WPBA.
[01:49:38] I HAVE A BIT OF A DIFFERENT MOTTO NOW,
[01:49:41] BECAUSE I CARE WHAT THE PORT OF SEATTLE
[01:49:42] THINKS. BUT YOU DO SEE HERE A REALLY
[01:49:45] WIDE VARIETY OF SUPPORTERS. THE AVIATION
[01:49:48] INDUSTRY, ALASKA AND DELTA ALWAYS AS
[01:49:50] LEADERS. BOEING JOINING THEM. SPOKANE
[01:49:52] AIRPORT IS NOT LISTED ON HERE, BUT THEY
[01:49:54] WERE A CRITICAL MEMBER. THE FUEL
[01:49:56] PRODUCERS SKY ENERGY AND NESTE, AND
[01:49:58] THEN, IMPORTANTLY, OUR PARTNERS AT
[01:49:59] LABOR, THE WASHINGTON STATE LABOR
[01:50:01] COUNCIL, THE BUILDING AND CONSTRUCTION
[01:50:02] TRADES, ALL JOINED IN. SO,
[01:50:05] MICHELLE, I'LL DO MY LAST SLIDE HERE,
[01:50:07] AND WE CAN SKIP THE NEXT STEPS IF YOU
[01:50:09] ADVANCE IT ONE MORE. THE BILL WAS WELL
[01:50:11] RECEIVED. IT WAS BIPARTISAN, AS ERIC
[01:50:13] SAID. THERE WAS HOPE THAT THE FEDERAL
[01:50:15] GOVERNMENT WOULD TAKE THE SAME
[01:50:16] BIPARTISAN APPROACH. THEY MAY NOT HAVE,

[01:50:18] BUT THE STATE DID. WE HAD REPUBLICAN
[01:50:20] SENATORS JOINING DEMOCRATIC SENATORS ON
[01:50:22] THE SPONSORSHIP LINE FOR SENATE BILL 54
[01:50:24] 47. THE ENVIRONMENTAL COMMUNITY WAS
[01:50:26] HESITANT. AS I SAID, THEY WERE CONCERNED
[01:50:28] ABOUT THE MULTIPLIER. SO YOU CAN SEE ON
[01:50:30] THIS SLIDE THE PROGRESSION THAT THE BILL
[01:50:33] TOOK. SORRY, MICHELLE, YOU GO BACK ONE
[01:50:36] SLIDE. THE BILL WAS INTRODUCED IN THE
[01:50:39] SENATE AND THE MULTIPLIER WAS REMOVED BY
[01:50:41] AMENDMENT AT THE SENATE COMMITTEE. ON
[01:50:43] THE SENATE FLOOR, THERE WAS AN AMENDMENT
[01:50:45] ADDED TO THE BILL TO ADDRESS
[01:50:46] ENVIRONMENTAL JUSTICE CONCERNS,
[01:50:47] REQUIRING UW AND WAZOO TO STUDY THE
[01:50:50] ULTRA FINE PARTICULATE EMISSIONS
[01:50:52] REDUCTIONS IN COMMUNITIES AROUND SEATTLE
[01:50:54] TACOMA INTERNATIONAL AIRPORT. WHEN THE
[01:50:56] BILL GOT TO THE HOUSE, THERE WAS A
[01:50:57] CONCERN RAISED BY A TRIBE IN NORTHWEST
[01:51:00] WASHINGTON ABOUT POTENTIAL DEVELOPMENT
[01:51:01] ON TRIBAL LANDS, AND SO THERE WAS AN
[01:51:04] AMENDMENT INCLUDED TO ADDRESS THOSE
[01:51:06] CONCERNS. AND WITH THOSE AMENDMENTS,
[01:51:08] THE BILL PASSED 46 TWO OUT OF THE SENATE
[01:51:10] AND 960 OUT OF THE HOUSE, AND IT WAS
[01:51:13] SIGNED ON MAY 3 WITH COMMISSIONER
[01:51:14] MOHAMMED IN ATTENDANCE, REPRESENTING
[01:51:16] PORTS IN SUPPORT OF THE BILL. SO THE
[01:51:19] LAST SLIDE, AND WHERE I CAN CONCLUDE,
[01:51:21] JUST NOTES, AS EVERYONE HERE HAS,
[01:51:23] THERE'S QUITE A BIT MORE THAT NEEDS TO
[01:51:24] BE DONE. I'D SAY THE MOST IMPORTANT
[01:51:26] THING ON THIS SLIDE IS THAT WE NEED TO
[01:51:28] SITE FACILITIES IN WASHINGTON WHERE WE
[01:51:29] CAN DEVELOP SAF IN STATE. THAT'S GOING
[01:51:32] TO REQUIRE SOME POTENTIAL CHANGES TO HOW
[01:51:35] WE PERMIT BIG PROJECTS IN THE STATE.
[01:51:36] AND THAT'S SOMETHING PORT OF SEATTLE,
[01:51:38] WPPA AND OTHER COALITION MEMBERS WERE
[01:51:41] OUT IN FRONT ON DURING OLYMPIA
[01:51:42] LEGISLATIVE SESSION BECAUSE ONE CANNOT
[01:51:44] HAPPEN WITHOUT THE OTHER. SO WITH THAT,
[01:51:46] I'LL CONCLUDE AND HAPPY TO TAKE
[01:51:47] QUESTIONS. THANK YOU.
[01:51:52] COMMISSIONER CALKINS. THIS IS A QUICK
[01:51:54] ONE FOR SCHINFELD, ACTUALLY. EXCUSE ME,
[01:51:57] ERIC SCHINFELD,
[01:52:02] IN THE FARM BILL, DOES FORESTRY QUALIFY
[01:52:05] AS FARM? WOULD IT BENEFIT FROM THESE
[01:52:08] THINGS? SO FOREST RESIDUAL THINKING SORT
[01:52:10] OF PAROCHIALY FOR WASHINGTON STATE. I
[01:52:12] KNOW THAT WE HAVE SIGNIFICANT
[01:52:14] OPPORTUNITIES THERE IF IT WOULD QUALIFY.
[01:52:17] AND I HAD A QUESTION ABOUT BLENDER'S TAX
[01:52:19] CREDIT EXPIRATION, BUT I THINK YOU
[01:52:20] ANSWERED IT IN
[01:52:23] EITHER CASE. THERE IS NO EXPIRATION ON
[01:52:25] THE NEW CLEAN FUELS TAX PROGRAM, RIGHT?
[01:52:28] WELL, ALL TAX CREDITS EXPIRE AT THE
[01:52:30] FEDERAL LEVEL AND HAVE TO BE RENEWED AT
[01:52:32] THE END OF THAT TEN YEAR PERIOD. BUT IT
[01:52:34] WOULD BE MORE INSTITUTIONALIZED AND MORE

[01:52:36] OF A SORT OF JUST A NORMAL THING TO DO
[01:52:38] AS THE EXISTING TAX CREDITS, FOR
[01:52:41] EXAMPLE, RENEWABLE FUELS CONTINUE TO DO.
[01:52:45] I WILL SAY IF WE ONLY HAVE TWO YEARS OF
[01:52:48] A DEDICATED SAF BLENDER'S TAX CREDIT,
[01:52:50] IT WILL STILL HELP. RIGHT? SO WE
[01:52:51] SHOULDN'T JUST CRY. BUT I DO THINK THAT
[01:52:54] OBVIOUSLY, LIKE I SAID, WE DO WANT THAT
[01:52:56] EXTRA BUMP TO HELP THE INDUSTRY FULLY
[01:52:58] DEVELOP AND MATURE. THANK YOU. AND I'LL
[01:53:01] JUST ADD TO THAT, THAT WHEN YOU LOOK AT
[01:53:02] THAT TIMELINE FOR PRODUCTION FACILITIES
[01:53:05] THAT YOU SAW IN CHRIS'S PRESENTATION,
[01:53:07] FOR PRODUCERS TO FEEL CONFIDENT THAT
[01:53:09] THERE IS GOING TO BE A TAX CREDIT WHEN
[01:53:11] THEY GET TO THE FINAL, ALL THE
[01:53:14] PERMITTING AND DEVELOPMENT AND CAPITAL
[01:53:17] INVESTMENT IS DONE. YOU REALLY DO NEED A
[01:53:19] STRONGER, LONGER TERM SIGNAL. AND THAT'S
[01:53:22] DEFINITELY A CONCERN WE'VE HEARD FROM
[01:53:23] THE INDUSTRY. AND IT'S PART OF WHY WE
[01:53:26] ALSO INVOLVE YOU COMMISSIONERS IN
[01:53:27] HELPING TO SUPPORT AND ADVOCATE FOR
[01:53:30] POLICIES THAT REALLY HELP THE INDUSTRY
[01:53:32] LONG TERM. WELL, IF WE'VE CHOSEN AN
[01:53:35] INCENTIVE VERSUS MANDATE APPROACH, THEN
[01:53:37] OUR INCENTIVES BETTER BECAUSE MANDATES,
[01:53:40] ONCE THAT STUFF'S BUILT, IT'S BUILT.
[01:53:42] IT'S NOT SUBJECT TO EXPIRATION LIKE AN
[01:53:44] INCENTIVE IS. AND SO IF WE'RE GOING TO
[01:53:45] GO THIS WAY, WE REALLY NEED TO MAKE IT
[01:53:47] CERTAIN FOR THOSE INVESTORS.
[01:53:53] MR. MOHAMMED, THANK YOU BOTH FOR THE
[01:53:56] PRESENTATION. ERIC, I THINK YOU ALWAYS
[01:53:59] UNDERSCORE THE FACT THAT IT IS SO
[01:54:01] IMPORTANT FOR US TO BE COLLABORATING
[01:54:03] WITH OUR FEDERAL AGENCIES. COULD YOU
[01:54:05] MAYBE SPEAK TO OUR CONVERSATION AND
[01:54:09] OUR INTENT TO ALIGN WITH THE DEPARTMENT
[01:54:11] OF TRANSPORTATION AS WELL? YEAH,
[01:54:13] ABSOLUTELY. THANK YOU, COMMISSIONER. SO
[01:54:14] STEPHANIE MENTIONED EARLIER THE SAF
[01:54:16] GRAND CHALLENGE AND THIS IS THE BIDEN
[01:54:18] ADMINISTRATION'S WHOLE OF GOVERNMENT
[01:54:19] APPROACH. AND IT'S REALLY EXCITING
[01:54:21] BECAUSE AS WE KNOW, AS WE'VE BEEN SAYING
[01:54:23] FOR YEARS, IT IS OBVIOUSLY THE
[01:54:25] DEPARTMENT OF TRANSPORTATION, IT'S
[01:54:26] OBVIOUSLY THE DEPARTMENT OF ENERGY, THE
[01:54:27] DEPARTMENT OF AGRICULTURE. WE KNOW IT'S
[01:54:29] DOD AND THAT'S WHY WE'VE BEEN PUSHING
[01:54:31] THROUGH THE NATIONAL DEFENSE
[01:54:32] AUTHORIZATION ACT, ET CETERA, ET CETERA.
[01:54:34] AND SO THEY REALLY ARE TRYING TO ALIGN
[01:54:36] BETTER. I WANT TO GIVE A QUICK SHOUT OUT
[01:54:37] TO REPRESENTATIVE DEL BENAY, FOR
[01:54:39] EXAMPLE, WHO HAS A BILL TO CREATE A
[01:54:41] JOINT OFFICE OF ENERGY AND
[01:54:43] TRANSPORTATION TO SPECIFICALLY LOOK AT
[01:54:45] ALTERNATIVE FUELS FOR BOTH MARITIME AND
[01:54:46] AVIATION. AND THAT'S REALLY IMPORTANT.
[01:54:48] SO I THINK WE ARE ALIGNED. I THINK WE'RE
[01:54:51] VERY LUCKY THAT THE BIDEN ADMINISTRATION

[01:54:53] SHARES OUR VALUES AS IT RELATES TO SAF
[01:54:55] AND HAS BEEN ABLE TO, MOSTLY THROUGH THE
[01:54:57] INFLATION REDUCTION ACT, REALLY START TO
[01:54:59] PUT IN PLACE THOSE POLICIES THAT COULD
[01:55:01] BE SUPPORTIVE. AND I THINK EVEN BEYOND
[01:55:05] THE POLICY PIECE, THAT BULLY PULPIT AND
[01:55:08] THAT ABILITY TO BRING THE PRIVATE SECTOR
[01:55:10] INTO THE MIX AND HAVE THESE
[01:55:11] CONVERSATIONS, AGAIN, AS I STARTED WITH
[01:55:14] REALLY ELEVATES THE CONVERSATION ABOUT
[01:55:15] STAFF TO A POINT THAT I THINK IS REALLY,
[01:55:17] REALLY HELPFUL FOR EVERYONE.
[01:55:21] COMMISSIONER FELLEMAN, I HAVE A QUESTION
[01:55:24] FOR EXECUTIVE FITCH. WHAT'S WITH THE
[01:55:26] PICTURE OF THE PORT OF TACOMA ON THE
[01:55:31] FIRST? WELL, YOU'RE NOT THE FIRST TO
[01:55:32] SPOT THAT. YOU'RE THE FIRST TO CHASTISE
[01:55:34] ME PUBLICLY. BASED IN OLYMPIA. IT'S PORT
[01:55:37] OF TACOMA'S HARBOR. IT'S ALSO
[01:55:40] TIED FOR MY TOP 75 FAVORITE PORT
[01:55:43] DISTRICTS IN THE STATE. ALL RIGHT, JUST
[01:55:46] FOR THE RECORD, ACTUALLY, I WAS
[01:55:48] INTERESTED IN A COUPLE OF QUESTIONS.
[01:55:51] THE QUESTION ABOUT EVALUATING THE
[01:55:53] IMPACTS OF ULTRA FINES. THAT'S A
[01:55:55] CHALLENGING QUESTION. I WAS WONDERING
[01:55:57] PERHAPS, STEPHANIE, YOU HAD SOME INSIGHT
[01:55:59] WITH THE LEGISLATION REQUIRING THIS
[01:56:02] AMENDMENT TO EVALUATE IT. HOW ARE WE
[01:56:04] GOING TO GO ABOUT DOING THAT? WELL, TWO
[01:56:07] UNIVERSITIES ARE NAMED AS HELPING TO DO
[01:56:10] THAT WORK. BOTH UNIVERSITY OF WASHINGTON
[01:56:12] AND WASHINGTON STATE UNIVERSITY, WITH
[01:56:14] THE POWER OF THE ENTIRE FAA ASCENT
[01:56:16] RESEARCH COMMUNITY BEHIND THEM, WILL BE
[01:56:19] TASKED WITH THAT CHALLENGE. BUT THERE
[01:56:22] HAS BEEN A LOT OF RESEARCH BEING DONE AT
[01:56:24] THE FEDERAL AND INTERNATIONAL LEVELS TO
[01:56:26] LOOK AT WHAT THE ULTRA FINE PARTICULATE
[01:56:28] REDUCTIONS ARE, DEPENDING ON WHAT IS
[01:56:29] HAPPENING IN THE ENGINE THRUST
[01:56:31] CONDITIONS OF THE AIRCRAFT, DEPENDING ON
[01:56:33] WHAT PHASE OF LANDING OR TAKEOFF IT'S
[01:56:36] IN, AS WELL AS WHAT PERCENTAGE OF SAF IS
[01:56:39] IN THE ENGINE AT THAT TIME. IT WILL BE
[01:56:42] CHALLENGING TO DO THAT FOR ANYTHING
[01:56:43] LANDING HERE, OF COURSE. BUT THE FOCUS,
[01:56:45] I THINK, WILL BE THAT WE WILL GIVE ANY
[01:56:47] DATA ON SAF THAT'S UPLOADED HERE AT
[01:56:51] SEATAC AND GIVE THAT INFORMATION TO THOSE
[01:56:54] UNIVERSITIES TO WORK ON THAT. BUT
[01:56:56] THEY'LL BE USING THE LATEST SCIENCE THAT
[01:56:59] IS OUT THERE, THAT IS MEASURING THOSE
[01:57:01] IMPACTS AT THE ENGINE EXHAUST
[01:57:05] LEVEL OF THE AIRCRAFT. LET ME JUST
[01:57:08] COMPILE THE SCIENCE RATHER THAN DO IT.
[01:57:10] WE'RE NOT DOING EXPERIMENTS. THEY'RE
[01:57:12] GOING TO BE DOING THE CALCULATIONS BASED
[01:57:14] ON THE EXISTING SCIENCE. JUST REALLY
[01:57:16] QUICKLY, I WANT TO CALL OUT THAT
[01:57:18] REPRESENTATIVE SMITH HAS A BILL THAT
[01:57:19] WOULD REQUIRE A FEDERAL STUDY OF UFPS,
[01:57:21] AND SPECIFICALLY LOOKING AT UFPS RELATED

[01:57:23] TO STAFF. THAT LEGISLATION DID MAKE IT
[01:57:25] INTO THE HOUSE VERSION OF THE FAA BILL.
[01:57:28] AND SO WE'RE HOPEFUL THAT WILL BECOME
[01:57:29] LAW AS WELL. GREAT, BECAUSE I KNOW
[01:57:31] THERE'S A LOT OF INTEREST IN THAT. I
[01:57:32] ALSO WAS WONDERING WHETHER THIS EVERETT
[01:57:34] CENTER AT PAINT FIELD, THIS WAS
[01:57:36] SOMETHING THAT CAME OUT OF THE BLUE. I
[01:57:38] DON'T KNOW. DO YOU HAVE ANY BACKGROUND
[01:57:40] ON ARE THEY GOING TO BE INVOLVED IN
[01:57:41] SOMETHING LIKE THIS? THAT CENTER IS
[01:57:45] FOCUSED A LOT ON THE QUALIFICATIONS,
[01:57:47] THE CHEMICAL QUALIFICATIONS, THE ASTM
[01:57:49] STANDARD OF FUELS. SO IT'S GOING TO BE
[01:57:52] VERY MUCH IT'S AN EXTENSION OF ONE OF
[01:57:53] THE MAJOR RESEARCHERS AT WSU AND I THINK
[01:57:56] IT'S ALSO IN PARTNERSHIP WITH PNNL TO
[01:58:00] ESTABLISH THAT FACILITY AT PAYNE FIELD.
[01:58:03] SO IT IS MORE FOCUSED ON TESTING AND
[01:58:07] QUALIFICATION OF FUELS THAN IT IS
[01:58:10] BROADER THAN THAT, FROM MY
[01:58:11] UNDERSTANDING. IF ANYONE WOULD LIKE TO
[01:58:13] ADD MORE TO THEIR UNDERSTANDING. SO
[01:58:15] THAT'S MY KNOWLEDGE ABOUT THAT FACILITY
[01:58:18] AT PAIN. IT'S VERY MUCH FOCUSED ON FUEL
[01:58:20] TESTING. OKAY, SO THE LAST THING IS ERIC
[01:58:24] JUST MENTIONED A COUPLE OF VERY QUICKLY
[01:58:27] MOVING PIECES OF LEGISLATION THAT AT THE
[01:58:31] FEDERAL LEVEL THAT MIGHT NEED OUR
[01:58:33] ATTENTION THAT I LOVE THE FARM TO FLY
[01:58:36] CENTER. THAT'S A WHOLE NEW TERM OF ART
[01:58:39] FOR ME. BUT OBVIOUSLY THE CANTWELL
[01:58:41] AMENDMENT FOR THIS WEEK'S MARKUP OF THE
[01:58:44] COMMERCE. SO THAT SEEMS PRETTY PRESSING.
[01:58:48] I DON'T KNOW WHETHER WE HAVE ENGENDERED
[01:58:50] OUR COALITION TO WEIGH IN ON THAT. YES,
[01:58:53] WE HAVE. WE ACTUALLY HAD A REALLY GREAT
[01:58:55] CALL YESTERDAY WITH STAFF FROM SENATOR
[01:58:57] CANTWELL AND SENATOR WARNOCK'S OFFICES.
[01:59:00] THE CHALLENGE AGAIN IS BECAUSE IN THE
[01:59:02] SENATE THIS BILL HAS TO PASS WITH 60
[01:59:04] VOTES. THEY REALLY DON'T WANT IT TO BE A
[01:59:06] PARTISAN AMENDMENT. UNFORTUNATELY, THE
[01:59:08] RANKING MEMBER OF SENATE COMMERCE,
[01:59:09] SENATOR TED CRUISE, IS NOT ONLY OPPOSED TO
[01:59:12] STAFF, BUT ALSO OPPOSED TO ANY POLICIES
[01:59:15] RELATED TO REDUCING AIRCRAFT EMISSIONS.
[01:59:17] SO WE ARE TALKING TO SOME OTHER
[01:59:20] REPUBLICANS ON THE COMMITTEE WHO ARE
[01:59:22] FROM FARM STATES WHO BENEFIT FROM THE
[01:59:23] RFS AND HOPING TO GET THEIR SUPPORT. I
[01:59:27] WOULD THINK THAT WOULD BE A NATURAL
[01:59:28] ALLIANCE. AND THEN I GUESS WE ALSO HAVE
[01:59:31] WHATEVER THE IMPLEMENTATION OF
[01:59:35] THE RULEMAKING FOR THE LENDERS TAX
[01:59:38] CREDIT AND THEN THE DECISION MAKING
[01:59:40] PROCESS FOR THE DOD PILOT PROJECT.
[01:59:43] AND SO DO YOU HAVE ANY OTHER IDEA WHAT
[01:59:46] TIME FRAMES WE'RE TALKING ABOUT HERE?
[01:59:48] SO I THINK THAT THE TREASURY GUIDANCE
[01:59:52] ON THE SAF LENDERS TAX CREDIT SHOULD BE
[01:59:54] THIS YEAR. LIKE I SAID, I THINK I GOT AN
[01:59:57] UPDATE YESTERDAY THAT THE GRANT PROGRAM

[01:59:59] FOR SAF THROUGH DOT WILL PROBABLY BE
[02:00:01] BEGINNING OF NEXT YEAR. WE DO BELIEVE
[02:00:05] THAT THE DOD WILL PUT SOMETHING IN PLACE
[02:00:07] THIS YEAR. WE JUST HAD A CALL WITH ADAM
[02:00:08] SMITH'S OFFICE AGAIN AND THEY'RE TRYING
[02:00:11] TO DETERMINE THAT IT IS SO MANY THINGS
[02:00:13] IN THE NDAA AND SO MANY THINGS GOING ON,
[02:00:15] PARTICULARLY WITH UKRAINE, THAT THIS HAS
[02:00:17] NOT BEEN THE TOP OF THEIR PRIORITY LIST.
[02:00:18] BUT WE ARE TRYING TO MAKE SURE THAT ONCE
[02:00:20] THEY GET TO IT, THEY REALLY DO CONSIDER
[02:00:23] OUR FEEDBACK AND LOOK AT THIS REGION
[02:00:25] BECAUSE AGAIN, THE WHOLE POINT OF THAT
[02:00:27] NDA PROVISION IS THAT WE NEED TO CREATE
[02:00:29] THAT REGIONAL DEMAND SIGNAL. AND SEATAC
[02:00:32] ALONE IS PRETTY GOOD, BUT SEATAC AND
[02:00:35] MCCORD WOULD BE REALLY GOOD. THANK YOU
[02:00:38] VERY MUCH. AND ALL YOUR WORK ON THAT.
[02:00:44] WELL, THANK YOU SO MUCH. I DON'T THINK
[02:00:46] ANY OF THIS WOULD BE POSSIBLE WITHOUT
[02:00:47] YOUR SUBJECT MATTER EXPERTISE, YOUR
[02:00:49] CREATIVITY,
[02:00:53] YOUR ADVOCACY. I RECOGNIZE THE HARD WORK
[02:00:55] THAT YOU'VE ALL PUT IN, INCLUDING ON
[02:00:57] WEEKENDS AND WEEKNIGHTS, IN ORDER TO
[02:00:58] BRING US TO WHERE WE ARE TODAY. AND WE
[02:01:01] ARE YOUR PARTNERS IN HELPING SEE THIS
[02:01:05] THROUGH FOR THE BENEFIT OF NOT JUST OUR
[02:01:08] LOCAL BUSINESSES, OUR COMMUNITY MEMBERS,
[02:01:10] OUR ENVIRONMENT, ALL OF US ARE
[02:01:11] STAKEHOLDERS IN THIS. SO THANK YOU SO
[02:01:13] MUCH FOR THIS TREMENDOUS PRESENTATION.
[02:01:16] WITHOUT ANY FURTHER QUESTIONS OR
[02:01:17] COMMENTS FROM MY COLLEAGUES, WE ARE AT
[02:01:19] THE END OF OUR MORNING STUDY SESSION.
[02:01:21] SO, EXECUTIVE DIRECTOR METRUCK, DO YOU
[02:01:23] HAVE ANYTHING ELSE BEFORE WE CLOSE UP?
[02:01:26] THANKS, COMMISSIONERS, FOR JUST
[02:01:29] YOUR ATTENTION AND ALL YOUR QUESTIONS ON
[02:01:31] THIS. AND ESPECIALLY THANKS TO THE STAFF
[02:01:33] AND EXECUTIVE DIRECTOR FITCH FOR COMING
[02:01:37] HERE AND FOR GIVING US THIS UPDATE ON,
[02:01:39] AS YOU CAN TELL, WE'RE WORKING ACROSS
[02:01:41] ALL THE DIFFERENT AVENUES TO APPROACH
[02:01:43] THIS AND ADVANCE THIS IMPORTANT WORK FOR
[02:01:44] US. AND APPRECIATE YOUR FOCUS ON THIS
[02:01:48] AND YOUR DRIVE ON THIS TO DRIVE US
[02:01:51] FORWARD. SO, THANK YOU, WE APPRECIATE
[02:01:52] YOU, DIRECTOR METRUCK. AND WITH THAT, WE
[02:01:54] ARE ADJOURNED. THE TIME IS ELEVEN FIVE.
[02:01:58] THANK YOU EVERYONE, FOR THE DISCUSSION

END OF TRANSCRIPT