

19 DR. SPINRAD: THANK YOU, DR. CICERONE, FOR
20 THAT WONDERFUL AND ENLIGHTENING TALK.

21 WE HAVE SOME TIME FOR QUESTIONS FROM THE
22 AUDIENCE HERE BEFORE WE TAKE A BREAK, SO I WOULD LIKE
23 TO OPEN IT UP.

24 I HAVE TWO REQUESTS OF YOU, FOR THOSE OF
25 YOU WHO WOULD LIKE TO RAISE QUESTIONS: ONE IS THAT

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1 YOU USE THE MICROPHONES FOR RECORDING PURPOSES,
2 LOCATED IN THE CENTER AISLE; AND THE SECOND IS THAT
3 YOU IDENTIFY YOURSELVES SO THAT WE KNOW WHERE TO FIND
4 YOU.

5 SO QUESTIONS FROM THE AUDIENCE?

6 WHILE YOU'RE THINKING OF THAT, PERHAPS I
7 CAN KICK OFF WITH A QUESTION THAT I HAD, AND IT COMES
8 BACK TO YOUR STATEMENT THAT SCIENTISTS ARE NECESSARY
9 BUT NOT SUFFICIENT WITH RESPECT TO MITIGATION AND
10 ADAPTATION EFFORTS, AND ESPECIALLY IN LIGHT OF THE
11 DICKS/OBEY LEGISLATION, I'M WONDERING IF THERE IS
12 ANYTHING THAT YOU WOULD RECOMMEND THAT WE, AS
13 SCIENTISTS, SHOULD DO MORE OF OR, FOR THAT MATTER,
14 WHAT WE MIGHT DO LESS OF IN THIS REGARD.

15 DR. CICERONE: YES.

16 (LAUGHTER)

17 I THINK THE TOUGHEST ISSUE OF ALL IS
18 TURNING OUT TO BE COMMUNICATION, AND COMMUNICATING IN
19 AN ENVIRONMENT WHERE THE POPULATION AT LARGE DOESN'T
20 UNDERSTAND NUMBERS AND STATISTICS, AND IT'S A SOCIETY
21 THAT WANTS ZERO RISK ACROSS THE BOARD, WHERE WE,
22 BECAUSE OF THE NECESSITY OF BEING SPECIALIZED AND TO
23 MAKE A CONTRIBUTION IN OUR INDIVIDUAL FIELDS, HAVE
24 BECOME SO NARROW BECAUSE WE'VE HAD TO GO SO DEEPLY
25 THAT WE'VE LOST OUR ABILITY TO COMMUNICATE WITH EACH

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1 OTHER AS WELL AS THE SOCIETY AT LARGE. SO I THINK
2 COMMUNICATION WOULD BE AT THE TOP OF THE LIST;
3 SPECIFICALLY, I THINK WHAT WE HAVE TO DO ON
4 MITIGATION AND ADAPTATION IS TO HELP TO SORT THROUGH
5 OPTIONS.

6 FOR EXAMPLE, ETHANOL AS A BIOTRANSPORTATION
7 FUEL; WE HAVE TO BE ABLE TO HELP INVESTORS, PRIVATE
8 AND PUBLIC, TO DECIDE JUST HOW GOOD AN INVESTMENT
9 ETHANOL WILL BE. CORN-BASED ETHANOL, AS WE KNOW, HAS
10 VERY MANY TRADE-OFFS, WHICH HAVEN'T BEEN WORKED OUT
11 VERY WELL. SO WE HAVE TO HELP PEOPLE TO SORT THROUGH
12 OPTIONS.

13 WE GET COMMON QUESTIONS ADDRESSED TO ALL OF
14 US ALL THE TIME: SHOULD I RECYCLE? SHOULD I USE
15 FOAM CUPS, STYROFOAM DRINKING CUPS? WELL, WE HAVE TO
16 BE ABLE TO ANSWER QUESTIONS LIKE THAT. AND IT'S
17 THINGS THAT USUALLY WE DON'T FOCUS ON.

18 SO, GENERALLY SPEAKING, COMMUNICATION WITH
19 THE GENERAL PUBLIC IS GOING TO BE THE BIGGEST DEMAND
20 ON US, I THINK.

21 DR. ELKINS: RALPH, THIS IS JIM ELKINS.

22 YOU TALKED ABOUT WHAT THE FEDERAL
23 GOVERNMENT'S DOING. WHAT ARE STATE GOVERNMENTS

24 DOING? I MEAN, OBVIOUSLY, CALIFORNIA HAS PLAYED A
25 BIG ROLE. BUT FROM YOUR PERSPECTIVE AND FROM WHERE
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1 YOU ARE, ARE STATES ACTUALLY MOVING FORWARD?

2 DR. CICERONE: WELL, WE'RE SEEING
3 TREMENDOUS ACTION AT THE STATE LEVEL. I THINK YOU
4 KNOW, JIM, IN CALIFORNIA JUST ONE EXAMPLE IS THE
5 ELECTRICITY USAGE PER PERSON IN CALIFORNIA HAS BEEN
6 FLAT FOR ABOUT 30 YEARS; WHEREAS, ELECTRICITY
7 CONSUMPTION IN THE REST OF THE COUNTRY HAS INCREASED
8 IN THE UNITED STATES LIKE THAT.

9 NOW, THIS SLIDE CAME TO ME FROM STEVE CHU
10 AT LBL, SO IT GIVES SPECIAL CREDIT TO AN LBL PERSON,
11 BUT HE DESERVES A LOT OF IT.

12 THERE ARE A LOT OF REASONS FOR THIS.
13 CALIFORNIA INTRODUCED AN ELECTRICITY PRICING
14 STRUCTURE WHICH BILLS PEOPLE MORE FOR ELECTRICITY AT
15 THE HOURS OF PEAK USAGE, AND PEOPLE HAVE ADAPTED TO
16 USE SOME OF THEIR ELECTRICITY IN OFF-HOURS.
17 CALIFORNIA REQUIRED STRICT INSULATION IN
18 REFRIGERATORS BECAUSE IT TURNS OUT, AT THE BEGINNING
19 OF THIS PERIOD, THE BIGGEST USAGES OF ELECTRICITY IN
20 THE AVERAGE HOUSEHOLD WAS THE REFRIGERATOR. BY THE
21 WAY, IT'S NOW VAMPIRE ELECTRICITY USE FROM STAND-BY
22 APPLIANCES. THOSE LITTLE LIGHTS THAT ARE ON TO
23 INDICATE YOUR APPLIANCES ARE IN STAND-BY MODE ARE NOW
24 CONSUMING MORE ELECTRICITY PER HOUSEHOLD THAN
25 REFRIGERATORS.

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1 I HAVE TO FINISH THIS STORY, JIM. THE
2 REFRIGERATORS GOT BIGGER DURING THIS WHOLE PERIOD OF
3 TIME. REFRIGERATORS GOT BIGGER UNTIL ABOUT HERE, AND
4 THEY CAN'T GET BIGGER ANYMORE BECAUSE THE SIZE OF THE
5 DOORWAY IN AN AVERAGE HOUSE NOW LIMITS THE SIZE OF
6 REFRIGERATORS AT 23.6 CUBIC FEET. SO PEOPLE HAVE
7 GOTTEN BIGGER REFRIGERATORS, REFRIGERATORS ARE USING
8 LESS ELECTRICITY EVEN THOUGH THEY HAVE GOTTEN BIGGER
9 BECAUSE OF INSULATION REQUIREMENTS LEVIED BY THE
10 STATE OF CALIFORNIA. BUT IN THE MEANTIME, THE
11 VAMPIRE USAGE HAS GROWN.

12 ONE OTHER THING I OUGHT TO MENTION IS THE
13 SUPREME COURT DECISION WHERE MASSACHUSETTS LED THE
14 WAY.

15 SORRY, I'VE GOT A SLIDE HERE.
16 BACK IN APRIL A LAWSUIT FILED THAT WAS
17 AGREED TO BE HEARD BY THE UNITED STATES SUPREME COURT
18 WAS LED BY MASSACHUSETTS, AND THE SUPREME COURT
19 DECIDED IN FAVOR OF MASSACHUSETTS AND THE TEN STATES
20 THAT JOINED MASSACHUSETTS THAT THE UNITED STATES EPA
21 NOT ONLY HAS THE AUTHORITY, IT HAS THE RESPONSIBILITY
22 TO REGULATE CARBON DIOXIDE AS AN EMISSION FROM MOTOR
23 VEHICLES, WHICH THIS CURRENT ADMINISTRATION HAD SAID
24 IT DID NOT, AND THAT THE SCIENCE WAS TOO UNCERTAIN
25 AND, IN ANY CASE, EPA NEITHER HAD THE AUTHORITY NOR

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1 THE RESPONSIBILITY. THE SUPREME COURT SAID, NO,
2 THAT'S NOT TRUE. THIS LAWSUIT, AS YOU PROBABLY

3 REMEMBER, JIM, WAS BROUGHT BY MASSACHUSETTS AND TEN
4 OTHER STATES.

5 AND STATES ARE ALSO BANDING TOGETHER IN A
6 LOT OF REGIONAL ALLIANCES TO SHARE ENERGY AND TO
7 SHARE TECHNOLOGIES, I THINK, WHICH WILL BE VERY
8 VALUABLE.

9 DR. SPINRAD: THANK YOU.

10 YES, ONE MORE QUESTION.

11 DR. KURYLO: MY NAME IS MIKE KURYLO FROM
12 NASA.

13 HOW DO YOU FEEL THAT THE FOCUS ON
14 MITIGATION AND ADAPTATION STANDS RELATIVE TO OUR NEED
15 TO MAINTAIN AND EXTEND GLOBAL CLIMATE QUALITY DATA
16 RECORDS?

17 DR. CICERONE: PERSONALLY, I'M VERY WORRIED
18 ABOUT IT BECAUSE I'M PRIMARILY A SCIENTIST, AND MY
19 FOCUS IS TO TRY TO ADVANCE THE SCIENTIFIC COMMUNITY.
20 I AM WORRIED THAT WE HAVE TOO MANY PEOPLE GOING
21 AROUND NOW SAYING THE SCIENCE IS SETTLED. THE
22 STATEMENT FIRST CAME OUT OF ENVIRONMENTAL GROUPS.
23 THEY WERE TRYING TO TELL EVERYBODY THE SCIENCE IS
24 SETTLED, LET'S GET ON WITH CHANGING; AND
25 UNFORTUNATELY, THAT IS HAVING, I THINK, THE

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1 INADVERTENT EFFECT OF TELLING CERTAIN GOVERNMENT
2 AGENCIES THAT THEY DON'T HAVE TO SUPPORT RESEARCH AS
3 VIGOROUSLY ANYMORE. AND THAT WOULD BE EXTREMELY
4 SHORTSIGHTED AND NEGATIVE.

5 IS THAT WHAT YOU HAD IN MIND, MIKE?

6 DR. KURYLO: YES.

7 DR. CICERONE: I'M WORRIED ABOUT IT, BUT I
8 THINK THE FACT THAT SCIENTISTS ARE NECESSARY DURING
9 THE MITIGATION AND ADAPTATION WORK AND THE STUNNING
10 VALUE OF THE KIND OF WORK THAT IS IN THE IPCC REPORTS
11 AND SOME OF THE SLIDES THAT I'VE SHOWED TODAY I THINK
12 WILL HELP TO CONVINCE GOVERNMENTS AROUND THE WORLD TO
13 CONTINUE TO SUPPORT RESEARCH, BUT I'M WORRIED ABOUT
14 IT.

15 DR. KURYLO: I THINK ONE OF THE GREAT
16 BENEFITS OF THIS CONFERENCE IS THE REAFFIRMATION OF
17 THAT ROLE.

18 DR. SPINRAD: THANK YOU.

19 ON THAT NOTE, WHICH IS A PERFECT NOTE,
20 LET'S THANK DR. CICERONE AGAIN. THANK YOU.

21 (APPLAUSE)

22 AND I UNDERSTAND THAT DR. CICERONE WILL BE
23 WITH US FOR THE CONFERENCE, SO IF YOU WOULD LIKE TO
24 CORNER HIM DURING THE BREAK, YOU'LL HAVE AN
25 OPPORTUNITY.

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1 WE WILL BE TAKING A BREAK NOW UNTIL 10:45,
2 WHEN WE'LL COME BACK AND DISCUSS WHAT WE'VE LEARNED
3 FROM THE CO2 RECORD. PLEASE ENJOY THE POSTERS, ENJOY
4 THE BREAK, AND BE BACK HERE AT 10:45.

5 THANK YOU.