

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

Suffolk County Legislature

2007 Carbon Cap
Implementation Committee

August 9, 2007

2:00 P.M.

Held at:

H.L. Dennison Building
Hauppauge, New York

1 Carbon Cap Implementation Advisory Committee and
Support Staff:

2 Wayne Horsley, Sponsor
3 Economic Development, Higher Education and Energy Committee

4 Neal Lewis, Co-Chair - Neighborhood Network

5 Carrie Meek Gallagher, Co-Chair
Commissioner of Department of Environment and Energy

6 Michael White - Long Island Regional Planning Board

7 Jon Waffenschmidt - Office of Minority Leader Losquadro

8 Joe Schroeder - Energy Specialist, Suffolk County BRO

9 Yacov Shamash -
10 Dean, SBU College of Engineering and Applied Science

11 Dr. W. Hubert Keen - President, SUNY Farmingdale

12 Paul Kalb - BNL Environmental Research and Technology

13 Gordian Raacke - Executive Director RELI (Via telephone)

14 Adrienne Esposito - Executive Director,
Citizens Campaign for the Environment

15 Harry Davitian - Chair, LIA Energy Committee

16 Mark Seratoff - SEA-Long Island

17 Robert Teetz - Keyspan
18 Director, Environmental Engineering and Compliance

19 James Meyers -
Suffolk Department of Health and Human Services

20 Todd Stebbins - Department of Energy

21 Joseph Muncy - Suffolk County Legislature

22 Brendan Stanton - Office of Legislator Wayne Horsley

23 Andrew Manitt - Neighborhood Network

24 Beth Fiteni - Neighborhood Network

25 John McNally, Rausch Foundation

1 8-9-07

2 MS. GALLAGHER: Thanks, everyone, for
3 coming this afternoon. We're passing around
4 this attendance sheet, just initial that you're
5 here. Everyone has packets. Everyone has these
6 yellow agendas.

7 For everyone's benefit, I am Carrie
8 Gallagher, Commissioner of Environment and
9 Energy, co-chair with Neal Lewis.

10 MR. LEWIS: Hi. Neal Lewis, Neighborhood
11 Network.

12 MR. SCHROEDER: Joe Schroeder, Suffolk
13 County legislature.

14 MR. MUNCY: Joe Muncy, Suffolk County
15 Legislature.

16 MR. STEBBINS: Todd Stebbins, Department
17 of Energy.

18 MR. WAFFENSCHMIDT: Jon Waffenschmidt.

19 MR. DAVITIAN: Harry Davitian, chair,
20 Long Island Association Energy Committee.

21 MR. STANTON: Representative to Legislator
22 Horsley.

23 MR. MANITT: Andrew Manitt, Neighborhood
24 Network.

25 MR. KALB: Brookhaven National Lab.

1 DR. KEEN: Hubert Keen, President,
2 Farmingdale State.

3 MR. TEETZ: Bob Teetz, Environment
4 Engineering and Compliance at Keyspan, soon to
5 be National Grid.

6 MR. HORSLEY: We're still fighting about
7 that.

8 MS. SHEA: Ann Marie Shea from Stony Brook.

9 MR. HORSLEY: Wayne Horsley, intervenor in
10 the National Grid application.

11 MR. LEWIS: We have a sign-in sheet,
12 right? Has that made it around? I was just
13 thinking, why don't we ask for a little from the
14 guests.

15 MR. MEYERS: Jim Meyers from Health and
16 Human Services.

17 MS. FITENI: Beth Fiteni with Neighborhood
18 Network.

19 MR. MCNALLY: John McNally, Rausch
20 Foundation.

21 MR. LEWIS: Welcome, guys.

22 Well, how about Wayne, do you want to say
23 anything, or Carrie Gallagher?

24 MS. GALLAGHER: I actually have to say that
25 my co-chair's doing a great job and I want to

1 give him full credit. I think one of the goals
2 as we move forward is to really get a handle on
3 what we want the report to look like, and I
4 think the agenda is set up in such a way as to
5 give us kind of a general outline of what the
6 report would look like so we don't find
7 ourselves in March, a month before the report is
8 due, you know, not having started collecting
9 information.

10 It's due in April, right, Brendan?

11 Did we have our first meeting in March or
12 April?

13 MR. STANTON: Yeah. So it would be due in
14 April, from the extension.

15 MS. GALLAGHER: I'd say it would be nice
16 to have a draft by January so we'd have a couple
17 of months to refine it. Which means that the
18 next couple committee meetings should focus on
19 gathering the information and then kind of
20 refining it along the way. And the way that the
21 agenda is laid out I think helps us go through
22 and then kind of give assigned tasks to various
23 people that think they're able to collect the
24 information we're looking for.

25 MR. LEWIS: Gordian, are you there?

1 (Pause in proceeding)

2 MR. LEWIS: With that momentary break, we
3 have Adrienne Esposito who just joined us now.

4 On the record.

5 The point that you made about the due date,
6 Carrie, I think is also an interesting
7 opportunity for us to maybe get to a point where
8 we have the baseline data that we're expected to
9 generate perhaps even well in advance of our
10 date. Because, frankly, the discussion of
11 recommendations may be a little more time-
12 consuming. But if we could at least, you know,
13 depending on how well today's meeting goes and
14 the followup to today's meeting, we may actually
15 be in the situation, as we approach the next
16 meeting, where we'll have essentially the
17 outline of the data part of the report. And,
18 you know, when we do get there, maybe we can
19 just post it on the website. And as we go
20 forward discussing the recommendations, at least
21 the numbers, which I think on some level,
22 organizing it in the way that we're organizing
23 it, I don't think that's been done before, so it
24 might be a useful, interesting set of numbers
25 that could be used in more than one way.

1 MS. GALLAGHER: Despite the legal opinion,
2 which we'll get to later in the agenda, at least
3 provide some valuable information to help the
4 County and other entities within Suffolk County
5 in making informed decisions moving forward with
6 regard to their carbon footprint.

7 MR. LEWIS: For Gordian's benefit, let me
8 just read an outline of the agenda.

9 We have, as Carrie said after the intros,
10 we are going to get into the baseline data that
11 the law requires to generate, and would be from
12 Keyspan.

13 No, he doesn't have the agenda.

14 MS. GALLAGHER: Can we fax you a copy of
15 the agenda? Gordian, did we lose you?

16 MR. LEWIS: It's good to check every once
17 in a while. But that actually saves me from
18 running through the agenda. Everybody else has
19 it in front of them.

20 My two cents are essentially what I just
21 said, which is the goal to get the data part of
22 this process collected soon so we can move on to
23 the discussion of the other stuff. Hopefully
24 today we're going to make big strides in that
25 direction.

1 How about Wayne, do you have any opening
2 thoughts?

3 MR. HORSLEY: Just as Bob mentioned before,
4 the acquisition is moving along. I think
5 everyone anticipates that the PSC will rule on
6 the 22nd. But they have to have the acquisition
7 finalized before the 25th?

8 MR. TEETZ: Closing I believe is set for
9 the 24th.

10 MR. HORSLEY: Either way.

11 MS. ESPOSITO: Your press conference is the
12 24th.

13 MR. TEETZ: I think the 25th is a Saturday,
14 what we're calling Monday the 27th.

15 MR. HORSLEY: Okay. And I think basically
16 -- yes, of this month, August. And what we've
17 read in the paper about repowering the
18 maintenance levels that National Grid has agreed
19 to as far as the power plants in question are
20 pretty well-documented in the papers and the
21 like.

22 So I think these numbers are going to be
23 good. I think they're going to be
24 all-important, because we'll be able to monitor
25 the situation, and I think more important today

1 than I thought they were several months ago when
2 we started this venture.

3 MS. GALLAGHER: Hello, Gordian. We got
4 disconnected there.

5 MR. LEWIS: Gordian, we're going to keep
6 charging ahead, but basically we did some
7 intros. And we're going to get into presenting
8 some of the data that we need to collect as
9 part of the report that this committee will be
10 generating.

11 So how do we go about doing this? The
12 challenge that this committee is taking on is
13 information that relates to different sectors.
14 You know, whether it's the transportation
15 sector, whether it's home heating, it relates to
16 different fuel sourcing, natural gas, oil,
17 others. And we have a time period that's
18 fascinating, to go from 1990 to 2020. That's
19 quite a time span. So it's both a challenge of
20 getting old information and a challenge of
21 making projections and such. So this is an
22 interesting task that we're taking on here as a
23 committee.

24 Up until now many of the people on the
25 committee have done a fair amount of legwork,

1 particularly and I'm going to throw it to Bob,
2 in generating the information we need to be able
3 to do the things we need to do as the committee.

4
5 So, you know, we have to rely on the people that
6 are here, because there's a lot of information,
7 so we need help.

8 What we agreed at the previous meeting was
9 that we're primarily focused on the electric
10 grid and CO2 as it relates to generating
11 electricity. However, we do want to see the
12 full picture. We're going to attempt to get
13 some transportation numbers, which we've got
14 some help with, which we appreciate. And
15 we've asked for home heating oil and then also
16 home heating with natural gas and other things
17 that natural gas is used for homes and
18 businesses.

19 So we're going to attempt to get all what
20 we talked about trying to get at the last
21 meeting. And we have gotten some of it sent to
22 us before the meeting, and some of it is going
23 to be discussed and presented during this
24 meeting.

25 And as we move forward, our task will be to take

1 all that and start to summarize it.

2 So if we can move forward, as the agenda
3 shows, the first point would be to get a handle
4 on the electric CO2 that's generated as part of
5 electric generation. And, Bob, I'll sort of
6 throw it over to you.

7 MR. TEETZ: If I may, I have a handout to
8 give you; although, it looks like all of them
9 are reproduced in the handout that you gave out.
10 But at least some of them are in color, so it
11 might be just a little bit more for me to hand
12 them out to you this way. So you'll have a
13 duplicate.

14 So the first thing I want to pass around is
15 the scope of work for the repowering study for
16 Northport.

17 MR. LEWIS: You want to start with the
18 scope of work? Because that is more of a --

19 MR. TEETZ: This will only take a second,
20 if you don't mind going out of order, because we
21 did talk about this at the first meeting.

22 I wanted to have everybody take a look at
23 this. This is public information actually on
24 the LIPA website, if you want to delve into it.
25 Not easy to find it. But this is the scope of

1 work that was agreed to between National Grid
2 and LIPA in terms of what would be done for the
3 Northport repowering study.

4 I think if you get a chance to look through
5 it, it's very comprehensive, and it does more
6 than has been done in the past at Northport.
7 And, in particular, it will be an engineering
8 level study as opposed to a feasibility study,
9 which is a lot more cursory and conceptual.

10 This will be an engineering study which
11 will come up with engineering costs,
12 construction costs and associated costs related
13 to electric transmission and other infra-
14 structure changes that would be required at the
15 site to do one or more units to be repowered.

16 The other thing that this does is it will
17 analyze the change that would occur in total
18 emissions and emission rate at the facility.
19 And it will also include an air quality study
20 that will determine not only what the change in
21 actual emissions coming out of the stacks will
22 be but how that will impact local air quality
23 and to what degree.

24 MS. ESPOSITO: How are you going to define
25 "local air"?

1 MR. TEETZ: Air quality on Long Island.

2 MS. ESPOSITO: Thank you.

3 MR. TEETZ: Another thing it is doing is
4 not only determine what the capital costs are
5 for the actual projects but try to relate that
6 back to what the rate impact would be if those
7 projects were pursued, so that if you would
8 understand that you want to repower one, two,
9 three or four units at Northport, here's what
10 the cost would be and here's what the rate
11 impact would be on Long Island. And I think
12 that's really an important part of the overall
13 analysis.

14 MR. SCHROEDER: On the fuel side, is that
15 going to also take into consideration the retail
16 market impact of the natural gas consumers?

17 MR. TEETZ: I don't think you'll see that
18 in here, but that's a good question and perhaps
19 we can expand on that. Obviously a lot will
20 depend on if we're going to use tremendous
21 amounts of additional natural gas than we
22 currently use, as that can drive up costs. On
23 the other hand, we know that there's some supply
24 potential coming down the pike through
25 Broadwater or Islander East Pipeline that would

1 tend to mitigate that.

2 MR. SCHROEDER: Either way, it's competing
3 use, something that should be looked at.

4 MS. ESPOSITO: Thanks, Joe.

5 MR. TEETZ: And certainly we welcome
6 comments on this as you get a chance to look at
7 it. If you think we've missed something, please
8 let me know.

9 MS. ESPOSITO: Is there also a proposal for
10 the Port Jefferson facility?

11 MR. TEETZ: The proposal for the Port Jeff
12 facility, the agreement with LIPA was that
13 Keyspan, National Grid would pay for one hundred
14 percent of this study.

15 MS. ESPOSITO: Of the Northport study.

16 MR. TEETZ: And, just between us at the
17 table, you know, and I don't want this to be
18 quoted anywhere, but we're envisioning that this
19 could be like a million dollar study. We don't
20 know what it will really be until we see the
21 proposal, and but that's what we're targeting
22 for the study.

23 MS. ESPOSITO: This is the exact kind of
24 study we need, though.

25 MR. TEETZ: No question.

1 The Port Jefferson study really came up on
2 the morning of the press release announcement
3 when the agreement was reached with Long Island
4 Power Authority for them to enforce the
5 acquisition of Keyspan by National Grid. And so
6 it's only today or in the last week or two that
7 they've actually been codifying the agreement
8 between National Grid and LIPA for Port
9 Jefferson. And the agreement is that National
10 Grid and LIPA would share the costs of that
11 study. And the assumption is that the scope of
12 work will be similar to what you see right here.
13 So that has not been totally signed on the
14 dotted line, so to speak, but that's the intent.

15 MS. ESPOSITO: Do you envision this study
16 being any different in cost?

17 MR. TEETZ: I think Port Jeff will just be
18 a little bit less just because it is a smaller
19 facility.

20 MS. ESPOSITO: I don't know if that
21 translates into what it costs for a study.

22 MR. TEETZ: I would think the actual cost
23 to do a repowering there will be higher because
24 of the site constraints.

25 MS. ESPOSITO: I meant the study itself.

1 MR. TEETZ: The study itself I suspect will
2 be a little bit less because there's only two
3 units there. There is a lot already known about
4 the site in terms of topography, which you know
5 is very poor. So I suspect that it will be a
6 little less cost.

7 Okay. So that's the repowering study.

8 Next thing is we had talked about the
9 carbon dioxide that is produced by consumer
10 consumption in Suffolk County. I'll get --

11 The top chart basically shows the electric
12 consumption for residential and commercial
13 customers in Suffolk County and the associated
14 carbon dioxide emissions from that electric use.
15 And the CO2 is based on the Public Service
16 Commission environmental label, if you will,
17 which is shown down at the bottom. And this
18 changes every six months.

19 In 2005 the PSC published a CO2 emission
20 rate for all of the electricity consumed on Long
21 Island of 1,176 pounds per megawatt hour.

22 MR. LEWIS: What are we looking at?

23 MR. TEETZ: If you look down at the bottom
24 of the page, it says average CO2 emission rate.
25 That's from LIPA attributable generation

1 sources.

2 So if you look in 2005, and this is what
3 the PSC does, and this comes through information
4 from New York Independent System Operator. They
5 determine the sources of all the power that is
6 consumed on Long Island. Some of it comes from
7 upstate New York. Some of it comes from Nine
8 Mile Point 2 nuclear facility. Some of it is
9 coming through the Connecticut tie lines. Some
10 generated on the Island by Keyspan. Some of
11 it's generated on the Island by some of the
12 municipal solid waste generators and some by
13 independent power producers on Long Island.

14 The PSC basically sums up all of that data
15 and determines what the emission rates of all
16 the various sources are supplying the Long
17 Island area. And in that particular year it was
18 1,176 pounds of CO2 per megawatt hour.

19 Now, that number is, I would call it a
20 soft number, you know. This is a very difficult
21 thing to do, to exactly determine where all the
22 electrons are coming from and what power plant
23 is generating them, and they have to have every
24 power plant in New York and Connecticut in their
25 model that shows this. So that's the best

1 estimate that we have for that particular year,
2 1,176 pounds of CO2 per megawatt hour.

3 So what happens then, if you go back to the
4 top chart, if you take the megawatt hours, if
5 you look at megawatt hours residential, that big
6 number there that starts with a five, five
7 million megawatt hours in 2005, and multiply
8 that by the emission rate, the 1,176 pounds per
9 megawatt hour, that gives you 3.1 pounds.
10 Sorry, that should be pounds. It's not 3.1
11 billion tons.

12 MR. MANITT: I thought that was wrong.

13 MR. LEWIS: You're referring to where it
14 says residential tons?

15 MR. TEETZ: It's supposed to be pounds.

16 MR. WAFFENSCHMIDT: Shouldn't that number
17 be more like sixish? Or someone made that
18 conversion when they thought it was tons.

19 MR. TEETZ: Anybody doing the math here?

20 MR. KALB: I got 5.1.

21 MR. TEETZ: Well, this is subject to
22 correction, then. I'll have to get back to my
23 staff on this.

24 MR. MEYERS: I think that's probably --

25 MR. TEETZ: I'd have to double-check.

1 Just conceptually, this is how it was done.
2 And I'll get back to you with the exact numbers.
3 Apparently, something's wrong with the language
4 here.

5 MR. SCHROEDER: Does the PSC and/or Keyspan
6 or LIPA on the bottom table there keep the fuel
7 use? This is percentage of emissions, right, on
8 the bottom table?

9 MR. TEETZ: Yes.

10 MR. SCHROEDER: Is there a percentage of
11 consumption that we could get added to this as
12 well? You have fuel type, biomass, emissions,
13 but how much of that is --

14 MR. TEETZ: The chart there that talks
15 about the fuel type represents the number of
16 megawatt hours produced by that type of
17 generation.

18 MS. GALLAGHER: That's consumed by LIPA.

19 MR. TEETZ: That's consumed by LIPA.

20 So, in essence, 25 percent of the energy
21 delivered to customers by LIPA came from natural
22 gas.

23 MR. SCHROEDER: I thought, based on average
24 emissions, I'm wondering, 25 percent of the
25 emissions comes from natural gas and 45 percent

1 of the emissions comes from oil. Is it
2 emissions or fuel use to generate energy?

3 MR. WAFFENSCHMIDT: You'd have to multiply
4 by 1.185 or whatever.

5 MR. TEETZ: Just from looking at the --
6 just to go back to the tons again on the top,
7 the numbers are off by a factor of a thousand.
8 It should, be the total should be 6.3 million
9 tons.

10 MS. ESPOSITO: For residential?

11 MR. TEETZ: No, total.

12 MS. GALLAGHER: Instead of 6 billion?

13 MR. TEETZ: Should be 6.37 million tons.
14 Roughly three million from residential, three
15 million from commercial. So I apologize for the
16 decimal place. We'll fix that.

17 I'm going to reissue it.

18 Is everybody clear on how we did that?

19 MR. WAFFENSCHMIDT: We get the concept.

20 DR. KEEN: That's just statewide average?

21 MR. TEETZ: No. The PSC numbers are
22 specific to Long Island.

23 Right here, down to the next chart with the
24 blue stripes, that's the gas consumption in
25 Suffolk County. Gas consumption is in

1 dekatherms, which is millions of BTU. One
2 dekatherm is equal to a million BTU.

3 What we did then was calculate the amount
4 of carbon dioxide that is associated with those
5 amounts of dekatherms of natural gas delivered
6 to customers in Suffolk County. And the bottom
7 line there is 2.3 million tons; essentially due
8 to space heating and cooking, hot water,
9 heating, et cetera.

10 So what we need in parallel to this would
11 be the fuel oil, home heating oil consumed in
12 the same space, same market space, and then we
13 would have the total tons associated with
14 residential and commercial space heating.

15 MR. LEWIS: I'm under the impression that
16 he said he was working on it, and he's hopefully
17 going to be sending it to us, and we'll
18 hopefully have that in the oil sector also.

19 MR. RAACKE: When you say "and
20 commercial", that includes institutional and
21 other nonresidential and commercial usage?

22 MR. TEETZ: Yes. Commercial would include
23 Suffolk County office buildings, et cetera.

24 MR. RAACKE: And is this internal usage by
25 LIPA Keyspan?

1 MR. TEETZ: Internal usage, yes, because
2 that is, all of that is metered.

3 MR. RAACKE: Okay. Street lighting and all
4 the nonmetered --

5 MR. TEETZ: Yes, that would be included.

6 It's calculated in some form, I'm not
7 exactly sure how. But the megawatt hours and
8 dekatherms I got from our people who keep very
9 close track of the send-out of the product.

10 MR. RAACKE: So it's not sales but home
11 generation?

12 MR. TEETZ: That's correct.

13 MR. RAACKE: Thanks.

14 MR. TEETZ: Well, I wouldn't call it
15 generation. I would call it consumption.

16 MS. ESPOSITO: Right.

17 MR. LEWIS: Just for comparison of what
18 we've covered so far, the 2.3 million tons is an
19 annual number of CO2 being generated for natural
20 gas customers, residential and commercial, for
21 space heating and other things that's included
22 in there?

23 MR. TEETZ: That's correct.

24 MR. LEWIS: And that could be compared to
25 the number 6.3 million that is generating CO2

1 for the generation of electricity in only
2 Keyspan's or all LIPA plants?

3 MR. TEETZ: All electricity distributed to
4 LIPA customers regardless of where it came from.

5 MR. LEWIS: Because we were trying to break
6 down the different sources and such.

7 MR. TEETZ: We're going to get it that
8 shortly.

9 MR. LEWIS: We're plowing ahead.

10 MR. TEETZ: I will reissue this. I
11 apologize for the wrong decimal.

12 MR. SCHROEDER: Just to clarify, this
13 quantifies total annual emissions?

14 MR. TEETZ: Yes, for 2005.

15 MR. TEETZ: The next handout --

16 MR. MUNCY: When you say "consumption" on
17 the chart, does that include like the spinning
18 reserve? In other words, generating but not all
19 of it's consumed? Is that part of the
20 calculation? I'm not real clear on that.

21 MR. TEETZ: No. What this is is only
22 what's actually being used by customers behind
23 the meter in Suffolk County.

24 MR. MUNCY: So then there is a portion
25 that the power plant runs that's not consumed,

1 but you still produce CO2 gas during that time
2 frame?

3 MR. TEETZ: That's captured elsewhere.

4 I would say that's a very, very small
5 fraction of the total generation, when we're
6 actually burning fuel without creating kilowatt
7 hours.

8 MR. SCHROEDER: There is a table that says
9 "total" that captures all of this?

10 MR. TEETZ: I think there is, and we'll get
11 to it, and then you can tell me if you think
12 we've missed something.

13 What you see now, this is just an update of
14 what was handed out last time. What it is is
15 the historical and the projected CO2 emissions
16 from Keyspan only, Keyspan plants in Suffolk
17 County, greater than 25 megawatts. And we use
18 the 25 megawatt criteria because I think that's
19 what was in the legislation and it encompasses
20 more than 95 percent of that.

21 So basically what we have here is a year
22 by year analysis by plant, Port Jefferson,
23 Northport, the smaller peaking units, and then
24 the total.

25 And then what I added this time, which

1 was not here last time and someone asked for
2 it, I think it might have been Joe, is the
3 emission rate. So this would be in pounds per
4 megawatt hour, the next to the last column
5 there. Then all the way at the right you have
6 the actual megawatt hours produced from those
7 facilities.

8 MR. LEWIS: So the added column is the
9 second to the right.

10 MR. TEETZ: The last two are the added
11 columns.

12 The next to the last column shows the
13 emission rate. You can see back in 1990 the
14 emission rate was 1,982 pounds per megawatt
15 hour. That's because at that time we were
16 burning only oil at Northport and Port
17 Jefferson. And then there were various
18 conversions that took place during the '90s.

19 Now, if you go down to 2006, which was the
20 later years, the emission rate is 1,398 pounds
21 per megawatt hour in 2006.

22 MR. KALB: Bob, am I missing something?
23 Shouldn't the generation rate in Suffolk County
24 be less than the total we saw on chart one,
25 which was statewide from all sources?

1 MR. TEETZ: No. And the reason for that --
2 That is a good question, though.

3 Let's just focus on this for a second.

4 The CO2 emissions in 2006 on the table I
5 just handed out is 1,398 pounds per megawatt
6 hour. Understood?

7 If you go back to I believe the handout,
8 the document which we talked about where it's
9 1,176 pounds per megawatt hour, that is the
10 entire LIPA electric attribution of all of the
11 sources that supply that energy. So we have
12 nuclear power coming in from transmission lines,
13 zero emissions. We have some hydro coming in
14 from Connecticut, zero emissions. And then
15 there are some other things going on there as
16 well.

17 MR. KALB: How about the total emissions,
18 not emissions rate?

19 MR. TEETZ: In tons?

20 MR. KALB: Yes.

21 MR. TEETZ: Will certainly be different.

22 MR. KALB: I'm looking at total emissions
23 in tons in the third from the last column.
24 Shows 7.3 million, right? And then total
25 emissions from the first chart is 6.3 million,

1 correct?

2 MR. TEETZ: Yes.

3 What we're producing at Northport is used
4 on all of Long Island, okay? The total tons.
5 Also Nassau County. And this is only Suffolk
6 County.

7 MR. KALB: Now I got you.

8 MR. TEETZ: Believe me, there's a lot here.
9 It'll take a while to have all of this soak in.
10 And having an incorrect decimal point doesn't
11 make it any easier. Sorry about that.

12 So is everybody okay with this?

13 MR. LEWIS: Can we just do the other
14 comparison, the 6.3 total tons of CO2 from the
15 first sheet you gave out and how that would
16 compare to the total for Keyspan plants? For
17 2006, I guess.

18 MR. TEETZ: Why don't we use 2005? In 2005
19 Suffolk County Keyspan plants produced 7.3
20 million tons of CO2. Correct? Right? But
21 consumers in Suffolk County, their electricity
22 had an attribution of 6.3 million tons of CO2
23 because it's coming from all sorts of different
24 sources.

25 Does that answer your question?

1 MR. SCHROEDER: Does that 7.3 million
2 account for emissions not attributable to retail
3 consumers? Joe's question was beyond what
4 consumers meters are reflecting.

5 MR. LEWIS: I understand you said this is
6 including some energy being used in Nassau?

7 MR. TEETZ: This table includes everything
8 that came out of the Northport and Port Jeff and
9 the greater than 25 megawatt hour peaking units
10 for that particular unit.

11 As soon as fuel goes in the boiler we're
12 generating CO2, basically a couple of hours
13 before the plant actually kicks into the grid
14 when this starts up. So we're actually counting
15 every drop of fuel that goes in.

16 MR. MUNCY: So the plants that generate the
17 electricity, not all that electric stays in
18 Suffolk County, some goes into Nassau, that
19 might explain the difference?

20 MR. TEETZ: Yes.

21 What I'm handing out now is the
22 non-Keyspan generating units in Suffolk County
23 greater than 25 megawatts, their actual CO2 tons
24 and their emission rates. And this is for the
25 year 2006. This is, by and large, public

1 information that you can get off an EPA website,
2 except for the unit at Stony Brook which we got
3 separately.

4 So basically you have a number of
5 generating facilities on the Island in Suffolk
6 County, and you can see the size of those units
7 there, they're relatively small.

8 MR. LEWIS: Part of what it shows is some
9 numbers on the higher end, not dramatically
10 high, but like this 1,682 would be Hawkeye?

11 MR. TEETZ: Yes. And that's Greenport,
12 because they use only oil out there, there is no
13 gas. Same thing with PP and L Shoreham. 1,581,
14 1,613. No gas, only oil.

15 MR. LEWIS: So then the 1,176 for Brentwood
16 NYPA, is that gas, that's natural gas only?

17 MR. TEETZ: Yes. They may burn a little
18 bit of oil in the winter.

19 MR. LEWIS: And the most dramatic
20 difference is Stony Brook.

21 MR. TEETZ: The Stony Brook facility,
22 because it is not only a combined cycle facility
23 but it's cogen, and you do get credit for the
24 amount of heat that's provided to the buildings
25 there. That's the way to do it.

1 MR. WAFFENSCHMIDT: That's an important
2 point.

3 MR. LEWIS: I think it's helpful for us to
4 see that on paper.

5 MR. WAFFENSCHMIDT: One of the great
6 opportunities in the United States is really to
7 see more C H and P, because that's what they do
8 in Europe. And you do need to credit the
9 generation for the benefit of taking the waste
10 heat and using it. And so this is a correct way
11 to do it. I think it's an important point so
12 that everybody understands, you know, the value
13 of district heating.

14 MR. SCHROEDER: Should be a fair amount of
15 government support for that.

16 But the Hawkeye plant, as an example,
17 LIPA's going to buy power based on heat rate as
18 one of its main factors. Is heat rate available
19 for these as well, or is that too closely
20 guarded information? Because if it's a very
21 efficient plant that emits higher than a gas
22 burning plant, it's probably still going to be a
23 main contributor to the system and in which case
24 you shouldn't exclude it.

25 MR. TEETZ: Generally, if it's going to be

1 a very efficient plant it's going to be a
2 combined cycle unit, and the heat rate would be
3 very good for a combined cycle facility.

4 MR. SCHROEDER: Right. But this isn't a
5 combined cycle facility. But is that
6 information available on this as well?

7 MR. TEETZ: You might be able to get the
8 heat rates. Generally it's not publicly
9 available information because these units in the
10 marketplace are bidding in on an hour and a day
11 ahead basis. But you can probably derive it
12 somehow. But what you're getting here is annual
13 average heat rates, perhaps.

14 I can get it from here. Because if you
15 know the amount of megawatt hours that are
16 produced and the CO2 emission rate, and you know
17 the type of fuel they're burning, you also know
18 the emission factor for that type of fuel. You
19 can go back, calculate and come up with the heat
20 rate here.

21 I would ask you to go down to the NYPA
22 Flynn plant. And circle that number, 1,432.
23 That is what the EPA website says is the pounds
24 per megawatt hour for that facility. I think
25 it's a mistake. I think it's wrong. It really

1 should be lower than that because it is a
2 combined cycle facility, gas-fired. It should
3 be down around in the eleven hundreds.

4 So we're going to get in touch with NYPA
5 about that. That's the NYPA Flynn facility at
6 Holtsville, the one where you see the steam
7 vapor cloud coming off the cooling towers quite
8 often. So that number is subject to correction
9 as well.

10 MR. SCHROEDER: Isn't that oil-fired?

11 MR. TEETZ: Gas-fired as well, backup. But
12 it is a gas unit.

13 I think what may be happening there is this
14 number may be reflective of the simple cycle
15 portion of the facility and they're not taking
16 into account the megawatt hours being generated
17 by the steam cycle. Because it seems like this
18 is simply the load that's produced by the
19 combustion terminal, turbine, taking that and
20 dividing by the megawatt hours to get that
21 number. That's what it would be if it's a
22 single unit. But it is a combined cycle and
23 should have a lower CO2.

24 MR. DAVITIAN: But it is correct for the
25 unit, about 135 total.

1 MR. TEETZ: Yes, but not the megawatt
2 hours. I think megawatt hours noted there were
3 only for the combustion turbine portion and not
4 for the steam cycle. We are going to talk to
5 NYPA and find out, but that's what the EPA
6 website says.

7 What's not here is what Jon is providing
8 today, Covanta's municipal energy facility that
9 would be an added number of tons of CO2 emitted
10 in Suffolk County.

11 MR. LEWIS: Why don't we take a minute
12 going over those numbers. Does that make sense
13 at this point?

14 MR. WAFFENSCHMIDT: I had brought it, but
15 you can just turn to the page in the pocket,
16 page 17.

17 Let me just offer you two comments before I
18 begin. You're interested in 1990 to 2020. One
19 of the things that you find from the waste
20 disposal standpoint is the practices in 1990
21 were much greater for greenhouse gas across the
22 board because you're going to have more
23 landfills that were operating in the area that
24 didn't have controls, and so if you want to
25 really do this task you have an opportunity to

1 present that information. If you went back
2 another ten years, it would be even more
3 dramatic. That's just a point of information.

4 The other thing is there is an AAA overview
5 article on one of the IGCC sites. Open the
6 creative PDF. I can send it over to you if
7 you'd be interested in reading it. It explains
8 how IGCC works and some diagrams. Integrated
9 Gas Combined Cycle. It's AAA, Science magazine,
10 July 13th issue. Because it takes coal and
11 makes it into a gas which would then run through
12 a simple turbine and then through heat recovery
13 with boiler and then steam.

14 The advantage of combined cycle, you get
15 around 55 percent. I don't know how the IGCC is
16 on the natural gas side. You go to about 55 or
17 so. A well-written article. And seems to
18 explain it. Even though it's not directly
19 attributable.

20 I would be happy to send the PDF to you.
21 I'm going to take that as a yes?

22 MR. LEWIS: Yes.

23 MR. WAFFENSCHMIDT: I think one of the
24 important things, and I'm not sure -- I know
25 Babylon is not 25 "megs"; if Huntington is, it

1 just makes it, so it may not even fit in this
2 from a megawatt standpoint.

3 Waste energy is not generally, from our
4 perspective, a competitor to fossil fuel
5 generative capacity. It's a choice of two
6 paths, you're either going to a landfill or you
7 go to a waste energy plant. I think other
8 efforts like this have sometimes line-itemed
9 waste energy against, say, natural gas; as if
10 that were a valid comparison, and from our
11 perspective we believe it is not.

12 Right now you have four waste energy plants
13 on Long Island. That's the data that I have
14 here. The middle one, which is Hempstead, is
15 located in Nassau. The other plant, which is
16 not represented here, is Islip.

17 So if you like this format, as I walk you
18 through it, and if you're comfortable with it, I
19 will try to get the same information for Islip
20 so that you will then have all of the plants on
21 Long Island. But it took me a while to feel
22 comfortable with the approach and be able to
23 explain it, so I didn't have the time to contact
24 Islip. I'll wait until after this meeting to do
25 that.

1 In the end of the day, again, this is kind
2 of, you know, in some part our story. We
3 produce energy which is not directly from a
4 fossil fuel, so not a gas, not a liquid, not a
5 coal. It is a combined mixture of all the stuff
6 that everybody throws away.

7 The advantage for Long Island -- And I
8 realize that you guys are looking at this from a
9 carbon standpoint. I actually believe energy
10 issues are even more important and they are
11 related. But energy is clearly, if you take a
12 long view, will clearly be a dramatic change
13 that society is going to face, because we don't
14 have the ability to offset the amount of energy
15 that we use in nonfossil fuel waste. So when we
16 look at these things I would encourage you to
17 also try to think about it as energy consumed.

18 So one of the things on Long Island, since
19 your choice is either to long haul like in the
20 range of 281 miles, which is a study that I did
21 in 2004. And that takes a certain amount of
22 fossil fuel energy. There is a certain amount
23 of emissions that result from that.

24 Methane, which is what you produce in a
25 landfill, which is what we don't produce in a

1 waste energy plant, is between 21 -- which is
2 EPA's own number -- and 25, which is the -- let
3 me get this acronym right. International
4 Commission on Greenhouse Gases. ICGG, I believe
5 it is. Whatever it is, the Commission, they
6 were using 25. They're using 25 for the
7 difference between methane and CO2.

8 MR. LEWIS: Whether 21 or 25, it's
9 dramatically higher.

10 MR. WAFFENSCHMIDT: If you want to
11 understand our business, even though you call
12 yourselves Carbon Cap, which creates the image
13 of only being interested in CO2, it is important
14 to understand that global warming is caused by
15 other gases. And some of those gases, like
16 methane -- If you look in the oil and gas
17 industry, one of the big opportunities to reduce
18 their carbon footprint or from a GHG standpoint,
19 is basically to have less natural gas drift away
20 as they're doing their collection. So when you
21 look at them on a worldwide basis, that's the
22 opportunity.

23 One of the things that waste energy or
24 energy from waste is able to do, which you
25 cannot do with a landfill, is if there were

1 consumers on Long Island who did not put out
2 metal, ferrous and nonferrous metals curbside,
3 we collect it on the back end, ferrous at all
4 three plants and nonferrous at one of these.
5 And I have that listed in the tables.

6 MR. LEWIS: You're saying these are
7 metals pulled out of the incinerator?

8 MR. WAFFENSCHMIDT: Pulled out in the ash
9 after the combustion process and then sold into
10 the market.

11 There are two reasons that's important from
12 an environmental standpoint. Over here I have
13 it listed as a greenhouse gas effect. But,
14 again, if you think longer term, bigger picture,
15 at some point we kind of have extracted a lot of
16 the metals out, so we want to try and keep
17 metals in circulation and not have them go into
18 disposal.

19 You can say yes, that you can extract it in
20 the future. But energy now is similarly
21 transported one form to another. It would take
22 more energy to extract that when you've got it
23 in the landfill.

24 I'm going to assume you're more interested
25 in the calculations for megawatt hours, so I

1 have it both ways here. And the first table is
2 kind of the way we see the world, which is in
3 tons. We compete against landfills. And the
4 world of waste is based upon the tons, not upon
5 the megawatt hours produced.

6 As I said, I do not see us as competitors,
7 from an electron generation standpoint, with
8 fossil fuel, nuclear or wind, solar, et cetera.

9 So if you look at the first line there, my
10 calculations, the first value that you see there
11 is how many kilowatt hours we produce for each
12 ton. And this is a solid number.

13 I'm going to tell you which numbers are
14 more solid and which are less solid, and explain
15 why there are differences hopefully for the
16 benefit of all of you.

17 So that's how many kilowatt hours we
18 actually get for each ton that we burn at these
19 three plants and send to the grid. It's net
20 number to the grid.

21 Babylon is lower because it is a lower
22 pressure and temperature boiler. With a new
23 boiler we would be in at least the 630 range.
24 And I believe we can go above that because we
25 have some new designs that would allow greater

1 efficiency in the energy capture from the
2 waste.

3 MS. ESPOSITO: So now that you're actually
4 getting less waste to that one, is it the
5 actual --

6 MR. WAFFENSCHMIDT: Correct. The
7 efficiency of energy extraction is lower at
8 Babylon than our other two Long Island plants.

9 The second set of numbers going down is
10 the total amount of CO2 which is emitted per
11 megawatt hour of operation at each of these
12 three plants.

13 MR. TEETZ: That's pounds, right?

14 MR. WAFFENSCHMIDT: That's in pounds.

15 MR. LEWIS: In Babylon is 4,504?

16 MR. WAFFENSCHMIDT: Correct.

17 There are two components to that. One
18 component is the biogenic component, which is
19 like organic material. In the parlance of the
20 greenhouse gas accounting world, that would get
21 a zero with regard to the greenhouse gas effect.
22 The reason for that is that same carbon, if it
23 were to be decomposed, would be in the
24 atmosphere anyway. So when you look at biomass
25 facilities which are looked at from both an

1 alternative energy and a carbon neutral source
2 of energy, the way that that carbon neutrality
3 is recognized in the calculations is because
4 that becomes basically a zero.

5 The next number down -- And this particular
6 model that was used here, this is a model that's
7 managed by a third-party entity for the EPA, and
8 there's a dialogue that goes back and forth to
9 go over all of this stuff.

10 The second value, which is how much CO2
11 emissions come from the fossil fuel which is in
12 the garbage, which is the plastics and stuff
13 like that, for this model we use 35 percent. We
14 use 35 percent.

15 MR. LEWIS: That's where you got 1,500 out
16 of 4,500?

17 MR. DAVITIAN: Fossil fuels embedded in the
18 waste stream go to make plastics?

19 MR. WAFFENSCHMIDT: Plastics and other oil-
20 based products that come from oil, from fossil
21 which you find in your garbage, as opposed to
22 food.

23 Food would be biogenic, not anthropogenic.

24 MR. TEETZ: But the 1,587 is a subset of
25 the 4,504?

1 MR. WAFFENSCHMIDT: Correct, the fossil
2 fuel component.

3 As we go down the table from here,
4 everything is based off of the 1,587. It's
5 based upon the fossil component.

6 This is a worldwide standardized method in
7 greenhouse gas calculations. Biogenic sources
8 are to be carbon neutral and treated as a zero
9 from the standpoint of greenhouse gas emissions.
10 If the committee is going to deviate from that,
11 at least understand that everyone else on the
12 planet is doing this. So if you're going to
13 deviate from this, you need to have a reason why
14 to explain how your numbers differ.

15 MR. KALB: Why do they do that that way?
16 Remind us.

17 MR. WAFFENSCHMIDT: Because what you're
18 looking at, if you accept the theory of global
19 warming, the theory is based upon the addition
20 of gases to the atmosphere which are
21 man-derived, anthropogenic.

22 Any biomass component would be in a circle.
23 So if you look at the original waste disposal by
24 early man, they call them mitten (phonetic)
25 sites like in anthropology. So they took their

1 organic and inorganic waste and threw it in a
2 pile and it decomposed and went in the carbon
3 cycle. So, again, the worldwide theory on how
4 this is done looks at biomass facilities as
5 carbon neutral.

6 So I use 35 percent here in this model.

7 The studies that we have done using
8 sampling of the gas that comes out comes out to
9 about 67 percent; two thirds biogenic and
10 one-third anthropogenic, so a little higher than
11 our data.

12 MR. LEWIS: Recognizing biogenic sources as
13 essentially a net zero from your CO2 point of
14 view is something that seems straightforward
15 enough. The calculation regarding 35 percent of
16 the waste stream as being other than biogenic,
17 is that also a standard, or is that done locally
18 or what?

19 MR. WAFFENSCHMIDT: That is an assumption
20 based upon the professionals that do this stuff,
21 the studies that I have seen that support that.

22 There's a company, I think it's called
23 Beta, they have a methodology that they can
24 actually look at the CO2 coming out of the stack
25 of any facility and can tell you what part of it

1 is biogenic and what part is anthropogenic.

2 That study that I had looked at or reviewed
3 showed 67 percent. They had three runs. And
4 this was 67 percent biogenic, so it was close
5 enough from the standpoint of this exercise.

6 DR. KEEN: Based on isotopes of carbon.

7 MR. WAFFENSCHMIDT: I believe that's how
8 it's done.

9 MR. TEETZ: One more point, and I'm not
10 saying I agree with this, but as I understand
11 New York State in terms of their renewable
12 portfolio standard, a municipal solid waste
13 facility would not be counted as a qualifying
14 facility.

15 MR. WAFFENSCHMIDT: That's correct.

16 MR. TEETZ: For this biogenic portion.

17 MR. WAFFENSCHMIDT: I'm giving you science
18 here.

19 MR. TEETZ: I understand. I'm with you.

20 MR. SCHROEDER: But they also said they
21 were going to keep an open mind on that and look
22 at that again.

23 MR. WAFFENSCHMIDT: I think there was a
24 miscalculation in the interaction between the
25 industry and the environmental groups at that

1 time. Other states do have it. And I think
2 what you'll find is, mathematically, as I tried
3 to allude to earlier, I actually believe the
4 energy issues are bigger than greenhouse gas and
5 more certain as far as the effect on the planet.

6 If you actually delve into the real
7 numbers, there is not enough capacity to offset
8 the fossil fuel we're using, 5,000 quadrillion
9 BTUs on the planet today. There isn't enough
10 capacity of other sources to offset that. So
11 the opportunity with waste that is not recycled
12 is that you get to dip into or take away a
13 little bit from that fossil fuel component.

14 The CO2 emissions offset for the grid
15 electricity, that's the next value down. And
16 that's listed as a minus because if the
17 electricity is produced from the waste energy
18 plant it is not produced by fossil fuels, as an
19 assumption. And we use the Northeastern grid
20 number, which is probably similar to the fossil
21 fuel component in the LIPA one but maybe not
22 exact.

23 So that may change a little bit, but that's
24 the concept there. You produce electricity.
25 That's the carbon you took off the grid.

1 The next value down, which is landfill
2 greenhouse gas offset, in this model we use 21
3 times as opposed to 25. And that is the amount
4 of emissions that are voided in methane at the
5 landfill.

6 And the assumption here is that the
7 landfill has a reciprocating engine in it, which
8 means it captures the gas and it makes
9 electricity from that gas, which not all of them
10 do. But this assumes that. It assumes it
11 captures 75 percent of the gases during the
12 active time; and, over the entire life of the
13 landfill, 45 percent of the overall gas.

14 So those are the assumptions on that line.
15 That has the greatest effect upon the overall
16 model. And as data moves in one direction or
17 another, it will effect this number. And this
18 number is, as you can tell, the largest negative
19 number on the table.

20 The next value down, fuel transport offset.
21 And this is assuming 300 miles. The model I did
22 in 2004 was 281 miles, one way.

23 It has to go two ways, because you can't
24 carry anything back in any garbage truck. And
25 that would be true also if it went by rail, and

1 it would be true if it went by barge. So it
2 doesn't change.

3 MR. LEWIS: Well, the CO2 numbers would be
4 better.

5 MR. WAFFENSCHMIDT: Not as much as you
6 think. And I have done a study comparing it.
7 I'm in the process of updating it.

8 One of the problems that you have with rail
9 is that you have an awful lot of metal you use
10 to make all the boxes. But you've got to have
11 them, and they eventually come back. So you
12 have a lot of equipment that's in motion, and
13 you have to account for that. There is some
14 improvement, but not as dramatic as you think.

15 MR. TEETZ: Jon, just to go back again,
16 the landfill offset, that number would then be
17 bigger, the minus 2,948 would be even greater
18 if the landfill were directly emitting the
19 methane.

20 MR. WAFFENSCHMIDT: Correct. So, depending
21 on how you want to look at this, the time frame,
22 the further back in time you go, the less gas
23 collection and the less engines. And as you go
24 each step away from full collection and full
25 engines, because now you're capturing the gas,

1 so you're not emitting as much methane, and
2 you're making electricity so you're offsetting
3 the grid. So that's the best you can do as a
4 landfill.

5 If you go to just flaring, then you're not
6 getting the benefit of producing electricity,
7 but you're not letting methane out.

8 Direct venting, now you're putting methane
9 out. If you go to Albany, and you want to see
10 how bad a landfill is, go visit the Albany
11 landfill. It will start making your eyes tear.
12 And I believe that one has no collection at all.
13 That's all methane emitted.

14 MR. LEWIS: Did you figure into this any
15 assumptions regarding the nature of the
16 landfills that most of the waste is going to?

17 MR. WAFFENSCHMIDT: The best data that we
18 have, you know, that I have gotten from looking
19 at this, was half engine, half flaring. I
20 assumed full engines, 75 percent capture active,
21 45 lifetime. Again, that piece of information,
22 as more data is available, how much that will
23 change in one direction --

24 MR. DAVITIAN: If they don't flare?

25 MR. WAFFENSCHMIDT: I have given them the

1 benefit in assuming they're all engines. It
2 would make this negative number even more
3 negative.

4 MR. DAVITIAN: Aren't there a lot of
5 landfills that don't do anything?

6 MR. WAFFENSCHMIDT: But on a nationwide
7 basis the split is 50 percent; 25 percent flare,
8 25 percent engine. But this review is based on
9 Long Island.

10 Vent means directly release to the
11 atmosphere. The reason it's important, you
12 don't want to explode. If you remember when
13 Fresh Kills was in operation they occasionally
14 had explosions in the houses.

15 MR. DAVITIAN: Venting means that the
16 methane is going into the atmosphere and having
17 the 25 tons negative effect?

18 MR. WAFFENSCHMIDT: Correct. But, again,
19 I'm trying to not oversell myself, so I gave
20 them a full engine for a hundred percent of the
21 waste.

22 MR. DAVITIAN: So there is an enormous
23 benefit here in terms of the fact that you're
24 saying if you didn't have the waste energy
25 facilities there would be substantially more

1 methane on average going into the atmosphere.

2 MR. WAFFENSCHMIDT: Correct. If you look
3 at what Europe has done, which has been playing
4 the greenhouse gas game longer, pretty much, the
5 European Union across the board is saying no
6 landfilling whatsoever, and they're going to
7 have landfill taxes in the range of a hundred
8 dollars a ton, looking on a short time basis.
9 It's is a tremendous disincentive for
10 municipalities to go to a landfill because
11 that's a very high tax.

12 MR. LEWIS: I think this is a really good
13 discussion. I do want to get the rest of the
14 numbers in and move on.

15 MR. WAFFENSCHMIDT: The next value down is
16 the greenhouse gas value associated with the
17 ferrous recovery at the facilities. And then
18 the next value down is a nonferrous one. And
19 that's like the aluminums and copper and stuff
20 like that is only at our Hempstead facility in
21 Nassau. And this is sort of net/net numbers
22 there.

23 Now, you'll notice that Babylon, while
24 being less efficient in energy production, and
25 this is an important point, because if you look

1 at Babylon, it was the least efficient for the
2 conversion of the available energy into
3 electrons, but because it's offsetting, when you
4 look at this, the net offset from the landfill,
5 it has more tons that are being, in effect,
6 offset to produce that electricity. That's why
7 the number on the net CO2 equivalent basis is
8 higher on the bottom. That's the reason for
9 that. The inefficiency, because you consume the
10 waste and prevent the methane, it magnifies the
11 number. And you want to encourage efficiency in
12 general across the board all the time. And
13 sometimes when you run through these numbers
14 they can create images that appear different
15 when you're looking at greenhouse gases.

16 The last thing that I have here, and I
17 don't have to go through this, but I have notes
18 and disclosures on everything that I did in
19 giving you these numbers so that there is no
20 hidden inputs into the models. Just if you read
21 through this, this will explain how we came up
22 with the heating values, the carbon, et cetera.
23 And you can just look at that, and that's there
24 for disclosure purposes.

25 MR. MUNCY: Islandwide we're sending 1.1

1 million tons off-Island.

2 MR. WAFFENSCHMIDT: I use what I believe is
3 conservative numbers. And, as I said before,
4 the energy issue is a bigger issue than carbon.
5 If you take a longer view of things, not to
6 discount global warming, it's without question
7 one of the things we're going to face.

8 There is no question, in my mind, that
9 we'll face, and it will be in my lifetime, the
10 effects of a shortening of the availability of
11 fossil fuel on a worldwide basis. And then the
12 amount of greenhouse gas emissions which could
13 be avoided if we were to put those into waste
14 energy plants instead of putting them into
15 landfills, as they are today, about a million
16 tons.

17 MR. LEWIS: There are a lot of numbers to
18 digest today.

19 Any questions on the waste energy?

20 MR. MCNALLY: For purposes of this group,
21 are the offset numbers going to be included in
22 this? I may be way oversimplifying this, but it
23 would be the same thing as Bob saying by not
24 using coal we're saving this much.

25 MR. WAFFENSCHMIDT: That's absolutely not a

1 true side-by-side comparison of the two methods
2 of disposal.

3 MR. MANITT: Well, two methods of disposal.
4 Looking at it from the point of view of garbage
5 disposal, looking at it from the point of view
6 of energy production, I think the grid offset
7 doesn't make sense. I think that was the point
8 you were trying to make.

9 MR. WAFFENSCHMIDT: Again, this is a
10 pretty standardized greenhouse gas analysis I
11 just gave you that is used in convention
12 throughout the world. I think you can have
13 debates about values, like one assumption too
14 high or too low. But this is pretty much a
15 standardized analysis.

16 Again, in this case we're not looking at a
17 generating plant, we're looking at a waste
18 disposal mechanism. So if we're going to look
19 at another process, let's assume there is
20 another process on Long Island, you have to
21 understand what's happening there. You can't
22 make an assumption that there's carbon there,
23 I'll just do it this way. You have to
24 understand the challenges both from a greenhouse
25 gas standpoint and from an energy standpoint.

1 We've got to figure out how to solve all those
2 equations.

3 If we were looking at feedlots, you'd have
4 to understand the feedlots, because it's methane
5 that comes off, not CO2. You have to convert
6 the methane into the CO2 equivalent, so you have
7 to understand a feedlot.

8 MR. LEWIS: With regard to the question of
9 how we're going to use all of this, the group
10 will have to decide on how we produce and how we
11 present everything, so that's something that is
12 an unanswered question at the moment.

13 Secondly, I would say that the assumption
14 is that we're going to primarily, not really
15 assist, we discussed this at the previous
16 meeting, we're primarily focused on the electric
17 generation system. But we didn't want to
18 generate these greenhouse gas numbers and ignore
19 other numbers that would be significant and
20 worth seeing in that context. That's why we say
21 we are going to look at sort of the bigger
22 picture. But as we hone in on trying to make
23 recommendations, we're going to come back to the
24 electric generation question.

25 I'm envisioning that we perhaps will use

1 the things you submitted and a lot of what you
2 see in these packets as attachments to the
3 report that we're going to generate. So there
4 is an opportunity to see the original generation
5 and how we sort of summarized it and pulled it
6 together. Still, that's up to the committee to
7 decide.

8 MR. WAFFENSCHMIDT: You want me to try to
9 get Islip?

10 MR. LEWIS: That would be helpful. I'd
11 appreciate it.

12 Questions?

13 MR. RAACKE: I have a couple of questions
14 or comments. First of all I want to say, Jon,
15 and I thank you for putting all of this
16 together. This is very instructive and really
17 interesting. And I certainly can't speak for
18 anyone else here, but I learned a lot just by
19 listening to the short presentation here. I
20 appreciate that.

21 I wanted to make two points. One is that
22 it may be worthwhile to compare Jon's
23 methodology on this topic with what the (other)
24 folks do with their methodology, which is build
25 into their software program that they use

1 certain measures such as landfill captures,
2 methane, et cetera. It might give us some clues
3 as to whether those methodologies are
4 reasonable; and, you know, if we can take a look
5 at why they differ, if they differ. That group
6 is ICLI, International Council on Local
7 Environmental Initiatives. That's my first
8 comment.

9 The second one goes to when Jon was
10 speaking it occurred to me when he was talking
11 about methane, and we're looking at CO2 as just
12 one way of looking at the global warming
13 impacts, and ultimately, of course, we are all
14 looking at CO2 equivalents or greenhouse gas
15 emissions overall.

16 The point you raised about methane reminded
17 me about, of course, emissions that don't happen
18 at the burner when we burn fossil fuels but
19 happens somewhere else along the line, anywhere
20 from prospecting to wellheads, gas pipes,
21 leakages, and then the ultimate emissions at the
22 power point or at the boiler.

23 And so we need to first of all be cognizant
24 of that, and, secondly, decide if and how we
25 want to incorporate the total CO2 or greenhouse

1 gas emissions of a given consumption. Because,
2 obviously, when we reduce consumption, let's say
3 through energy efficiency, we don't buy a barrel
4 of oil or barrel of gas, we reduce the overall
5 greenhouse gas emissions including emissions
6 that go back further than just the burn --

7 MR. WAFFENSCHMIDT: You're a hundred
8 percent correct. When we --

9 MR. RAACKE: That's a point we need to
10 address, not necessarily now, but --

11 MR. WAFFENSCHMIDT: When we use lime
12 (phonetic) in the process, so I lose credit in
13 the model. So that's also incorporated in
14 there.

15 MR. LEWIS: Let's keep going with a couple
16 of these numbers.

17 The next sector that we are attempting to
18 pull into this equation is the transportation
19 sector. And I appreciate the effort that was
20 made to see that we can get a number to work
21 with here. In fact, I believe it's page 19.

22 MR. TEETZ: Neal, there was one additional
23 handout on the generation side.

24 MR. LEWIS: Why don't we get this on the
25 table and come back, because I want to then

1 talk about how do we organize all of this
2 information. Tell us what you were able to
3 figure out. And we appreciate and recognize
4 the effort to pull it together.

5 MR. SCHROEDER: Just so you understand,
6 the tax information that we have does not break
7 down the unique fuels into quantity, final sales
8 numbers, so we don't have numbers equating to
9 gallons of diesel, things like that, but Joann
10 Robert at our office got some NYSERDA data
11 that's available and correlates that.

12 MR. MUNCY: The number of estimated
13 consumption of gallons of gasoline in Suffolk
14 County is based on sales tax revenue and some
15 assumptions. It's not that solid of a number,
16 but it's a ballpark. We're seeking additional
17 information.

18 First one we know is real is the sales tax
19 that's attributable. So that 67 million number
20 at least we know we're starting with.

21 MR. MUNCY: We're looking to verify more
22 additional data.

23 MR. LEWIS: The problem begins with the
24 next one, which is what are you treating it as?
25 The unit and the pricing, gas varies every day.

1 MR. MUNCY: Correct. It's different region
2 to region.

3 MR. LEWIS: And also the difference between
4 gasoline and diesel.

5 MR. MUNCY: Yes.

6 MR. LEWIS: You did an average price for
7 the year?

8 MR. MUNCY: Using the average of 2006 --

9 MR. DAVITIAN: You said the taxes
10 collected by the state and the county, and when
11 the state does that, the county requires from
12 the gas stations, does not require them to
13 report gallons?

14 MR. SCHROEDER: We're looking for that
15 information. The available information to our
16 office does not include that information.

17 MR. DAVITIAN: You don't know whether the
18 state does or does not require that?

19 MR. SCHROEDER: We're trying to get it. It
20 may be there. It just may not be retrievable in
21 a ready format.

22 MR. WAFFENSCHMIDT: I would think that the
23 Triple A does a gas survey, I would think it
24 does a monthly average price.

25 MR. MUNCY: I'm not going to speak for the

1 state, but I'm gonna guess they're looking at
2 the taxes on whatever is sold for three or four
3 dollars a gallon. As long as they get their
4 percentage I think they're happy.

5 MR. LEWIS: So we have the qualifiers on
6 the table. We recognize that we're going to be
7 asking maybe someone that works with numbers
8 all the time, that's its going to be an average.
9 So we recognize this is not necessarily exact
10 gallons. But you did come up with a lay of the
11 land kind of ballpark number for us to look at?

12 MR. MUNCY: Right. And then we did some
13 charts on the state level based on NYSERDA data.
14 So that would be a pending.

15 MR. LEWIS: I don't know if we got that
16 one.

17 MR. MANITT: I don't think we got that
18 one.

19 MR. LEWIS: For example, we have the 577
20 million gallons for the 2006 year sold or
21 consumed in Suffolk County?

22 MR. MUNCY: Correct.

23 MR. LEWIS: And that's clearly an estimated
24 number and does include --

25 MR. MUNCY: I guess part of the thing

1 behind that was they take the gasoline, how much
2 is getting emitted per gallon per vehicle. And,
3 unfortunately, not every vehicle burns gasoline
4 at the same rate.

5 MR. MANITT: I actually got a rough number
6 based on the number of gallons on the CO2.

7 MR. MUNCY: Oh, you do.

8 MR. LEWIS: 577 million estimated gallons?

9 MR. MANITT: What I got was 5,585,747 tons
10 of CO2 that would work out to.

11 MR. MUNCY: What's your multiplier number?

12 MR. MANITT: Technology Gateway website I
13 used to get these numbers, so I don't know
14 exactly what multiplier they use. I could get
15 that. I was just doing it quick.

16 MR. MUNCY: I think if you can get that and
17 pass it on to me?

18 MR. MANITT: Sure.

19 MR. WAFFENSCHMIDT: If I can close it up,
20 when we get to the details of what the source is
21 don't assume that a source is doing it right.

22 MR. LEWIS: Do you have a different
23 suggestion of how to get CO2 per gallon?

24 MR. WAFFENSCHMIDT: I think that's fine.

25 The thing you may miss with that is there's

1 always going to be, as you mentioned, some
2 vehicles that are different. There is also some
3 evaporation that occurs without the consumption
4 that is going to have a different greenhouse gas
5 effect. And there is probably someone that has
6 looked at that and we're just incorporating that
7 in.

8 MR. LEWIS: Understand that if anybody has
9 that kind of thoughts running through your head,
10 please just send along suggestions via e-mail,
11 because after this meeting we are going to take
12 all this information and start to try to
13 calculate. But we'll clearly indicate where
14 things are estimates, where they're more of an
15 estimate.

16 MR. TEETZ: That is a straight forward
17 calculation. There is a certain number of
18 pounds per gallon of gasoline used. I don't
19 think it makes a difference, the car and the
20 gas you use.

21 MS. FITENI: Twenty something pounds per
22 gallon.

23 MR. LEWIS: For purposes of comparison, if
24 it's five and-a-half million tons for the
25 transportation sector, still, you know, to kind

1 of tweak the number, but if it's in that
2 ballpark, that compares to the 6.3 million tons
3 that we talked about from electric generation,
4 2.3 million tons for natural gas for the
5 buildings. So it's starting to give us a picture
6 of what percentage these different sectors would
7 capture.

8 MR. MUNCY: We also looked at the electric
9 generation trend CO2. And based on my NYSERDA
10 numbers, back in 1990 it appeared that 29
11 percent of the CO2 emission was from electric
12 generation and transportation at that time was
13 34 percent. And then from 1990 to 2000 there
14 was a drop from electric generation point of
15 tonnage of CO2 emitted, negative 12.9 percent.
16 So they actually, according to this data,
17 reduced their emissions.

18 In 2005 there was a gain, 3.4 in tonnage of
19 CO2 emitted. And came to a net difference of
20 bringing it from 1990 to 2005 and that
21 difference was a negative 9.5 percent reduced
22 emissions and CO2 from electric generation.

23 That's in the State of New York, and that's
24 not in Suffolk County. We don't have the data
25 for that. But it does show that the electric

1 generation sector has reduced their output of
2 CO2, but there is an indication that it's
3 starting to climb. And I guess Keyspan and
4 others would have better data on that than us at
5 this point.

6 MR. LEWIS: How about with the trans-
7 portation sector, would it be possible to get a
8 1990 number?

9 MR. MUNCY: This table here shows 34
10 percent made up CO2 component in New York State.
11 In 2000 it was 34 and 2005 was 36. So the
12 transportation sector is increasing on the CO2
13 level.

14 MR. LEWIS: Let me ask this. On page 19 or
15 the handout it shows 1996 through 2006. Is it
16 possible to go back to 1990 for --

17 MR. MUNCY: I believe that's all the
18 available data we have.

19 MR. LEWIS: So I guess that's what we'll
20 have to be limited by. But then how about --

21 MR. MUNCY: This is just one small
22 component, gasoline. Transportation includes
23 more than just motor vehicles. So a tendency
24 might be more attributable to how much CO2 is
25 being put in there compared to let's say

1 electric generation. And that's at the state
2 level. If we can get something possibly at the
3 Suffolk County level, that would be better.

4 MR. TEETZ: Also we need to find the diesel
5 fuel in Suffolk County as well. It's not a
6 small amount.

7 MR. MUNCY: Right. But that would be
8 captured in the transportation component.

9 MR. TEETZ: Is it captured?

10 MR. MUNCY: That would be at the state
11 level. We don't have that, but --

12 MR. SCHROEDER: Suffolk County motor fuel
13 tax includes diesel and gasoline.

14 MR. TEETZ: So the 577 million gallons is a
15 combination of oil and gasoline?

16 MR. MUNCY: Any fuel that's put in the
17 motor vehicles.

18 MR. TEETZ: We'd kind of like to know the
19 ratio of gasoline.

20 MR. SCHROEDER: I think we need that, too.
21 We asked for more specific information. That
22 wasn't available.

23 MR. MUNCY: If you get a copy of the
24 Appendix B, there is a website on the bottom
25 Patterns and Trends, NYSERDA Patterns and

1 Trends data.

2 MR. TEETZ: They just issued a New York
3 State energy report within the last six months;
4 is that it?

5 MR. SCHROEDER: Yes, 2007 Patterns and
6 Trends.

7 MR. WAFFENSCHMIDT: I'm just asking if we
8 knew the exact difference between gasoline and
9 diesel as far as the GHG perspective.

10 MR. TEETZ: We know. Diesel is about 162
11 pounds of CO2 per gallon of fuel and -- no, per
12 million BTU's. 162 pounds of CO2 per million
13 BTUs. And gasoline is probably about a hundred
14 fifty or so.

15 MR. SCHROEDER: Is that ultra or diesel?

16 MR. TEETZ: I don't think it makes that
17 much difference, but I can get you the numbers.

18 MR. SCHROEDER: On road vehicles in New
19 York State, it's also if we have that.

20 MR. TEETZ: Gasoline is about a hundred
21 fifty pounds per BTU.

22 MR. LEWIS: Do you think, other this
23 Patterns and Trends report, is there another
24 source anybody can suggest that would give us
25 what the transportation trend might be from 2006

1 up to 2020? Part of our responsibility --

2 MR. DAVITIAN: Just call the Department of
3 Transportation at the state level and ask them
4 for the data.

5 MR. SCHROEDER: I can call NYSERDA and see
6 if they're doing any projections on this.

7 MR. LEWIS: If you can do that.

8 MR. MUNCY: From reading the legislation
9 that created the committee, basically -- sorry
10 to interrupt -- asks us to look at the CO2
11 emissions from electric generation and what it
12 is in 1990 and what it might be in 2020, and
13 hopefully make recommendations to achieve 25
14 percent reductions in emissions. And I know
15 that at the last committee meeting we were
16 asking to broaden that and include
17 transportation. And I'm just hoping that the
18 committee doesn't go off task a little and start
19 looking at all these different areas which are
20 important to look at but that might pull us away
21 from the important issue of looking at what's
22 being emitted now from the electric generation
23 and what steps could be recommended that would
24 hopefully achieve reduction in CO2 going to
25 2020. I just want to mention that.

1 MR. LEWIS: I agree with that. Okay.

2 Let's see if we can hone into some of these
3 numbers. A home heating oil number we don't
4 have yet, but we have requested it. And I think
5 I understood that they had it available and
6 would be able to send it to us.

7 As was just pointed out, the charge of the
8 committee was really to electric generation.
9 But, again, we did want to have this sort of
10 full picture if we're able to do that.

11 MR. SCHROEDER: Our understanding is that
12 we're benchmarking these emissions levels.

13 MR. LEWIS: At some point someone may say
14 if we get a 25 reduction in electric generation
15 of CO2 how does that impact the overall picture.
16 I think it's a contextual sort of --

17 MR. SCHROEDER: Yeah. And in that context,
18 that's what we sort of are envisioning.

19 MR. LEWIS: We have to strike a balance
20 that we don't spend all of our time on numbers
21 that aren't electric, because that's the charge
22 of the committee, the electric.

23 MR. TEETZ: I would add that home heating
24 oil is a very big piece. At least 50 percent or
25 maybe it's 55 percent of homes on Long Island

1 are still heating with oil, and that's thirty
2 percent additional CO2 burn than if they were
3 using natural gas. I say that not because we
4 sell natural gas.

5 MR. LEWIS: But it helps.

6 MR. TEETZ: But there is a tremendous
7 number of tons of CO2 that could be harvested
8 there.

9 MR. WAFFENSCHMIDT: That brings up one of
10 my favorite --

11 MR. RAACKE: I certainly agree on that.
12 And I also want to point out that there is a
13 direct nexus, of course, when it comes to
14 efficiency improvement in a home or other
15 building where your improvement let's say is
16 insulation that cuts down your air-conditioning
17 load, cuts electric consumption, but it also
18 cuts down your heat and fuel consumption.

19 MR. TEETZ: Actually --

20 MR. RAACKE: I just want to add very
21 quickly -- you might have discussed it and I
22 couldn't hear you -- the figure for gasoline and
23 the transportation sector, 20 pounds per gallon?
24 I heard Bob say, you know, a hundred fifty
25 pounds per million BTU.

1 MR. TEETZ: We didn't have it in gallons.
2 It's about a hundred fifty in BTU.

3 MR. RAACKE: Because I use the 20 pounds
4 per gallon number, usually. Does that --

5 MR. LEWIS: I think that's what we used,
6 yeah.

7 MR. SCHROEDER: You're going to send your
8 numbers?

9 MR. MANITT: Yes.

10 MR. RAACKE: Thank you.

11 MR. LEWIS: Okay. Time is quickly running
12 down. I want to make sure we cover as much of
13 everything we have on our agenda as possible.

14 I think some aspect of generating this kind
15 of information that it's inevitably tedious to
16 do it all quickly. But to make sure we didn't
17 miss things I want to point out that the home
18 heating that -- actually, I don't know how you
19 refer to your category because it's not just
20 heating, it could be an electric gas run dryer
21 or gas run air conditioners in the commission
22 sector. Do you have a category for all of that?

23 MR. TEETZ: We generally call it space
24 heating because that's probably eighty percent
25 of the total load. But you're right, water

1 heating.

2 MR. SCHROEDER: I think you want to
3 reference it as retail use. It doesn't matter
4 what you're burning it in, you're creating
5 emissions.

6 MR. TEETZ: Retail gas and home or heating
7 oil use.

8 MR. LEWIS: So you already gave us some of
9 those numbers.

10 MR. TEETZ: Gave you the gas. I'm going to
11 update that because the electric portion had the
12 wrong decimal point.

13 MR. LEWIS: So that is in here.

14 Now, you also have a couple more pages in
15 your presentation?

16 MR. TEETZ: Yes. I think this one is
17 going to be very revealing, and I think it's
18 important that we go through this. (Handing)
19 And I want to emphasize preliminarily, there was
20 a tremendous amount of work that went into this
21 and it's not totally refined yet. But I think
22 it's very interesting in terms of where does the
23 electric energy that is consumed on Long Island
24 come from and the associated emissions related
25 to that energy. So please keep in mind that it

1 is a draft and I will update it as we refine it.

2 But, again, as I said earlier, the
3 electricity consumed on the Island comes from
4 several different sources. We've got Keyspan
5 generation facility on the Island. We've got
6 independently owned generating on the Island,
7 waste energy facility. And then we've got the
8 imports from the New York ISO, New England ISO,
9 and now through the Neptune Line the PJM market.

10 What you see there on the first graph in
11 color there is from 2000 through 2020 the
12 megawatt hours supplied to Long Island from
13 these various sources. So in the green you can
14 see the Keyspan resources. The dark blue is
15 on-Island to non-Keyspan resources. The light
16 blue is New York imports. The yellow, which
17 just started in 2007, are the imports from PJM
18 through the Neptune cable. And the red is the
19 New England imports.

20 As you go out in time you can see that the
21 Keyspan generation decreases dramatically from
22 what it had been in terms of the total percent
23 of energy consumed on the island.

24 If you look at 2000, Keyspan generation
25 accounted for probably 85 percent for total

1 generation. In 2006 Keyspan generation is more
2 like 55 to 60 percent of the total consumption
3 on the Island. But also dropping as a percent,
4 too.

5 MS. ESPOSITO: Why is that?

6 MR. TEETZ: Competition. You basically
7 have other sources that are, in essence, lower
8 cost.

9 MR. SCHROEDER: What Long Island non-
10 Keyspan resources are you envisioning in this
11 projection that are going to displace Keyspan
12 resources to the degree that you're forecasting
13 here? I mean with the exception --

14 MR. TEETZ: That's the blue. You have a
15 number of plants. In fact, I gave you this list
16 that shows the recent additions. Some of them
17 are peaking units. Some of them are combined
18 cycle. The Caithness plant will come online in
19 2009; that's in here. And then there are a
20 number of capacity increases that need to occur
21 as you go out to satisfy load growth on the
22 presumption that they will be on-island non-
23 Keyspan sources.

24 There is no anticipation here of any kind
25 of repowering or anything like that. This is

1 basically when the system demand is up that new
2 resources need to be added. Then the model adds
3 that resource. Generally, it's a gas-fired
4 combined cycle facility on the Island somewhere.

5 MR. SCHROEDER: So this is precluding
6 repowering?

7 MR. TEETZ: Yes, business as usual.

8 You can see that there's significant impact
9 from the Neptune Line (in yellow). And then if
10 you flip the page you get the actual CO2
11 emissions attributable to that generation.

12 MR. SCHROEDER: Just going back, it
13 doesn't appear that there is any projection in
14 here for second Neptune cable.

15 MR. TEETZ: That's correct. That's not
16 part of LIPA's plan at the moment, although
17 they've talked about it and said it might be a
18 good thing to do. But their current projections
19 and their models do not have that in there.

20 DR. KEEN: Why do I not see an assumption
21 that Keyspan won't be a better competitor than
22 these other multiple sources?

23 MR. TEETZ: The new units coming online
24 are generally going to be combined cycle, so
25 more efficient than the older generation.

1 The generation coming in from PJM is
2 generally going to be coal, so it may not be
3 more efficient than Keyspan but the fuel price
4 is so much lower and it's much cheaper.

5 MR. WAFFENSCHMIDT: That's why when we
6 talked last time it was the importance of
7 looking at the off-Island sources and why is it
8 we're really not seeing the picture.

9 MR. TEETZ: What the CO2 chart basically
10 tells you is that CO2 will increase regionally
11 pretty much in the same trend as total load
12 growth on the island.

13 MR. DAVITIAN: Implicit in this is some
14 kind of estimation or analysis because of the
15 PJM resources that are contributing to Long
16 Island. Can you tell us any more about that?

17 MR. TEETZ: Yeah. The model assumes that
18 the energy coming across the Neptune cable is
19 spot market, available at any instant of time,
20 and not with a long-term bilateral, you know,
21 guaranteed contract, which LIPA does not have at
22 this time.

23 MR. DAVITIAN: In other words, a marginal
24 unit that would be available at that time.

25 MR. TEETZ: Yes. So, generally, during

1 off-peak periods, summer, spring, fall, when
2 there is not a tremendous demand, there is
3 excess capacity and energy from PJM, likely to
4 be some coal power, which will come across that
5 cable.

6 On a hot day like yesterday the marginal
7 unit is probably a gas-fired combined cycle
8 unit, so it's fairly clean coming through
9 yesterday. But on the off-peak hours you're
10 going to get cheaper, most likely dirtier energy
11 coming through the cable.

12 MR. DAVITIAN: But to produce this chart
13 there had to be some specific assumptions about
14 the annual breakdown of that marginal unit. I
15 was wondering if that was something that was
16 available.

17 MR. TEETZ: Are you familiar with MAPPS
18 models? This is basically out of the MAPPS
19 model.

20 MR. DAVITIAN: Output available that shows
21 that's available?

22 MR. TEETZ: You mean unit by unit?

23 MR. DAVITIAN: No, by type of unit. In
24 other words, coal units versus noncombined cycle
25 oil and gas versus combined cycle to get a sense

1 as to where that's coming from.

2 MR. TEETZ: The MAPPS run model produces
3 unit by unit. It's a huge --

4 MR. DAVITIAN: What is why I'm saying is
5 there some kind of summary of where this energy
6 is coming from. I would find it very
7 interesting.

8 MR. TEETZ: I have to look and see how
9 detailed the MAPPS run is. It's basically
10 running hour by hour.

11 MR. DAVITIAN: On an annual basis,
12 breakdown by about five different types of
13 generation, nuclear, coal?

14 MR. TEETZ: Not for Neptune, but there is
15 nuclear coming from Nine Mile.

16 MR. SCHROEDER: How realistic is it to
17 assume that PJM is going to remain spot market
18 based in 2020? It's reasonable to assume that
19 they are going to keep some spot market
20 capacity, but I can't see them running out
21 through 2020 without some long-term contracts.

22 MR. TEETZ: That may be. And then we'd
23 have to change the assumptions in the model.

24 MR. SCHROEDER: Right now it assumes total
25 spot market?

1 MR. TEETZ: Yeah.

2 MR. MUNCY: Looks like over the time frame
3 we'll be selling less and less gas to Keyspan
4 but more and more gas to the competitors.

5 MR. DAVITIAN: No, from --

6 MR. MUNCY: Selling less gas to the green
7 area.

8 MR. DAVITIAN: That's the electric
9 generation from those units.

10 MR. MUNCY: And then more to the dark blue
11 area. So do you think that your selling of gas
12 will increase over these years?

13 MS. ESPOSITO: It is going to decrease.

14 MR. TEETZ: Our consumption of gas and oil
15 is going to decrease at the plants that we own,
16 our natural gas sales.

17 MR. MUNCY: So your natural gas sales to
18 the non-Keyspan facilities is a projected
19 increase over time?

20 MR. TEETZ: We don't make money on the
21 gas commodity, we just transport it. A plant
22 like the Caithness facility will contract
23 directly to purchase gas from a gas supplier.
24 There are transportation charges that are
25 collected by the infrastructure to which the

1 gas flows. So the more gas that goes through
2 our lines, we'll collect a transportation charge
3 for that.

4 I'm not sure of your question.

5 MR. LEWIS: This is interesting, but I'm
6 also cognizant of the fact that we're running
7 out of time, and I want to see if we can pull
8 together where we're at.

9 MR. TEETZ: Just the last graph basically
10 integrates the first two to come up with an
11 average emission rate, pounds per megawatt hour
12 of the energy consumed on Long Island.

13 MR. LEWIS: So, in theory, if you took the
14 total amount of megawatt hours used in a given
15 year and multiplied it by this average number,
16 you would then get the CO2 tonnage for that
17 year?

18 MR. TEETZ: Yeah. We took the megawatt
19 hours and tons and came up with pounds per
20 megawatt hour.

21 Again, a preliminary, I think this line
22 will probably increase up a little bit because
23 of some power plants that we did not have good
24 data for yet. But the thing to point out here
25 is that the emission rate for electric consumed

1 on the island is generally going to fluctuate
2 between a thousand pounds per megawatt hour to
3 1,200 pounds per megawatt hour.

4 The emission rate throughout the rest of
5 the country is on the order of 1342 and
6 obviously because it's supposedly coal. So the
7 energy that we're using on the island is
8 generally cleaner than what's used in the rest
9 of the country. And we pay a very high premium
10 for that, quite frankly.

11 MR. LEWIS: Jon has a question.

12 MR. WAFFENSCHMIDT: I'm just going to
13 make a point that this is an excellent chart
14 here.

15 If you sort of think about the charge of
16 the committee and you listen to what Bob said,
17 you're not gonna get more efficient than natural
18 gas combined cycle, which we assume is being
19 added in here. So you're going to go to 25
20 percent below 1990. Is that what the goal is?
21 Or 25 percent today, whatever it is. But as you
22 notice here, there is a tremendous challenge
23 here.

24 I think one of the things that is worth
25 considering is that things like combined heat

1 and power improved efficiency on the downstream
2 units, otherwise you can't get there. Because
3 if you have only low growth and you can't become
4 more efficient, sort of the model busts. And
5 that tends to say what I said earlier, a very
6 difficult equation.

7 Sorry for talking so much.

8 MR. LEWIS: We recognize this is complex.

9 Andrew, you have a worksheet that you
10 attempted to input some of the information.

11 MR. MANITT: Just to get an idea of what
12 information we had gotten, I just took some
13 of the numbers that we got from all of these and
14 compiled onto one sheet for tons of carbon
15 coming out of the various power plants and other
16 sources for really 2004, 2005, 2006, and a
17 couple random things I put at the end.

18 MR. LEWIS: I guess part of the question
19 would be whether there is an approach along the
20 lines of what you were doing there that makes
21 sense to use for the committee, or whether what
22 Bob has generated is essentially the way to go
23 with this, or what you may have on how we can
24 pull this together as we approach the next step
25 in terms of producing a work product from the

1 committee.

2 Obviously, there is a lot of blanks that
3 can be filled in as we're getting that
4 information. The question is sort of how to
5 organize it, I guess. Whether you have any
6 thoughts on what makes sense in terms of what
7 we're producing for the Committee for the work
8 we're supposed to do.

9 MR. DAVITIAN: One chart showing the
10 minimum, as we talked about the last time, the
11 big picture of the generation on the Island to
12 stress moving on with the electric sector, at
13 least the 2006 snapshot, and possibly go back in
14 time to 2000 or even 1995 and 1990 to show the
15 trend and where that's going and how it's
16 changing. I think we have most of the data at
17 this point already. But just sort of a bar
18 chart of some sort showing how that works. And
19 then within the electric sector I think you
20 want, probably want a simple chart showing the
21 big picture trends for 1990-2006 and the
22 projection going forward for the total
23 estimation for the electric sector, and then go
24 into detail beyond that. But those are kind of
25 the starting points that give you the big

1 picture and just lay it out visually in a way
2 that I think is very digestible.

3 MR. LEWIS: Any other input on how we may
4 organize all of this stuff?

5 MR. WAFFENSCHMIDT: As you heard in my
6 presentation, the waste energy not represented
7 as per my chart.

8 MR. MANITT: No, it's not. I just plugged
9 in, before I heard your presentation, and just
10 plugged it in and put the note there that it's
11 offset.

12 MR. WAFFENSCHMIDT: You got biogenic in
13 there also.

14 MR. MANITT: That was, again, before your
15 presentation.

16 MR. WAFFENSCHMIDT: I understand. I just
17 have an obligation to say it.

18 MR. LEWIS: Actually, Harry (phonetic)
19 hadn't sent us anything, so this is something
20 that Andrew pulled from the EIS.

21 MR. DAVITIAN: I know numbers in this
22 ballpark might be slightly higher. We're still
23 looking at working on getting it. I was away
24 on vacation so --

25 MR. MANITT: We were talking about EIS. We

1 were talking about something between the 700 and
2 1,200 range.

3 MR. DAVITIAN: I think we're going to be
4 right in the middle of that, and you're close.
5 This might be a tad low.

6 MR. LEWIS: For comparison purposes, we
7 also put in the 2001 Suffolk Carbon Law limit,
8 which was 1,800 pounds of carbon dioxide per
9 megawatt hour of energy generated. So that
10 number we've been discussing, that the average
11 on Long Island is certainly below that number.

12 You saw all those breakdowns of the
13 different plants, some of them in the sixteen
14 hundreds, 1,700 perhaps at the top end. And
15 then the average is eleven hundred, twelve
16 hundred, in that range, which is well below that
17 law, which is why that didn't have --

18 MR. TEETZ: That 1,800, though, is a
19 declining number. It hasn't remained constant.
20 It's in the seventeens now. The law requires
21 for every new generating facility that comes on
22 there is a corresponding reduction required in
23 the total emission rate. So I don't know
24 exactly what it is. Jim Meyers would have
25 known.

1 MR. MANITT: But it wasn't in the actual
2 law, probably in the regulations of the Health
3 Department. I got the text of the law and it
4 says the Health Department is supposed to set
5 the number.

6 MR. TEETZ: It starts at 1,800, but there
7 is incrementing ratcheting that goes down.

8 MR. LEWIS: Okay. Let's try and pull
9 together a wrap-up in terms of a sense of
10 where we go from here.

11 Just so you know, Gordian, if you're still
12 with us, you're not aware of this, but pages 22
13 and 23, this is a legal opinion that I want to
14 encourage you all to look at, I guess, fair to
15 say, that characterizes, reaches the conclusion
16 that doing a Carbon Cap law similar to the one
17 that is currently in effect, that we just
18 referred to a moment ago as the 2001 Law, the
19 attorneys are saying they believe that that's
20 preempted and not something that the County
21 would have the authority to do. That's, you
22 know, their interpretation at this point in
23 time, based on --

24 MS. ESPOSITO: You said the County
25 attorneys, right?

1 MR. STEBBINS: This is the legislature.

2 MR. RAACKE: I didn't quite hear that.

3 You say that the legal opinion by the County

4 Attorney says that the law similar to the

5 existing law --

6 MR. LEWIS: Would be preempted.

7 MR. RAACKE: Would the current law then be

8 preempted?

9 MR. LEWIS: I think that's a reasonable
10 conclusion.

11 MR. RAACKE: And what's the rationale?

12 MR. LEWIS: We'll send you copies. But
13 basically the presumption argument is that the
14 field has been occupied by other legislation
15 enacted on the federal and state levels and that
16 the County arguably would be preempted. And
17 also that it conflicts.

18 So there are two different tests for
19 presumption, either that the entire field has
20 been taken over or that the specific law would
21 conflict with another specific law. Both
22 arguments he believes present a problem for us
23 doing this.

24 Now, for today, we're not gonna have a
25 legal debate on it. It's here. It's in the

1 packet. We need to think about what it means.

2 Really, my goal for the committee is to get
3 the data collection completed before we get to
4 the sort of nuts and bolts of the debate about
5 what our recommendations are.

6 Clearly, in terms of a discussion about
7 recommendations, we have to take into account
8 that the attorney is saying that he doesn't
9 believe that we have the ability to go in the
10 direction of sort of redoing the 2001 Law with
11 some new Carbon Cap restrictions, new numbers
12 and such. So that impacts our choices of
13 recommendations, it seems to me.

14 But, for now, like I said, I don't think we
15 have to resolve anything with this today. It's
16 on the table. Once I get the information, I
17 make it available at the next meeting. I'm not
18 holding back. But I think there is some room to
19 debate it, but I also think it's a pretty sound
20 opinion. So we'll see.

21 MR. SCHROEDER: As a nonattorney, doesn't
22 this mean that it could be preempted if the
23 state chooses to preempt it?

24 MS. ESPOSITO: Or if someone else
25 challenges it. It doesn't have to be the state.

1 MR. DAVITIAN: Would be subject to two
2 sets of regulations. Some clarity as to what
3 they had to do.

4 MR. LEWIS: Okay. So that's on the table
5 as one of the things we have to consider when we
6 talk about recommendations, going to point five
7 of our agenda.

8 You know, clearly, one of our jobs, in
9 addition to producing the data, is making
10 recommendations. So just in looking ahead to
11 the next meeting, what I want to throw out to
12 the group is how we move forward and whether we
13 should start to do an analysis of what some of
14 the other strategies would be, such as the one
15 that gets the most talk is this regional
16 initiative and RGGI, and how that fits into this
17 whole equation, whether it be very similar to a
18 local Carbon Cap, whether it would directly
19 conflict, whether we should, in fact, embrace
20 that process. I think there's a couple of ways
21 to look at what the question would be.

22 Do we think it would make sense to schedule
23 a presentation on RGGI as sort of a center piece
24 for our next meeting, perhaps an October
25 meeting?

1 MR. STEBBINS: I'd have a question on that.
2 If we were to have a presentation on RGGI done,
3 who would actually give it? Because there are
4 quite a few different entities you could have
5 do this. I know the new independent system
6 operators have given one to the Long Island
7 Association and Environment and Energy
8 Committee. But that might necessarily be
9 criticized from their point of view of what RGGI
10 entails because it's from an industry
11 standpoint.

12 I'm just curious as to whether or not there
13 is actually someone from an environmental field
14 that you would look to do that or a governmental
15 field. Is there any particular person that
16 would do that presentation?

17 MS. FITENI: I had met someone from the New
18 York State energy coordinator at the time, but
19 now he's left and he was replaced by somebody.
20 I'm forgetting her name. Mastriani (phonetic) I
21 think is her last name. So he had been part of
22 the RGGI collaboration and now I guess she is
23 taking over. So that was one thought that we
24 had.

25 MR. TEETZ: Yeah. And the DEC, somebody

1 mentioned Jared --

2 MR. WAFFENSCHMIDT: There is an Office of
3 Greenhouse Gas and Climate Change that is going
4 to have twenty-two people. I think if you drop
5 them an e-mail and ask them to designate
6 someone, whether this woman or someone else.
7 Jared something or other. I have it at the
8 office.

9 MR. LEWIS: I was hoping basically this
10 group would show some suggestions.

11 MR. STEBBINS: I do have a power point
12 presentation I think Harry provided me with I
13 think a year and-a-half ago.

14 MR. RAACKE: I don't know if you know
15 about the March 22nd briefing on RGGI in New
16 York City. Maybe you're talking about it. I
17 couldn't hear the last --

18 MR. LEWIS: Go ahead, Gordian. The August
19 22nd event is marked on our calendar. What do
20 you want to say about that?

21 MR. RAACKE: I'm just wondering if we
22 should invite speakers from that big RGGI
23 conference in New York City to give a
24 presentation.

25 MS. ESPOSITO: I agree with that. But I

1 also think we could stick with the DEC. I think
2 they're the most neutral and knowledgeable
3 party.

4 MR. TEETZ: I think the DEC is well on top
5 of this. They have an entire group that's
6 dealing with it. They have all the modeling
7 studies that have been done that will show what
8 the reductions have been, and I think that's the
9 right group to --

10 MR. SCHROEDER: If we're going to be
11 opposing a law that's going to be in conflict,
12 it's going to be the DEC that we're dealing
13 with.

14 MR. LEWIS: So this is helpful.

15 I think that we should shoot for that
16 meeting. I think part of the challenge, in my
17 mind, about how we're moving forward is can we
18 take all the information that was generated
19 here, and maybe Bob particularly to do a little
20 followup on, you know, what we have here, but
21 can we pull all this together. And my goal
22 would be to come before that meeting and get it
23 out before the meeting saying this is a summary
24 of all this information, you know, in a format
25 that makes some sense. But if we need to spend

1 the whole two hours talking about that, then we
2 can't have the RGGI presentation, which could be
3 very time-consuming.

4 Part of the question is do we think that
5 it's reasonable that we might be able to pull
6 that information together and not have to have a
7 whole meeting going over it again, and therefore
8 we could move on to trying to schedule an
9 October meeting on RGGI.

10 MS. ESPOSITO: I prefer that we don't go
11 over it all again.

12 MR. SCHROEDER: The meeting with RGGI is
13 going to be very important to this group. I
14 think we should have that and then go from
15 there.

16 MR. STEBBINS: Also gives us more time to
17 be able to put this in the proper format. It's
18 going to that some time because there's also
19 some information still out there that needs to
20 be reworked and put into a really proper format.
21 Maybe if you want to set a working group, a
22 smaller body to sort of hash that out and put a
23 document in, have to set something up here, in
24 the interim between the RGGI meeting and the
25 next meeting.

1 MR. LEWIS: I think that would be great.

2 MR. KALB: We could arrange a separate day
3 for us to comment on.

4 MR. LEWIS: That would be our goal.

5 People should anticipate, such as you see
6 here, a fair amount of information. So we'll
7 try to come up with a formula that summarizes
8 and break it down as much as possible.
9 Because you get to a point where it's too much
10 information and you can't get the key points
11 out of it. But that would be our goal. I'm
12 going to pull together a couple of people that
13 perhaps can help us with that as a followup, if
14 that's --

15 So I think that's what we would attempt to
16 do then, shoot for an October date with the DEC
17 RGGI people, set dates based on what they're
18 available for, and go to the meeting. Also,
19 before that meeting would be to take the
20 information we spent all this time on today and
21 put it into one format that sort of summarizes
22 it.

23 Hopefully, this will be an interesting
24 document. If we get no solid recommendations,
25 we'll at least produce some interesting data

1 that gives us a picture of Suffolk County's
2 carbon footprint, so to speak. And I think
3 after we have that we'll be able to make some
4 recommendations and, at the very least,
5 fulfill those aspects of our responsibilities,
6 hopefully.

7 MR. MUNCY: Should we start thinking about
8 different types of recommendations now at this
9 point, or suggestions down the road.

10 MR. LEWIS: Transition into that can be the
11 focus as we go forward. Starting at the next
12 meeting we'll talk about what are the
13 recommendations we're considering making.

14 MR. MUNCY: What I was thinking was not
15 only the part where you'd hoped that the
16 electric generators would reduce the carbon
17 footprint, but at the same time, if we don't
18 have that much legal stand to regulate that at
19 the County level, maybe there's something at
20 the County level where we can encourage
21 homeowners or virtual operations to use more
22 energy efficient electric. That would help
23 reduce the electric load and theoretically
24 reduce the amount of electric needing to be
25 generated.

1 MR. LEWIS: Why don't we wrap up by asking
2 everybody, do you have a closing suggestion on
3 where we are going with the committee in terms
4 of something along those lines as types of
5 things we should be looking at for a future
6 meeting, or just any closing comment that you
7 can say right now.

8 It's 4:14 so I do want to keep it to two
9 hours and fifteen minutes, to keep it to that
10 number, 4:15.

11 MR. SCHROEDER: Jon mentioned earlier the
12 fact that we have this growth and demand and the
13 fact that we're going to be pushing that energy.
14 There is going to be an energy collaborative in
15 the ongoing PSC meeting to put together.

16 LIPA is also working on some energy
17 efficient programs, perhaps on the demand side,
18 to try to push that down a little bit. We could
19 get some suggestions in the next meeting from
20 folks here that might be included in the
21 collaborative that's going to happen in the fall
22 regarding the energy efficiency program. The
23 mandate is critical to address on the supply
24 side, no escape.

25 MR. STEBBINS: I'm happy to see the process

1 going on. I think right now what we need is
2 more time. I think by the next meeting we'll
3 get a larger perspective from RGGI. We'll be
4 able to take another giant step forward once we
5 get it in usable form. I'm looking forward to
6 that.

7 MR. WAFFENSCHMIDT: 2005, ten percent more
8 insulation to improve the efficiency of your
9 home.

10 I think one of the real opportunities on
11 the demand side is either going to cap on the
12 market or have some inducing mechanisms from the
13 government to replace the power in the home with
14 a more efficient one, some sort of a state tax
15 break. Increase that from 10 percent to people
16 to insulate their homes, because that's the
17 greatest return on this you can ever get. And I
18 would even go as far as even including the
19 installation of ceiling fans to help with your
20 air-conditioning needs, or other ventilation.
21 I don't use air-conditioning at all. I have
22 all house fans, and rarely am I uncomfortable.

23 MR. SCHROEDER: Any time you have a roof
24 replaced you should.

25 MR. WAFFENSCHMIDT: In the attic I did a

1 power ventilator which kicks on to evacuate the
2 air from the attic.

3 MR. DAVITIAN: I think we should have RGGI
4 come in and talk to us about RGGI at the next
5 meeting. But I also think that if we're
6 prevented from moving forward on the electric
7 sector because the state is already doing it,
8 there is still important roles for the county.
9 I think there are things we could do to help a
10 lot, on the demand side, and I think we should
11 focus on that.

12 MS. ESPOSITO: I don't know if we talked
13 about this, but in our final report, picking up
14 on reducing the demand side, I think we should
15 include some recommendations on how the county
16 could promote meaningful public participation in
17 reducing demand, because there is stuff the
18 county can do. There is a gap, I think, in what
19 the county can do and what the county is doing
20 to really gain more community and community
21 participation.

22 MR. STANTON: What can I say that hasn't
23 already been said? So I will say nothing.

24 If you want to send me any information for
25 the group to get posted, I believe you all have

1 my contact information, and any further
2 recommendations on what could be posted for
3 reading material between now and then. I know
4 it's difficult to keep track of all these
5 papers. We'll try to get it in electronic form.

6 MR. MANITT: We are working on getting the
7 website going, too.

8 MR. KALB: I'm pleased that we made a
9 lot of progress in terms of getting the baseline
10 information for the nonelectric CO2 production,
11 because I think even though that wasn't the
12 charge, that will in the end be very significant
13 in our findings. So I think we made good
14 progress in that area.

15 DR. KEEN: In terms of formulating the
16 final report, I think this has been said
17 earlier in the meeting, that there are issues
18 that we can't address, really. And I think
19 Bob's last charts regarding the energy that
20 comes in is very interesting and is going to be
21 a sizeable impact on CO2 generation somewhere.
22 The report could mention those or have
23 footnotes or something. But I guess we need to
24 crunch down on the things that the County can
25 influence.

1 MR. TEETZ: I would echo the concern about
2 the demand side. It's not the power plants
3 that are causing climate change, it's our usage
4 of energy that's causing it. We really need to
5 reduce that. And I think a way to do that
6 includes decoupling of earnings from
7 through-put, which is something that Keyspan is
8 actually moving ahead with in Albany in our rate
9 case. And for us it's on the gas side, but
10 basically says give us some incentive so that we
11 can have some earnings for profit by reducing
12 consumption rather than earning on increasing
13 consumption.

14 We've got to basically flip the paradigm.
15 If we want to have efficiency and conservation,
16 we've got to make it profitable rather than the
17 other way around. So that's one thing.

18 In terms of climate change in general, a
19 CO2 ton emitted in Suffolk County is the same as
20 a CO2 ton emitted in Pennsylvania. Where we
21 reduce it doesn't really matter to climate
22 change itself.

23 RGGI is a great step towards getting
24 regional reductions. Obviously, we really need
25 a national program, and there are bills in

1 congress that are designed to do just that, and
2 I hope one of them will get passed in the near
3 future. That's really the way to address this
4 issue.

5 The county regulation to limit the CO2
6 tons generated by power plants in the county
7 could actually have the perverse reaction of
8 causing additional CO2 being generated outside
9 the county, and that doesn't help the climate
10 issue.

11 I think we need to be careful and look at
12 this on a global regional basis, and look at
13 what is the right thing to do if we're
14 truthfully concerned about climate change.

15 I think having the RGGI folks in is
16 definitely step one. That's a program that's
17 been feted over the last two or three years and
18 a lot of thought has been put into that. It's
19 not the best thing, we'd rather have a national
20 program, but it really is a step in the right
21 direction.

22 So that's my thought.

23 MR. LEWIS: Gordian, any closing thoughts?

24 MR. RAACKE: I'm going to pass because,
25 frankly, I have to run off to the next meeting.

1 But there were very good points that were made.

2 MR. LEWIS: I'll let it wrap up here also.

3 I said a lot during the meeting.

4 I appreciate everybody's help in generating
5 all this information and your patience through a
6 meeting that might have gotten a little tedious
7 at moments, but we had to plow through it. We
8 have to pull this information out. I'll send
9 you e-mails and the October date once we get a
10 guest speaker lined up.

11 If you've got any suggestions, please send
12 me an e-mail.

13 MR. STEBBINS: So the next meeting will be
14 in October?

15 MR. LEWIS: That's what I'm thinking.

16 Thank you all.

17 Transcripts are now available online,
18 that's correct.

19 --oo00oo--

20

21

22

23

24

25

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

CERTIFICATION

I, CONSTANCE MONETT, a shorthand reporter and
Notary Public in and for the State of New York, do
hereby certify:

THAT the foregoing is a true and accurate
transcript of my stenographic notes.

IN WITNESS WHEREOF, I have hereunto set my
hand this 21st day of August 2007.

Constance J. Monett