

STATE OF NEW HAMPSHIRE

N/PUC 15JUL18-0001

PUBLIC UTILITIES COMMISSION

**CERTIFIED
ORIGINAL TRANSCRIPT**

June 29, 2018 - 10:12 a.m.
Concord, New Hampshire

RE: DE 16-576
ELECTRIC DISTRIBUTION
UTILITIES:
Development of New
Alternative Net Metering
Tariffs and/or Other
Regulatory Mechanisms and
Tariffs for
Customer-Generators.
(Hearing on the Merits)

PRESENT: Chairman Martin P. Honigberg, Presiding
Commissioner Kathryn M. Bailey
Commissioner Michael S. Giaimo

Sandy Deno, Clerk

APPEARANCES: (No appearances taken - refer
to the sign-in sheets posted online.)

Court Reporter: Susan J. Robidas, NHLCR No. 44

I N D E X

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

	PAGE
Opening Remarks by Mr. Weisner	3
PUBLIC COMMENTS BY:	
Mr. Carson	8
Mr. Herndon	14
Ms. Birchard	18
Mr. Fossum	23
Mr. Sprague	28
Mr. Aalto	34
Mr. Ross	41
Mr. Kreis	46
Ms. Hawes	52

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

2 CHAIRMAN HONIGBERG: Good morning,
3 everyone. Please be seated. We're here this
4 morning in Docket 16-576, which is the
5 Alternative Net Metering docket. We have a
6 lot of things going on in that docket. This
7 is to take public comment on Staff's report
8 regarding the Value of DER Study. I have up
9 here some sign-in sheets which we'll deal
10 with momentarily.

11 Mr. Weisner, you want to do a
12 little bit of a scene setup for us?

13 MR. WEISNER: Yes, Mr. Chairman.
14 Thank you.

15 What you have before you is Staff's
16 final report summarizing the proposed scope
17 and timeline of the Value of Distributed
18 Energy Resources Study which is required to
19 be performed in this docket. That report
20 reflects the work that was done over a period
21 of time, a number of months, in a working
22 group setting with interested stakeholders
23 representing a broad and diverse range of
24 interested parties. And I'm pleased to note

1 that in the report, a number of study design
2 components are listed as being subject to
3 consensus among those working group
4 participants. Other design issues were not
5 the subject of consensus, and those are noted
6 as well. In those cases, Staff has made a
7 recommendation for the Commission's
8 consideration, and I expect that those
9 non-consensus items will be the focus of the
10 comments that we hear today.

11 We also have a proposed timeline.
12 It's very preliminary. It's very conditional
13 and dependent on some other moving parts in
14 this complex proceeding, as you observed. So
15 I just want to offer that. That's our
16 current thinking -- or it was our current
17 thinking in May, and it's subject to change.
18 This is a very dynamic process, as I'm sure
19 the Commission can appreciate.

20 I also want to notice -- note that
21 the Commission, in April, issued an order
22 which refocused what was anticipated to be
23 the non-wires alternative pilot program into
24 a locational value study of the distribution

1 level impacts of distributed generation. One
2 of the questions that's outstanding, as noted
3 in that order, is whether or not that would
4 be a stand-alone study or whether that would
5 be included in this study. And that issue
6 has not yet been resolved, but will be
7 important in determining the final scope of
8 the Value of DER Study. I think it's safe to
9 say that what we're trying to do here is
10 design the scope of work that would be
11 included in a request for proposals to engage
12 a consultant to perform the study of
13 valuation using data and analysis that was
14 not available last year when the Commission
15 made its decision regarding the Alternative
16 Net Metering tariff which is currently in
17 effect. And so the issuance of the RFP would
18 be the next step. I think it's fair to say
19 that that RFP should not be issued until that
20 other issue is resolved, but we expect to
21 continue working on that and seek resolution
22 within the next few months.

23 CHAIRMAN HONIGBERG: The Staff's
24 recommendation, which was filed in May, if

1 you look on Page 17, there's a flow chart of
2 sorts. If you were to take a "You Are Here"
3 sticker, where would it go on the flow chart?

4 MR. WEISNER: In terms of the Value
5 of DER Study, we are between the box that
6 says "Scope and Timeline Report Filed with
7 the commission" and the one that says
8 "Commission Approves, Modifies or Rejects..."
9 On the right hand of that chart are all the
10 other things that are going on. And the
11 first one on the left side is what I just
12 referred to, the Distribution Locational
13 Value Study. Now, the way it's listed here
14 and the way we have it in the timeline
15 assumes that it will be a separate study on a
16 separate track. As I noted, that may not be
17 the case, but that's still an unresolved
18 issue at this point. So that study, plus the
19 pilot programs, marginal cost of service
20 studies -- and Eversource is filing a new one
21 within the next few weeks -- and other data
22 collection as noted in the big box, that all
23 feeds into this Value of DER Study to be
24 performed by the Commission's independent

1 consultant. That study then gets filed with
2 the Commission and becomes the subject of a
3 new proceeding a few years from now that will
4 reconsider net metering with that information
5 available.

6 CHAIRMAN HONIGBERG: Thank you. I
7 think that was helpful to orient all of us on
8 the map, such as it is.

9 I have two lists, and I'm assuming
10 that they were separate lists --

11 (Discussion off the record)

12 CHAIRMAN HONIGBERG: So we're going
13 to take -- we're just going to bounce back
14 and forth between the two sheets. So the
15 first name on the first sheet I have is Henry
16 Herndon. And I'll call three people so
17 people can get prepared. So, Henry Herndon
18 is first, to be followed by Melissa Birchard
19 and then Clyde Carson.

20 MR. HERNDON: So I think my
21 comments -- I'm Henry Herndon, by the way. I
22 think my comments might be more valuable for
23 the Commission following Clyde Carson, sort
24 of with him providing some initial input and

1 then --

2 CHAIRMAN HONIGBERG: All rightie.
3 Why don't we take the two of you together.
4 Why don't we have Mr. Carson go first, and
5 then we'll have Mr. Herndon, and then, Ms.
6 Birchard, you can follow them.

7 MR. CARSON: Good enough. My
8 name's Clyde Carson. I'm a state
9 representative from Merrimack District 7,
10 representing the towns of Warner and Webster.
11 I'm also a selectmen in the town of Warner
12 and a founding member of the Warner Energy
13 Committee.

14 In my understanding, this hearing
15 is to provide comments on the scope and
16 timeline for the Value of Distributed Energy
17 Resources Study, and my comments on behalf of
18 the town of Warner pertain specifically to a
19 proposal for a pilot project that will
20 collect data that can be used to help inform
21 that study in accordance with the schematic
22 that we talked about just before.

23 CHAIRMAN HONIGBERG: Can you slow
24 down just a little 'cause the stenographer's

1 trying to get every word.

2 MR. CARSON: Yeah, sorry. I'll go
3 slower.

4 Geographically, Warner is located
5 in Merrimack County, along the Route 89
6 corridor. Warner has roughly 3,000 residents
7 and is typical of many New Hampshire towns.
8 The Currier & Ives Scenic Byway passes
9 through the town. It's home to five museums,
10 a small college. The town has a vibrant
11 downtown village and, most importantly for
12 today, is deeply committed to sustainable
13 energy.

14 At the town's 2007 town meeting,
15 voters established the Warner Energy
16 Committee to support the town's commitment to
17 energy conservation, security, sustainability
18 and responsible energy usage. This committee
19 actively supports that charge.

20 One of our early projects resulted
21 from a grant from the PUC to perform an
22 energy audit on our town buildings. Margaret
23 Dillon's audit report that came from that
24 study provides a basis for multiple projects

1 to improve the energy efficiency of our
2 building envelopes. And we've done a lot of
3 those projects over the last few years.

4 More recently, the town has pursued
5 municipal solar, taking advantage of the
6 state's group net metering program. In 2016,
7 the Warner Village Water Precinct approved a
8 100 kW solar array located at our waste water
9 treatment facility. And last year, the town
10 voters approved a second 100 kW solar array
11 located at the town's transfer station. The
12 town is proud of these arrays, which produce
13 enough electricity to cover a hundred percent
14 of our municipal usage and have been cash
15 positive since day one. So, they've been
16 good projects.

17 The array at our transfer station
18 is also a part of a plan to integrate the
19 town's support for recycling, renewable
20 energy, sustainable gardening in an
21 educational setting, as well as providing a
22 pollinator-friendly habitat. The point that
23 I want to make is that Warner has a vision
24 and is committed to sustainable practices and

1 that we have a track record to successfully
2 deliver projects related to that vision.

3 And that brings me to today's
4 purpose, which is to put a proposal on the
5 table for a pilot project in support of DE
6 16-576. Our proposal is to develop a model
7 that uses solar panels in combination with
8 battery storage, smart meters and time-of-use
9 pricing.

10 The Warner Municipal Power Project
11 was initiated over the past year. Our team
12 includes members of the Warner Energy
13 Committee and sustainable energy experts,
14 Henry Herndon from the New Hampshire
15 Sustainable Energy Association, as well as
16 support from Roy Morrison and Pentti Aalto.

17 In addition, we have been extremely
18 fortunate to have the advice and
19 participation of Cliff Below. We are closely
20 following his project between City of Lebanon
21 and Liberty Utilities and hope to learn from
22 his project and utilize applicable pieces for
23 our project.

24 The Warner Municipal Power Project

1 has also attracted interest and advice from
2 Michael Swack, Carsey Institute; Don Kreis,
3 New Hampshire Consumer Advocate; and Scott
4 Maslansky from CDFA.

5 And I'd like to highlight some of
6 the key points that we thought about in our
7 proposal. We want this to be a collaborative
8 effort with Eversource; they're our default
9 utility. Henry Herndon and I met and had a
10 preliminary meeting with Eversource
11 representatives, and the proposal is actively
12 being considered within the company.

13 Participants for the pilot would come from
14 low- to moderate-income families and
15 non-profits located in Warner. We envision
16 the number of participant locations would be
17 limited to around 24 single family homes,
18 multi-family homes and non-profit business
19 locations. In parallel, the Warner Energy
20 Committee wants to pursue a project to
21 improve the energy efficiency of the
22 participating building envelopes. There may
23 be some benefit to some participants by
24 including heat pumps, electrical vehicle

1 charging as part of the model, and we want to
2 consider that option as well.

3 The sixth point I want to make is
4 we would like to seek funding so that there
5 would be no upfront cost to the participants.
6 CDFA has expressed interest in providing
7 financing for projects such as this one. We
8 would work collaboratively to find with
9 Eversource which data would be collected as
10 part of this pilot and supply it to the PUC
11 VDR study. A municipal project with Warner
12 would not preclude Eversource from pursuing
13 other pilot projects, such as one that would
14 be scattered across the state geographically.

15 And a key goal of this pilot would
16 be that the resulting model would serve as a
17 standard VDER model that could be expanded
18 within Warner and replicated across the
19 state.

20 So, in summary, we believe that a
21 small, focused pilot project with Warner
22 offers a high probability of success due to
23 our track record and would use useful data to
24 the PUC VDER study, and it could be used to

1 build momentum for expansion of the resulting
2 model across the state. And our hope is that
3 the Commission and Eversource will support
4 our proposal and work with us to make it
5 successful.

6 And I conclude my comments with
7 that and turn it over to Henry.

8 CHAIRMAN HONIGBERG: If you have
9 written comments that you were reading from,
10 if you could provide them to the
11 stenographer, everybody will be happier.

12 MR. CARSON: Yeah.

13 CHAIRMAN HONIGBERG: Mr. Herndon.

14 MR. HERNDON: Good morning. My
15 name is Henry Herndon. I work for New
16 Hampshire Sustainable Energy Association as
17 Director for Local Energy Solutions, and my
18 job is to provide technical assistance to
19 cities and towns across the state seeking to
20 implement energy projects. So I've been
21 working closely with Representative Carson on
22 this project.

23 I've also been engaged in Public
24 Utility Commission proceedings for three

1 years now, participating in the Energy
2 Efficiency Resource Standard, the Grid
3 Modernization Working Group and this Net
4 Metering docket. And as Representative
5 Carson stated, the purpose of these comments
6 are mostly aligned with providing some
7 context for that project as that -- in line
8 with this schematic on Page 17, doing pilot
9 projects to generate data that can then
10 inform the VDER study.

11 So I think there's been a lot of
12 progress over the past year, particularly
13 leadership from Cliff Below in Lebanon and
14 the Liberty Battery Storage Project, as well
15 as some progress on low and moderate income
16 programs. I think there's still a lot of
17 room for progress on some areas such as time
18 of use and doing actually more to expand
19 access for low and moderate income
20 communities, and I think that's really where
21 the Warner project can provide value to this
22 docket. Obviously, any successful pilot
23 requires close collaboration with the
24 utilities. So, again, I'd like to sort of

1 reiterate our appreciation to Rick Labrecque
2 and Matthew Fossum for engaging us in
3 preliminary conversations, and we hope to
4 continue to collaborate with Eversource
5 closely moving forward on this.

6 Beyond the partnership with
7 Eversource, I think there's a lot of
8 potential to build a broad coalition of
9 support around this project. Representative
10 Carson sort of alluded to some of the
11 engagements we've had already, so we're
12 appreciative of the advisory role that
13 Clifton Below is playing and the support
14 we've received from the Consumer Advocate and
15 other stakeholders thus far, and we hope to
16 continue to work to do an inclusive,
17 participatory pilot project.

18 So I'll just be quick and I'll sort
19 of summarize. I think our goals are to
20 design a project that is beneficial to the
21 community of Warner, that is beneficial to
22 the electricity grid as a whole, that meets
23 interests of numerous stakeholders involved
24 in this proceeding, and that rewards the

1 utility in the process for facilitating such
2 a project. And we believe that such a
3 project could then be replicated across the
4 state to the benefit of the many, many cities
5 and towns that are very interested in doing
6 innovative and modern technology deployment
7 and distributed energy resources.

8 So, to conclude, we hope we can
9 continue to rely on the support from the
10 Commission, from Eversource and the other
11 stakeholders, and hope to continue to work
12 collaboratively with all parties. Thank you.

13 CHAIRMAN HONIGBERG: Ms. Birchard,
14 before you start, I'd like to add a couple of
15 question marks and "maybes" here.

16 Mr. Hayden, are you going to be
17 speaking?

18 MR. HAYDEN: I pass.

19 CHAIRMAN HONIGBERG: How about Jack
20 Ruderman?

21 MR. RUDERMAN: I'm also just going
22 to submit written comments.

23 CHAIRMAN HONIGBERG: I should have
24 noted that there is a written comment

1 deadline. Mr. Weisner, when is it?
2 July 10th, was it?

3 MR. WEISNER: July 10th. That is
4 correct.

5 CHAIRMAN HONIGBERG: So, anyone
6 here or not can submit written comments by
7 July 10.

8 All right. So, Ms. Birchard,
9 you're up, to be followed by Mr. Fossum and
10 then Kevin Sprague.

11 MS. BIRCHARD: Thank you for the
12 opportunity to speak today. My name is
13 Melissa Birchard, and I am an attorney for
14 Conservation Law Foundation. CLF is a New
15 England-wide organization that works for the
16 interests of the environment, public health
17 and communities. Our members are
18 particularly interested in addressing climate
19 change through market-based innovation.

20 I have just a handful of brief
21 comments today and will deliver more detailed
22 comments in writing. Conservation Law
23 Foundation applauds the Commission for its
24 efforts to provide a neutral forum for

1 consensus-based decision-making regarding the
2 scope of the upcoming Value of DER Study. We
3 have found this process to be engaging and
4 informative. We believe that Staff's
5 recommendations reflect the efforts of the
6 parties to achieve consensus wherever
7 possible. And Staff's recommendations do, in
8 fact, reflect consensus on all but a handful
9 of issues to the general scope of the
10 study -- as to the general scope of the study
11 of the Value of DER.

12 I believe all parties agree that
13 the independent consultant retained by the
14 Commission should have further input into the
15 scope of this study that will be valuable.
16 In addition, I believe all parties agree that
17 there should be significant opportunities for
18 further stakeholder engagement and input as
19 to the development of study parameters and
20 details. In general, CLF is quite supportive
21 of Staff's recommendations, with a few
22 exceptions and nuances that we will largely
23 address in written comments.

24 One issue that Staff and

1 stakeholders have wrestled with in earnest is
2 a very practical one, and that is how to keep
3 the cost of this study within reasonable
4 range. One result of the effort to keep
5 costs within a reasonable range is that in a
6 number of instances the recommendations do
7 seek qualitative/quantitative proxy
8 estimates. This approach has a number of
9 benefits in cases where, for instance, New
10 Hampshire-specific data may be limited at
11 this time. While we naturally need to be
12 careful about settling for less than complete
13 accuracy, regulation at a reasonable cost
14 generally does require some amount of
15 pragmatism. Indeed, it is well established
16 that proxy values can sometimes be
17 appropriate in valuation processes such as
18 these. Likewise, it is well established that
19 no material, non-zero values should be
20 entirely excluded from such valuations.

21 The National Standard Practice
22 Manual for Assessing Cost-Effectiveness of
23 Energy Efficiency Resources, which presents
24 an objective and neutral resource valuation

1 framework, includes this among its six
2 so-called "universal principles." So, that
3 National Standard Practice Manual was
4 developed by the National Efficiency
5 Screening Project. You may be aware of it.
6 Specifically with respect to hard-to-quantify
7 impacts, the manual states as follows:
8 "Cost-effectiveness practices should account
9 for all relevant, substantive impacts (as
10 identified based on policy goals) even those
11 that are difficult to quantify and monetize.
12 Using best-available information, proxies,
13 alternative thresholds or qualitative
14 considerations to approximate
15 hard-to-monetize impacts is preferable to
16 assuming those costs and benefits do not
17 exist or have no value."

18 We concur that it is essential to
19 include material, but hard-to-quantify
20 impacts even if a proxy estimate provides the
21 greatest degree of accuracy that we can
22 reasonably achieve at this time.

23 Finally, my last comment pertains to
24 environmental and public health

1 externalities. It is widely understood that
2 these externalities are not fully included in
3 existing pricing and, in particular, the
4 region's wholesale markets. It is in part
5 for this reason that regional stakeholders,
6 including Conservation Law Foundation, have
7 proposed a market-based solution called the
8 "Dynamic Forward Clean Energy Market," that
9 would better value low-emissions resources.
10 I will comment further on this subject in my
11 detailed written comments.

12 In conclusion, I thank the Commissioners
13 for their time and look forward to continuing
14 to engage on this subject.

15 CHAIRMAN HONIGBERG: Thank you, Ms.
16 Birchard.

17 Before we get to you, Mr. Fossum,
18 Mr. Aalto, you didn't say one way or the
19 other whether you wanted to speak. You just
20 wrote something else.

21 MR. AALTO: My apologies. I did
22 want to speak.

23 CHAIRMAN HONIGBERG: All right. So
24 we'll do Mr. Fossum, then Mr. Sprague and

1 then Mr. Aalto.

2 MR. FOSSUM: Do the mic check.

3 Good morning, and thank you for the
4 opportunity to comment. Eversource does have
5 a few comments this morning and concerns to
6 raise regarding the proposed study scope.
7 And we'll keep our comments pretty well
8 confined to the Staff proposal this morning.
9 We do also, along with some of the other
10 parties, intend to follow with written
11 comments by the deadline, and so today we'll
12 just highlight some of the concerns that we
13 have.

14 First, and most generally, and as
15 Mr. Weisner noted this morning, there are a
16 number of places in the report that
17 referenced a "group consensus" on recommended
18 approaches. We just wanted to highlight
19 that, due to the need to attend to certain
20 storm restoration activities in March of this
21 year, essentially there were effectively no
22 utility representation at one of the meetings
23 where some of the consensus was reached. In
24 general, Eversource does not have any

1 significant problem with what is proposed to
2 be in scope but wanted to clarify that our
3 agreement on what's within the scope of the
4 study is not necessarily agreement on the
5 recommended study approach. We want to be
6 sure to inform the Commission of that this
7 morning not to unnecessarily inject
8 controversy, but to frame our understanding
9 of this document and the study to follow and
10 to give some context for some of our comments
11 this morning.

12 With that said, turning to a few of
13 the specific items contained in the Staff
14 report and proposal, looking at the tables
15 that were included, and looking specifically
16 at Page 6, Table 1, Item 2, there's
17 references in there to the use of the AESC
18 study "where appropriate." We just wanted to
19 highlight that item because, as the
20 Commission is aware, the AESC study is really
21 aimed at energy efficiency, not distributed
22 energy resources, and serious consideration
23 should be given on whether and how to use the
24 AESC in this case.

1 Next, looking at Pages 7 and 8 on
2 Table 2 there, and Items 1 through 5, the
3 report discusses the use of projections to
4 study things like energy capacity, ancillary
5 services, RPS and RNS and LNS. On these
6 items, there is actual current and historic
7 data that exists and we believe should be the
8 basis for evaluating these items. As we're
9 all aware, any projections will ultimately
10 prove to be inaccurate. And in this case,
11 the items being evaluated are subject to very
12 significant levels of uncertainty.

13 Attempting to forecast those items over the
14 long term will take likely a lot of time,
15 effort and cost and may lead to results that
16 can be the subject of much future debate.

17 Eversource would prefer that future
18 projections that are subject to great
19 uncertainty not be the basis for setting of
20 future tariffs due to that very uncertainty.
21 If, however, these market-priced items are to
22 be included in the analysis, we believe all
23 relevant market-based items should be
24 included, including those relating to the

1 declining cost of solar equipment and
2 installations.

3 Looking next at Page 12, Table 2
4 and Item 16, under the Externality Benefits,
5 in that recommendation it states that the
6 Staff recommends that avoided environmental
7 externalities not already included in energy
8 prices be analyzed as a study sensitivity.
9 In the column right next to it, there is a
10 quote there from the underlying Commission
11 order, Order 26,029 which includes the
12 statement that the study may include,
13 "demonstrable and quantifiable" net benefits
14 associated with relevant externalities, such
15 as environmental or public health benefits,
16 provided that the potential for
17 double-counting of such externalities is
18 adequately mitigated.

19 Including the externalities that
20 were identified by Staff, it appears not to
21 line up entirely with what was pointed out in
22 the order. For example, RPS markets covered
23 include environmental attributes for certain
24 sources, RGGIs that set price for carbon

1 reduction, NOx, SO2 costs are encountered in
2 ISO-New England market price formation. It
3 appears in our initial analysis that some of
4 these externality benefits, if not all of
5 them, may be already accounted for and should
6 not be included in the study scope.

7 And finally for this morning,
8 looking at Page 14, Table 2, Item 19,
9 relating to Customer Installed Net Costs,
10 Order 26-029 states that New
11 Hampshire-specific or industry estimates of
12 customer installed system costs are
13 appropriate and should be included in the
14 study. And in discussing the approach to the
15 study, back on Page 4 of the Staff
16 recommendation, it notes that the study would
17 assess the relative benefits and costs of net
18 metered DG from the perspective of the
19 utility system as a whole, participating NEM
20 customer-generators and other electric
21 utility ratepayers. And it also says that
22 the Staff notes that participant cost
23 valuation criteria in particular may be used
24 to evaluate how NEM crediting and

1 compensation may affect reasonable
2 opportunities to invest and receive fair
3 compensation.

4 In our comments this morning, we
5 just want to highlight and signal our
6 agreement with this aspect of the study. We
7 are all hearing regularly of the substantial
8 decrease in the cost of installed systems
9 under a variety metrics. Information on
10 installed costs to the end customer -- the
11 end-user customer would be very helpful in
12 designing the next iteration of net metering
13 tariffs, assuring a fair and appropriate
14 compensation scheme.

15 Thank you. That's what I have for
16 this morning, and we'll follow with
17 additional written comments by the deadline.

18 CHAIRMAN HONIGBERG: Thank you,
19 Mr. Fossum.

20 Mr. Sprague, to be followed by Mr.
21 Aalto and then Brydon Ross.

22 MR. SPRAGUE: Thank you. My name
23 is Kevin Sprague. I'm the director of
24 engineering at Unitil. Unitil would like to

1 thank the Commission for the opportunity to
2 provide comments to the Value of DER Study
3 Scope and Timeline Final Report. Unitil was
4 an active participant in the stakeholder
5 process for developing the recommended
6 project scope which has been presented to the
7 Commission for consideration. Unitil also
8 would like to thank the New Hampshire PUC
9 Staff, OCA and other stakeholders for their
10 efforts in developing this recommendation.

11 Unitil is in general agreement with
12 the approach to the Value of DER Study.
13 However, Unitil will reserve its right to
14 agree or disagree with the assumptions and/or
15 results presented in the study. Unitil would
16 also like to reiterate the point made that
17 the study results are not intended to
18 predetermine future NEM, net energy metering,
19 tariff designs or applicable rates, but
20 rather to inform further NEM tariff
21 development proceedings before the
22 Commission.

23 Unitil hopes that the evaluation
24 used in the study includes a rigorous

1 sensitivity analysis to determine the impact
2 of all assumptions. A sensitivity analysis
3 will be useful to the Commission Staff and
4 all stakeholders to determine the
5 demonstrable and quantifiable net benefits.
6 The study should focus its efforts on
7 quantifiable net benefits as opposed to
8 qualitative benefits that may be more vague
9 or not translate into direct monetary
10 benefits. If a value cannot be quantified,
11 the study should not include those criteria
12 for consideration.

13 Unitil would also like to point out
14 that there is a cost associated with DG
15 interconnections. Those costs are real and
16 can be rather significant depending on the
17 location of the interconnection. It is
18 important for the study to identify the net
19 benefits -- meaning the total benefits minus
20 the total cost -- with respect to DG
21 interconnections. In some locations, the
22 analysis could result in a negative value.

23 Unitil would like to take the
24 opportunity to identify a few elements of the

1 study and how those elements should be
2 treated in the study scope.

3 So, No. 5 in the table,
4 Transmission Capacity, this element should be
5 out of scope. Regional transmission planning
6 is conducted by ISO-New England using rigid
7 modeling criteria. It is not reasonable to
8 expect that random deployment of DER based
9 upon retail net metering tariff in New
10 Hampshire will result in the avoidance of
11 future unidentified transmission system
12 expansion.

13 No. 8, Distribution System
14 Operating Expenses. This element should be
15 in scope, but should be expanded to also
16 consider potential increases in operating
17 expenses, in addition to potential decreases
18 or deferrals.

19 No. 12, Hedging and Wholesale Risk
20 Premium. This element should be out of
21 scope. The risk premium in the retail
22 default energy service prices is related to
23 the market and customer load volatility.
24 High penetrations of solar may increase

1 market volatility and increase risk premiums
2 that are paid by non-participants that must
3 pay the default energy prices. As for
4 hedging, the distribution utilities do not
5 engage in long-term energy supply hedging;
6 thus, there are no hedging costs that will be
7 avoided.

8 No. 16, Externality Benefits. This
9 element should be out of scope. DER is
10 currently supported by several incentive
11 programs, such as rebates, tax incentives,
12 renewable energy credits, et cetera. These
13 programs, especially the renewable energy
14 credits, are primarily a reflection of the
15 value of these externality benefits. As
16 such, it seems unlikely that any such
17 benefits would satisfy the "double-counting"
18 language in the PUC order.

19 CHAIRMAN HONIGBERG: Wait. On that
20 one, the order specifically contemplates that
21 being in scope. Now, it may be that the
22 conclusion may be that the particular
23 elements have to be excluded as
24 double-counted. But you're saying that the

1 order, we should just -- the study should
2 ignore that part of the order? That seems a
3 little extreme.

4 MR. SPRAGUE: We believe that it's
5 going to be difficult for the working group
6 or the consultant to meet the double-counting
7 aspect of the order.

8 CHAIRMAN HONIGBERG: So they
9 shouldn't even look at it. So it should be
10 out of scope -- you said out of scope.

11 MR. SPRAGUE: We believe it should
12 be out of scope.

13 CHAIRMAN HONIGBERG: Okay. Thanks.

14 MR. SPRAGUE: No. 19, Estimate of
15 Customer Installed Costs, this. Element
16 should be in scope. Page 61 of the Order
17 states that the New Hampshire-specific or
18 industry estimates of customer installed
19 systems costs are appropriate and should be
20 included in the study. Unitil suggests a
21 review of various categories of solar -- for
22 example, a residential, a small commercial or
23 a large host project -- to examine the
24 installed costs, net of all possible subsidy

1 and incentive programs, and preferential
2 accounting treatment. The review results
3 should be in standard metrics, such as
4 levelized cost of electricity and/or
5 investment payback period under various net
6 metering tariff scenarios.

7 Once again, Unitil would like to
8 thank the Commission, Staff, OCA and other
9 stakeholders for all their efforts in this
10 report.

11 CHAIRMAN HONIGBERG: If you
12 wouldn't mind leaving your written remarks
13 for the stenographer, that would be helpful.

14 All right. Mr. Aalto, to be
15 followed by Brydon Ross, and then I think Mr.
16 Kreis.

17 MR. AALTO: Thank you very much for
18 the opportunity to speak. I'd like to focus
19 specifically on the wires part of the
20 business. But first, more generally, I
21 believe that the broad issue of value of
22 these various types of generation is a very
23 broad one and is probably best handled at
24 another level -- that is to say, at a

1 legislative, societal level that says solar
2 is useful for one reason or another, or a
3 fuel cell is useful for some other reason.
4 And NE subsidiaries that we might provide
5 should be done, I believe, outside of a more
6 market-oriented structure. And I believe
7 that from that point of view that we should
8 be focusing on the development of a pricing
9 structure that represents a market for power.

10 Net metering, as we have it, is
11 indeed that type of price because it is
12 effectively a spot market. It is not a
13 guaranty of anything to anyone either buying
14 or selling. Prices could change. Contracts
15 for power should be done, I believe,
16 ultimately between customers and suppliers,
17 not through the utility, if we can avoid
18 that.

19 So the fundamental issue that we
20 have is in the value of the wires aspect of
21 the business. Much of the discussion is
22 focused on the fact that in one example
23 something like 50 feeders were looked at, and
24 it was found that three of them might benefit

1 from distributed generation. The implication
2 of that is that the distributed generation
3 has no value toward distribution cost. If we
4 accept that, we can basically hang up a good
5 part of this process.

6 I would say that a better approach
7 would be, since we have now a very
8 substantial amount of what I call "excess
9 capacity" that we're all paying for now, and
10 the distributed generation would tend to add
11 to that, we have to ask: Is there some way
12 that we can control those costs through this
13 process? And that argues for developing, or
14 perhaps on a more specific basis, the value
15 of power in the system. And that, in effect,
16 becomes the price. Toward that end,
17 time-dependent, system-status dependent and
18 locational pricing becomes important. In the
19 situation where we already have excess
20 capacity on a feeder or other portion of the
21 system, what I would argue is price it as if
22 it had been competitive in the past -- that
23 is to say, it has a price curve attached to
24 the system. If the loading on the system is

1 zero, the price is zero. If the wire's ready
2 to melt, the price is infinite. And a curve
3 connects those that shows the usual
4 congestion types of characteristics -- that
5 is, it rises slowly with use and then rises
6 rapidly as congestion appears.

7 Pricing. Each of our separate
8 segments of our system going forward with
9 that type of pricing structure, scale it so
10 that it provides for the revenue requirements
11 of the utility as a system as a whole. Some
12 feeders would show low cost because they're
13 dramatically in excess. Some would show
14 higher prices because they need power. To
15 those customers that choose to enter into
16 this type of highly volatile pricing, they
17 have the ability to shift load, generate
18 power and respond to the pricing that's
19 there. If we can do that effectively, and I
20 believe it's relatively easy to do that --
21 and let me go and branch a bit into that.

22 If we put on each feeder a
23 power-measuring system that looks very much
24 like the meter that a large primary service

1 customer would have, we can in real time
2 provide the loading, assign a price to go
3 with that loading level, and make that
4 available to all other customers on that
5 feeder. If it's scaled properly, the feeder
6 will sometimes under-recover and sometimes
7 over-recover its appropriate cost. A feeder
8 that is dramatically overbuilt will not
9 recover its cost. One that is way underbuilt
10 and overloaded will recover more cost. Scale
11 the whole system ultimately so that the
12 utilities' revenue requirement are met. What
13 this gives us is an ability to control costs
14 going forward so that we can include
15 beneficial uses of electricity to increase
16 load where it makes sense to do that, and to
17 provide the proper price signals for that
18 without adding necessarily to the cost of the
19 distribution system; that way, we have a way
20 to absorb some of the potential shift of
21 generation within the system. With luck,
22 there'll be a good balance for some years
23 going forward. That gives us time to work
24 off the excess capacity and get to a

1 structure where the system has appropriate
2 matching of capacity with consumer response,
3 which we've never had in the past, so that we
4 can control the cost on that system and also
5 simultaneously provide the pricing signal for
6 people that are generating.

7 Effectively what I'm speaking to
8 here is that we now, by doing this, we begin
9 to develop a retail market for electricity
10 that customers can respond to with their own
11 generation or with their own heat pumps or
12 electric cars or whatever method makes the
13 most sense in a given area, and decisions
14 will be made based on those.

15 So, in terms of what the scope of the
16 study should be, we should include those
17 types of factors. This is the main piece
18 that in many of the studies that I've
19 reviewed has missing. The assumption is we
20 have all the sunk costs. We'll just do a
21 fixed cost and recover it. That will not
22 work in this case because it doesn't provide
23 the proper pricing signals for either the
24 general -- either the utility or customers

1 going forward. We need to be able to control
2 the cost of distribution, or we will
3 ultimately end up with people defecting from
4 the grid, to general problems for everyone.
5 It would be an unnecessary waste of the
6 existing structure we have. And I would hope
7 that we don't go the way of the railroads in
8 this process, which I believe we have
9 potential to do. We're not there yet. But
10 if we work now, we may be able to shape our
11 pricing structure so that it properly
12 reflects a market value for power at NE
13 location, at NE time, and allows the customer
14 effectively to compete for the electric
15 service that is provided by the wires
16 business. We do that now with our energy
17 efficiency by not buying at kilowatt hour. I
18 don't pay because the utility doesn't provide
19 the service. A generated kilowatt hour looks
20 exactly the same. My neighbor may use it and
21 pay full price for it. That is not a cost to
22 the utility. The only issue is revenue loss
23 for distribution service or wires service.

24 Thank you again for the opportunity to

1 speak. If I can answer NE questions, I will
2 try. I should point out that I'm quite
3 dyslexic, so I have a great deal of
4 difficulty getting anything written. But I
5 will try to provide something to describe a
6 method for payment for capital asset
7 distributed based on loading. Thank you.

8 CHAIRMAN HONIGBERG: Thank you, Mr.
9 Aalto. Brydon Ross, Don Kreis, Ellen Hawes.

10 MR. ROSS: Can you hear me?

11 CHAIRMAN HONIGBERG: So far.

12 MR. ROSS: Members of the
13 Commission, my name is Brydon Ross, and I'm
14 the vice-president of State Affairs for
15 Consumer Energy Alliance. As an interested
16 party and member of the Commission's Working
17 Group on the Value of DER Study, CEA
18 appreciates this opportunity to participate
19 in today's proceedings and share its
20 comments. We also want to thank the Staff
21 for the hard work on these efforts as well.

22 (Discussion off the record.)

23 CEA is a national non-partisan,
24 non-profit trade association which has long

1 advocated for national and state energy
2 policies which focus on creating a diverse
3 portfolio of energy supplies from all
4 resources, including wind and solar, to
5 biofuels, petroleum, nuclear, clear-burning
6 natural gas, as well as energy efficiency.
7 We present energy consumers and end users
8 across the nation, and CEA strongly supports
9 the increased use of solar and distributed
10 energy options. It is proud to advocate for
11 the utilization of solar energy resources
12 that help meet our energy demands, temper
13 volatile energy prices and ensure fair access
14 to energy for everybody.

15 As part of its Solar Energy Future
16 campaign, CEA advocates on behalf of policies
17 that are pro-solar, pro-grid and
18 pro-consumer. We believe solar will provide
19 long-term health, environmental and
20 cost-saving benefits for families and
21 businesses across the country and New
22 Hampshire.

23 CEA released a new report entitled,
24 "Incentivizing Solar Energy: An In-Depth

1 Analysis of U.S. Solar Incentives," which
2 updates the first-ever comprehensive review
3 it conducted in 2016 to quantify solar
4 incentives across multiple states.

5 Our new report expands its analysis
6 to 25 states, and includes New Hampshire, and
7 it details the federal, state and local
8 incentives for rooftop solar photovoltaic
9 systems that have seen tremendous growth
10 across the country. I've provided a copy of
11 the entire report as part of my statement
12 today, but I wanted to share a few highlights
13 that are relevant to this hearing as the
14 Commission and Staff continues this important
15 work.

16 Among the study's key findings:
17 Existing incentives for residential solar are
18 significant. In all but five of the states
19 that were analyzed, direct owners receive at
20 least 75 percent of their total system costs
21 back through incentives under a standard rate
22 structure.

23 Utility-scale solar installations
24 overall are less expensive to install and are

1 incentivized at lower rates per watt than
2 rooftop solar systems. Nationally, our study
3 found that residential solar systems receive
4 on average between 104 percent and
5 140 percent of their total system costs back
6 in incentives. Utility-scale solar
7 installations receive roughly 45 percent of
8 their total system costs back incentives.

9 Our study found that
10 third-party-owned solar receives the most
11 significant incentives nationwide, and that's
12 largely due to the accelerated depreciation
13 from tax benefits.

14 Solar installation may also shift
15 costs in some states, and in some cases to
16 other customers. Some states' net metering
17 programs which pay residential solar
18 customers at full retail rates for their
19 excess electricity production can shift fixed
20 utility infrastructure costs onto other
21 non-solar customers. And our analysis found
22 that residential solar programs
23 unsurprisingly vary across the country. But
24 in New Hampshire specifically, a single

1 6.1-kilowatt direct-owned system receives
2 \$23,254 in taxpayer and net metering
3 incentives, or about \$3.81 in incentives per
4 watt, which represents 118 percent of the
5 actual cost of the system. A single
6 6.1-kilowatt third-party-owner of a rooftop
7 system in New Hampshire receives \$24,741 in
8 taxpayer and net metering incentives, or
9 about \$4.06 in incentives per watt. That
10 represents 148 percent of the actual costs in
11 the system. That's our study's analysis.

12 As this Commission knows, New
13 Hampshire already has some of the highest
14 residential, commercial and industrial
15 electric rates in the United States.
16 According to the most recent data from the
17 Department of Energy, electric rates in New
18 Hampshire are 53 percent more than the
19 national average. CEA's primary interest as
20 the study process develops is insuring costs
21 remain fair and equitable for everyone as
22 solar distributed options continue to grow.
23 It is important that New Hampshire's existing
24 incentive policies keep pace with tremendous

1 changes occurring in our dynamic electricity
2 markets. The PUC is in the unique position
3 through the Value of DER study process to
4 address these energy costs while also
5 promoting the continued growth of distributed
6 energy, solar deployment, and modernizing New
7 Hampshire's electricity grid.

8 CEA has greatly appreciated the
9 opportunity to be a part of the Commission's
10 working group and the chance to share its
11 input today. We look forward to continuing
12 this work together, with the development of a
13 study that encourages New Hampshire's future
14 incentive policies to strike a thoughtful
15 balance in promoting distributed options with
16 the need to maintain a reliable and resilient
17 electricity grid that keeps overall rates as
18 low as possible for families and businesses
19 that may be struggling to make ends meet.
20 Thank you for your time today.

21 CHAIRMAN HONIGBERG: Thank you, Mr.
22 Ross. Mr. Kreis and then Ms. Hawes.

23 MR. KREIS: Thank you Mr. Chairman.
24 Guess it might make sense for me to do a mic

1 check like Mr. Ross did. I think everybody
2 can hear me.

3 CHAIRMAN HONIGBERG: Yours sounds
4 great.

5 MR. KREIS: Thank you. Mr.
6 Chairman, this public comment hearing is an
7 excellent opportunity to take stock of where
8 we are in the process of moving forward with
9 the instructions issued by the General Court
10 back in 2016 via the adoption of House
11 Bill 1116. As you know, HB1116 instructed
12 the Commission to open what became Docket No.
13 DE 16-576. What public policy has guided
14 this docket since its inception? The
15 legislature declared, and I quote, "It is in
16 the public interest to continue to provide
17 reasonable opportunities for electric
18 customers to invest in and interconnect
19 customer-generator facilities and receive
20 fair compensation for such locally-produced
21 power while insuring costs and benefits are
22 fairly and transparently allocated among all
23 customers. The General Court continues to
24 promote a balanced energy policy that

1 supports economic growth and promotes energy
2 diversity, independence, reliability,
3 efficiency, regulatory predictability,
4 environmental benefits, a fair allocation of
5 costs and benefits, and a modern and flexible
6 electric grid that provides benefits for all
7 ratepayers."

8 The key phrase is, of course,
9 "reasonable opportunities, fair compensation,
10 fair allocation of costs and benefits," and
11 from the perspective of the Office of the
12 Consumer Advocate, "benefits for all
13 ratepayers." By those standards, the scope
14 and timeline for the Value of Distributed
15 Energy Resources Study issued by the Staff is
16 well worthy of your approval.

17 As the document indicates, there is
18 consensus among the stakeholders about the
19 study parameters. There's also broad
20 consensus on most of what deserves to be in
21 the VDER value stack.

22 And I have to say here that I'm a
23 little disappointed to hear Eversource say
24 that because of a winter storm that diverted

1 the company's resources during one of the
2 working group meetings, they don't
3 necessarily support what Staff indicates to
4 be the broad consensus on a bunch of issues
5 in the report that Staff issued. You know, I
6 understand -- this is equivalent to saying,
7 well, you know, I couldn't make it to school
8 even though there wasn't a snow day because I
9 couldn't make it to school; so, therefore,
10 everything that happened at school during
11 that snow day shouldn't count. In reality,
12 when you can't make it to school because
13 there was a snow day, you have to make up the
14 work later. And we have lots of stakeholder
15 processes that go on here at the PUC, and not
16 everybody can make every meeting. But there
17 are opportunities to catch up and to bring
18 your views to bear on documents like the one
19 we're talking about here today. And I'm
20 sorry that Eversource did not take the
21 opportunity to do that.

22 With respect to that value stack,
23 though, the consensus was attained I think on
24 13 of 19 items. As to most of the remaining

1 six, the question is not whether to include
2 the item, but how. And the Staff approach of
3 developing a qualitative and quantitative
4 proxy estimate is reasonable.

5 And here I have to pause and say
6 that I'm disappointed to hear what Unitil had
7 to say because, as Chairman Honigberg
8 suggested, certain items that Unitil would
9 like you to declare to be out of scope are
10 really a form of bootstrapping because some
11 elements in the value stack will indeed be
12 hard to quantify. But this kind of effort is
13 exactly what the consultant the Commission is
14 about to hire is going to undertake. And
15 assuming that just because it's going to be
16 difficult it doesn't belong in the study is
17 basically an exercise in putting the cart
18 before the horse.

19 As with net energy benefits in the
20 energy -- or non-energy benefits, excuse me,
21 in the energy efficiency realm, on behalf of
22 residential customers, we look with favor on
23 Staff's general emphasis on evidence-based
24 assessments of impacts. The Staff's proposal

1 reasonably accommodates this imperative which
2 we deem appropriate in light of the policy
3 and political climate within which we all
4 work.

5 And I would also like to say I was
6 very pleased to hear what Selectman Carson
7 and Mr. Herndon had to say about what's been
8 going on in Warner. I think it is really
9 encouraging to see these individual pilot
10 proposals popping up in various regions of
11 the state. I think the Commission should do
12 everything it can to encourage that kind of
13 stuff. I think it would behoove Eversource
14 to be as cooperative as possible with what
15 the folks in Warner are trying to do, and I
16 think that it is useful to think about that
17 today in the context of the scoping document
18 that Staff has placed before you. The
19 efforts that have taken place so far on
20 teeing up the VDER study might just be the
21 best example I have seen since I've been
22 hanging around here of the collaboration
23 between Staff of the PUC and the Office of
24 Consumer Advocate that I now head. We had

1 the good sense to hire a consultant who's
2 among the best in the business, and the Staff
3 had the good sense to take his advice very
4 seriously. We believe that, going forward,
5 the VDER study will become the high water
6 mark of a consensus-based approach in which
7 stakeholders work together under the PUC's
8 aegis to deliver benefits to all ratepayers
9 by making sure that distributed energy
10 resources assume their well-deserved place as
11 the key customer-empowering element of the
12 21st Century electricity grid.

13 CHAIRMAN HONIGBERG: Thank you, Mr.
14 Kreis.

15 Ms. Hawes.

16 MS. HAWES: Good morning. This
17 seems to be working. I'm Ellen Hawes from
18 Acadia Center. We focus on clean energy
19 economies in the northeast states by
20 providing policy and data analysis. Thank
21 you for this opportunity to speak. I will be
22 submitting joint written comments with some
23 of the other parties on the 10th, so I will
24 try to be brief-ish.

1 In general, Acadia Center strongly
2 supports the study scope and the Staff
3 recommendations on the non-consensus items.
4 We believe there is a high level of consensus
5 on the components that perhaps had the most
6 significant values and are the most
7 straightforward to quantify.

8 In terms of the less certain items,
9 we support the Staff recommendation for
10 qualitative/quantitative proxies, and we
11 think an approach that incorporates
12 sensitivity analysis and some sort of
13 recommended path forward for establishing
14 more set values in the future makes sense and
15 would be a good use of resources. Most of
16 these values we're certain are not zero. So,
17 for that reason they shouldn't be excluded.

18 As Mr. Sprague noted, this is not a
19 tariff proceeding. For that reason, Acadia
20 Center thinks, to the extent feasible, each
21 element should be separately and
22 transparently quantified and studied with the
23 decision about which and how much will be
24 compensated with ratepayer funds to be

1 decided at a later date. But at this point,
2 we think the study should include all of the
3 value, whether or not it's appropriate to
4 ultimately incorporate it in a tariff or not.

5 In particular, looking at Item 16,
6 Externality Benefits, we think it's
7 appropriate given the language in the order
8 and in HB 1116. To conduct a sensitivity
9 analysis looking at the values, the
10 consultant and the Staff recommendations have
11 mentioned a number of models to look at. We
12 think that's a reasonable approach. We think
13 the concern about double-counting is
14 unwarranted. It's very straightforward to
15 subtract things like RGGI, compliance costs,
16 and REC prices. In our own study on the
17 value of distributed generation, we did
18 something similar and came up with a positive
19 net value. And again, the entire range of
20 externality benefits and the social cost of
21 carbon, the social cost of NOx and SOx, that
22 might not ultimately be paid for through net
23 metering compensation, but it is a positive
24 net value. It's easy to subtract out

1 anything else that would be double-counted.
2 So at this stage we think it's appropriate to
3 include it.

4 A couple other items that were
5 raised by Unitil on the transmission
6 capacity, and perhaps I misunderstood the
7 remarks. But currently ISO-New England does
8 include behind-the-meter solar PV in its
9 forecasts, so I think it's appropriate to
10 include avoided transmission costs.

11 And also on the hedging, I think
12 it's not so much an issue of whether the
13 distribution utilities are themselves
14 hedging, but whether that hedging value is
15 included in the wholesale energy cost. So I
16 think we'll leave it at that.

17 Overall, I think the study scope
18 that Staff submitted is strong and I think
19 has a good balance between costs and
20 feasibility. Thank you.

21 CHAIRMAN HONIGBERG: Thank you,
22 Ms. Hawes.

23 That is everyone who signed up and
24 said they did or might want to speak. Is

1 there anyone else who would like to say
2 anything, or anyone who would like to say
3 anything on top of what they've already said?

4 [No verbal response]

5 CHAIRMAN HONIGBERG: All right. We
6 will close this portion of the public
7 comment. Written comments can be filed up to
8 July 10, and we will issue an appropriate
9 order then as quickly as we can. Thank you
10 all.

11 (Hearing concluded at 11:12 a.m.)

12
13
14
15
16
17
18
19
20
21
22
23
24

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

C E R T I F I C A T E

I, Susan J. Robidas, a Licensed
Shorthand Court Reporter and Notary Public
of the State of New Hampshire, do hereby
certify that the foregoing is a true and
accurate transcript of my stenographic
notes of these proceedings taken at the
place and on the date hereinbefore set
forth, to the best of my skill and ability
under the conditions present at the time.

I further certify that I am neither
attorney or counsel for, nor related to or
employed by any of the parties to the
action; and further, that I am not a
relative or employee of any attorney or
counsel employed in this case, nor am I
financially interested in this action.

Susan J. Robidas, LCR/RPR
Licensed Shorthand Court Reporter
Registered Professional Reporter
N.H. LCR No. 44 (RSA 310-A:173)

	actual (3) 25:6;45:5,10	9:5;23:9	areas (1) 15:17	35:17
\$	actually (1) 15:18	Alternative (4) 3:5;4:23;5:15; 21:13	argue (1) 36:21	avoidance (1) 31:10
\$23,254 (1) 45:2	add (2) 17:14;36:10	among (6) 4:3;21:1;43:16; 47:22;48:18;52:2	argues (1) 36:13	avoided (3) 26:6;32:7;55:10
\$24,741 (1) 45:7	adding (1) 38:18	amount (2) 20:14;36:8	around (3) 12:17;16:9;51:22	aware (3) 21:5;24:20;25:9
\$3.81 (1) 45:3	addition (3) 11:17;19:16;31:17	analysis (13) 5:13;25:22;27:3; 30:1,2,22;43:1,5; 44:21;45:11;52:20; 53:12;54:9	array (3) 10:8,10,17	B
\$4.06 (1) 45:9	additional (1) 28:17	analyzed (2) 26:8;43:19	arrays (1) 10:12	back (6) 7:13;27:15;43:21; 44:5,8;47:10
[address (2) 19:23;46:4	ancillary (1) 25:4	aspect (3) 28:6;33:7;35:20	balance (3) 38:22;46:15;55:19
[No (1) 56:4	addressing (1) 18:18	and/or (2) 29:14;34:4	assess (1) 27:17	balanced (1) 47:24
A	adequately (1) 26:18	anticipate (1) 4:22	Assessing (1) 20:22	based (4) 21:10;31:8;39:14; 41:7
Aalto (8) 11:16;22:18,21; 23:1;28:21;34:14,17; 41:9	adoption (1) 47:10	apologies (1) 22:21	assessments (1) 50:24	basically (2) 36:4;50:17
ability (2) 37:17;38:13	advantage (1) 10:5	appears (3) 26:20;27:3;37:6	asset (1) 41:6	basis (4) 9:24;25:8,19;36:14
able (2) 40:1,10	advice (3) 11:18;12:1;52:3	applauds (1) 18:23	assign (1) 38:2	battery (2) 11:8;15:14
absorb (1) 38:20	advisory (1) 16:12	applicable (2) 11:22;29:19	assistance (1) 14:18	bear (1) 49:18
Acadia (3) 52:18;53:1,19	Advocate (5) 12:3;16:14;42:10; 48:12;51:24	appreciate (1) 4:19	Association (3) 11:15;14:16;41:24	became (1) 47:12
accelerated (1) 44:12	advocated (1) 42:1	appreciated (1) 46:8	assume (1) 52:10	become (1) 52:5
accept (1) 36:4	advocates (1) 42:16	appreciates (1) 41:18	assumes (1) 6:15	becomes (3) 7:2;36:16,18
access (2) 15:19;42:13	aegis (1) 52:8	appreciation (1) 16:1	assuming (3) 7:9;21:16;50:15	begin (1) 39:8
accommodates (1) 51:1	AESC (3) 24:17,20,24	appreciative (1) 16:12	assumption (1) 39:19	behalf (3) 8:17;42:16;50:21
accordance (1) 8:21	Affairs (1) 41:14	approach (9) 20:8;24:5;27:14; 29:12;36:6;50:2; 52:6;53:11;54:12	assumptions (2) 29:14;30:2	behind-the-meter (1) 55:8
According (1) 45:16	affect (1) 28:1	approaches (1) 23:18	assuring (1) 28:13	behoove (1) 51:13
account (1) 21:8	again (4) 15:24;34:7;40:24; 54:19	appropriate (13) 20:17;24:18;27:13; 28:13;33:19;38:7; 39:1;51:2;54:3,7; 55:2,9;56:8	attached (1) 36:23	belong (1) 50:16
accounted (1) 27:5	agree (3) 19:12,16;29:14	approval (1) 48:16	attained (1) 49:23	Below (3) 11:19;15:13;16:13
accounting (1) 34:2	agreement (4) 24:3,4;28:6;29:11	approved (2) 10:7,10	Attempting (1) 25:13	beneficial (3) 16:20,21;38:15
accuracy (2) 20:13;21:21	aimed (1) 24:21	Approves (1) 6:8	attend (1) 23:19	benefit (3) 12:23;17:4;35:24
achieve (2) 19:6;21:22	aligned (1) 15:6	approximate (1) 21:14	attorney (1) 18:13	benefits (29) 20:9;21:16;26:4, 13,15;27:4,17;30:5,7, 8,10,19,19;32:8,15, 17;42:20;44:13; 47:21;48:4,5,6,10,12; 50:19,20;52:8;54:6, 20
across (10) 13:14,18;14:2,19; 17:3;42:8,21;43:4, 10;44:23	Alliance (1) 41:15	April (1) 4:21	attracted (1) 12:1	best (3) 34:23;51:21;52:2
active (1) 29:4	allocated (1) 47:22	area (1) 39:13	attributes (1) 26:23	best-available (1) 21:12
actively (2) 9:19;12:11	allocation (2) 48:4,10		audit (2) 9:22,23	better (2)
activities (1) 23:20	allows (1) 40:13		available (3) 5:14;7:5;38:4	
	alluded (1) 16:10		average (2) 44:4;45:19	
	along (2)		avoid (1)	

22:9;36:6 Beyond (1) 16:6 big (1) 6:22 Bill (1) 47:11 biofuels (1) 42:5 Birchard (7) 7:18;8:6;17:13; 18:8,11,13;22:16 bit (2) 3:12;37:21 bootstrapping (1) 50:10 bounce (1) 7:13 box (2) 6:5,22 branch (1) 37:21 brief (1) 18:20 brief-ish (1) 52:24 bring (1) 49:17 brings (1) 11:3 broad (6) 3:23;16:8;34:21, 23;48:19;49:4 Brydon (4) 28:21;34:15;41:9, 13 build (2) 14:1;16:8 building (2) 10:2;12:22 buildings (1) 9:22 bunch (1) 49:4 business (5) 12:18;34:20;35:21; 40:16;52:2 businesses (2) 42:21;46:18 buying (2) 35:13;40:17 Byway (1) 9:8	42:16 can (29) 4:19;7:17;8:6,20, 23;15:9,21;17:8; 18:6;20:16;21:21; 25:16;30:16;35:17; 36:4,12;37:19;38:1, 14;39:4,10;41:1,10; 44:19;47:2;49:16; 51:12;56:7,9 capacity (7) 25:4;31:4;36:9,20; 38:24;39:2;55:6 capital (1) 41:6 carbon (2) 26:24;54:21 careful (1) 20:12 cars (1) 39:12 Carsey (1) 12:2 Carson (11) 7:19,23;8:4,7,8; 9:2;14:12,21;15:5; 16:10;51:6 cart (1) 50:17 case (4) 6:17;24:24;25:10; 39:22 cases (3) 4:6;20:9;44:15 cash (1) 10:14 catch (1) 49:17 categories (1) 33:21 cause (1) 8:24 CDDA (2) 12:4;13:6 CEA (6) 41:17,23;42:8,16, 23;46:8 CEA's (1) 45:19 cell (1) 35:3 Center (3) 52:18;53:1,20 Century (1) 52:12 certain (5) 23:19;26:23;50:8; 53:8,16 cetera (1) 32:12 CHAIRMAN (30) 3:2,13;5:23;7:6,12; 8:2,23;14:8,13;17:13,	19,23;18:5;22:15,23; 28:18;32:19;33:8,13; 34:11;41:8,11;46:21, 23;47:3,6;50:7; 52:13;55:21;56:5 chance (1) 46:10 change (3) 4:17;18:19;35:14 changes (1) 46:1 characteristics (1) 37:4 charge (1) 9:19 charging (1) 13:1 chart (3) 6:1,3,9 check (2) 23:2;47:1 choose (1) 37:15 cities (2) 14:19;17:4 City (1) 11:20 clarify (1) 24:2 Clean (2) 22:8;52:18 clear-burning (1) 42:5 CLF (2) 18:14;19:20 Cliff (2) 11:19;15:13 Clifton (1) 16:13 climate (2) 18:18;51:3 close (2) 15:23;56:6 closely (3) 11:19;14:21;16:5 Clyde (3) 7:19,23;8:8 coalition (1) 16:8 collaborate (1) 16:4 collaboration (2) 15:23;51:22 collaborative (1) 12:7 collaboratively (2) 13:8;17:12 collect (1) 8:20 collected (1) 13:9 collection (1) 6:22	college (1) 9:10 column (1) 26:9 combination (1) 11:7 comment (7) 3:7;17:24;21:23; 22:10;23:4;47:6;56:7 comments (24) 4:10;7:21,22;8:15, 17;14:6,9;15:5; 17:22;18:6,21,22; 19:23;22:11;23:5,7, 11;24:10;28:4,17; 29:2;41:20;52:22; 56:7 commercial (2) 33:22;45:14 Commission (26) 4:19,21;5:14;6:7,8; 7:2,23;14:3,24; 17:10;18:23;19:14; 24:6,20;26:10;29:1,7, 22;30:3;34:8;41:13; 43:14;45:12;47:12; 50:13;51:11 Commissioners (1) 22:12 Commission's (4) 4:7;6:24;41:16; 46:9 commitment (1) 9:16 committed (2) 9:12;10:24 Committee (5) 8:13;9:16,18; 11:13;12:20 communities (2) 15:20;18:17 community (1) 16:21 company (1) 12:12 company's (1) 49:1 compensated (1) 53:24 compensation (6) 28:1,3,14;47:20; 48:9;54:23 compete (1) 40:14 competitive (1) 36:22 complete (1) 20:12 complex (1) 4:14 compliance (1) 54:15 components (2)	4:2;53:5 comprehensive (1) 43:2 concern (1) 54:13 concerns (2) 23:5,12 conclude (2) 14:6;17:8 concluded (1) 56:11 conclusion (2) 22:12;32:22 concur (1) 21:18 conditional (1) 4:12 conduct (1) 54:8 conducted (2) 31:6;43:3 confined (1) 23:8 congestion (2) 37:4,6 connects (1) 37:3 consensus (11) 4:3,5;19:6,8;23:17, 23;48:18,20;49:4,23; 53:4 consensus-based (2) 19:1;52:6 conservation (4) 9:17;18:14,22;22:6 consider (2) 13:2;31:16 consideration (4) 4:8;24:22;29:7; 30:12 considerations (1) 21:14 considered (1) 12:12 consultant (7) 5:12;7:1;19:13; 33:6;50:13;52:1; 54:10 Consumer (6) 12:3;16:14;39:2; 41:15;48:12;51:24 consumers (1) 42:7 contained (1) 24:13 contemplates (1) 32:20 context (3) 15:7;24:10;51:17 continue (7) 5:21;16:4,16;17:9, 11;45:22;47:16 continued (1)
C				
call (2) 7:16;36:8 called (1) 22:7 came (2) 9:23;54:18 campaign (1)				

46:5 continues (2) 43:14;47:23 continuing (2) 22:13;46:11 Contracts (1) 35:14 control (4) 36:12;38:13;39:4; 40:1 controversy (1) 24:8 conversations (1) 16:3 cooperative (1) 51:14 copy (1) 43:10 corridor (1) 9:6 cost (25) 6:19;13:5;20:3,13; 25:15;26:1;27:22; 28:8;30:14,20;34:4; 36:3;37:12;38:7,9,10, 18;39:4,21;40:2,21; 45:5;54:20,21;55:15 Cost-Effectiveness (2) 20:22;21:8 costs (29) 20:5;21:16;27:1,9, 12,17;28:10;30:15; 32:6;33:15,19,24; 36:12;38:13;39:20; 43:20;44:5,8,15,20; 45:10,20;46:4;47:21; 48:5,10;54:15;55:10, 19 cost-saving (1) 42:20 count (1) 49:11 country (3) 42:21;43:10;44:23 County (1) 9:5 couple (2) 17:14;55:4 course (1) 48:8 Court (2) 47:9,23 cover (1) 10:13 covered (1) 26:22 creating (1) 42:2 crediting (1) 27:24 credits (2) 32:12,14 criteria (3)	27:23;30:11;31:7 current (3) 4:16,16;25:6 currently (3) 5:16;32:10;55:7 Currier (1) 9:8 curve (2) 36:23;37:2 Customer (9) 27:9,12;28:10,11; 31:23;33:15,18;38:1; 40:13 customer-empowering (1) 52:11 customer-generator (1) 47:19 customer-generators (1) 27:20 customers (11) 35:16;37:15;38:4; 39:10,24;44:16,18, 21;47:18,23;50:22	9:12 default (3) 12:8;31:22;32:3 defecting (1) 40:3 deferrals (1) 31:18 degree (1) 21:21 deliver (3) 11:2;18:21;52:8 demands (1) 42:12 demonstrable (2) 26:13;30:5 Department (1) 45:17 dependent (2) 4:13;36:17 depending (1) 30:16 deployment (3) 17:6;31:8;46:6 depreciation (1) 44:12 DER (12) 3:8;5:8;6:5,23; 19:2,11;29:2,12; 31:8;32:9;41:17;46:3 describe (1) 41:5 deserves (1) 48:20 design (4) 4:1,4;5:10;16:20 designing (1) 28:12 designs (1) 29:19 detailed (2) 18:21;22:11 details (2) 19:20;43:7 determine (2) 30:1,4 determining (1) 5:7 develop (2) 11:6;39:9 developed (1) 21:4 developing (4) 29:5,10;36:13;50:3 development (4) 19:19;29:21;35:8; 46:12 develops (1) 45:20 DG (3) 27:18;30:14,20 difficult (3) 21:11;33:5;50:16 difficulty (1)	41:4 Dillon's (1) 9:23 direct (2) 30:9;43:19 Director (2) 14:17;28:23 direct-owned (1) 45:1 disagree (1) 29:14 disappointed (2) 48:23;50:6 discusses (1) 25:3 discussing (1) 27:14 Discussion (3) 7:11;35:21;41:22 Distributed (16) 3:17;5:1;8:16; 17:7;24:21;36:1,2, 10;41:7;42:9;45:22; 46:5,15;48:14;52:9; 54:17 distribution (9) 4:24;6:12;31:13; 32:4;36:3;38:19; 40:2,23;55:13 District (1) 8:9 diverse (2) 3:23;42:2 diversity (1) 48:2 diverted (1) 48:24 Docket (8) 3:4,5,6,19;15:4,22; 47:12,14 document (3) 24:9;48:17;51:17 documents (1) 49:18 Don (2) 12:2;41:9 done (4) 3:20;10:2;35:5,15 double-counted (2) 32:24;55:1 double-counting (4) 26:17;32:17;33:6; 54:13 down (1) 8:24 downtown (1) 9:11 dramatically (2) 37:13;38:8 due (4) 13:22;23:19;25:20; 44:12 during (2)	49:1,10 dynamic (3) 4:18;22:8;46:1 dyslexic (1) 41:3
D		E		
	data (10) 5:13;6:21;8:20; 13:9,23;15:9;20:10; 25:7;45:16;52:20 date (1) 54:1 day (4) 10:15;49:8,11,13 DE (2) 11:5;47:13 deadline (3) 18:1;23:11;28:17 deal (2) 3:9;41:3 debate (1) 25:16 decided (1) 54:1 decision (2) 5:15;53:23 decision-making (1) 19:1 decisions (1) 39:13 declare (1) 50:9 declared (1) 47:15 declining (1) 26:1 decrease (1) 28:8 decreases (1) 31:17 deem (1) 51:2 deeply (1)	early (1) 9:20 earnest (1) 20:1 easy (2) 37:20;54:24 economic (1) 48:1 economies (1) 52:19 educational (1) 10:21 effect (2) 5:17;36:15 effectively (5) 23:21;35:12;37:19; 39:7;40:14 efficiency (10) 10:1;12:21;15:2; 20:23;21:4;24:21; 40:17;42:6;48:3; 50:21 effort (4) 12:8;20:4;25:15; 50:12 efforts (7) 18:24;19:5;29:10; 30:6;34:9;41:21; 51:19 either (3) 35:13;39:23,24 electric (7) 27:20;39:12;40:14; 45:15,17;47:17;48:6 electric (1) 12:24 electricity (10) 10:13;16:22;34:4; 38:15;39:9;44:19; 46:1,7,17;52:12 element (7) 31:4,14,20;32:9; 33:15;52:11;53:21 elements (4) 30:24;31:1;32:23; 50:11 Ellen (2) 41:9;52:17 else (3) 22:20;55:1;56:1 emphasis (1) 50:23 encountered (1) 27:1 encourage (1)		

<p>51:12 encourages (1) 46:13 encouraging (1) 51:9 end (4) 28:10;36:16;40:3; 42:7 ends (1) 46:19 end-user (1) 28:11 Energy (57) 3:18;8:12,16;9:13, 15,17,18,22;10:1,20; 11:12,13,15;12:19, 21;14:16,17,20;15:1; 17:7;20:23;22:8; 24:21,22;25:4;26:7; 29:18;31:22;32:3,5, 12,13;40:16;41:15; 42:1,3,6,7,10,11,12, 13,14,15,24;45:17; 46:4,6;47:24;48:1, 15;50:19,20,21;52:9, 18;55:15 engage (3) 5:11;22:14;32:5 engaged (1) 14:23 engagement (1) 19:18 engagements (1) 16:11 engaging (2) 16:2;19:3 engineering (1) 28:24 England (3) 27:2;31:6;55:7 England-wide (1) 18:15 enough (2) 8:7;10:13 ensure (1) 42:13 enter (1) 37:15 entire (2) 43:11;54:19 entirely (2) 20:20;26:21 entitled (1) 42:23 envelopes (2) 10:2;12:22 environment (1) 18:16 environmental (6) 21:24;26:6,15,23; 42:19;48:4 envision (1) 12:15</p>	<p>equipment (1) 26:1 equitable (1) 45:21 equivalent (1) 49:6 especially (1) 32:13 essential (1) 21:18 essentially (1) 23:21 established (3) 9:15;20:15,18 establishing (1) 53:13 estimate (3) 21:20;33:14;50:4 estimates (3) 20:8;27:11;33:18 et (1) 32:12 evaluate (1) 27:24 evaluated (1) 25:11 evaluating (1) 25:8 evaluation (1) 29:23 even (4) 21:10,20;33:9;49:8 Eversource (15) 6:20;12:8,10;13:9, 12;14:3;16:4,7; 17:10;23:4,24;25:17; 48:23;49:20;51:13 everybody (4) 14:11;42:14;47:1; 49:16 everyone (4) 3:3;40:4;45:21; 55:23 evidence-based (1) 50:23 exactly (2) 40:20;50:13 examine (1) 33:23 example (4) 26:22;33:22;35:22; 51:21 excellent (1) 47:7 exceptions (1) 19:22 excess (5) 36:8,19;37:13; 38:24;44:19 excluded (3) 20:20;32:23;53:17 excuse (1) 50:20</p>	<p>exercise (1) 50:17 exist (1) 21:17 existing (4) 22:3;40:6;43:17; 45:23 exists (1) 25:7 expand (1) 15:18 expanded (2) 13:17;31:15 expands (1) 43:5 expansion (2) 14:1;31:12 expect (3) 4:8;5:20;31:8 Expenses (2) 31:14,17 expensive (1) 43:24 experts (1) 11:13 expressed (1) 13:6 extent (1) 53:20 externalities (6) 22:1,2;26:7,14,17, 19 Externality (6) 26:4;27:4;32:8,15; 54:6,20 extreme (1) 33:3 extremely (1) 11:17</p>	<p>16:15;41:11;51:19 favor (1) 50:22 feasibility (1) 55:20 feasible (1) 53:20 federal (1) 43:7 feeder (5) 36:20;37:22;38:5, 5,7 feeders (2) 35:23;37:12 feeds (1) 6:23 few (9) 5:22;6:21;7:3; 10:3;19:21;23:5; 24:12;30:24;43:12 filed (4) 5:24;6:6;7:1;56:7 filing (1) 6:20 final (3) 3:16;5:7;29:3 Finally (2) 21:23;27:7 financing (1) 13:7 find (1) 13:8 findings (1) 43:16 first (7) 6:11;7:15,15,18; 8:4;23:14;34:20 first-ever (1) 43:2 five (2) 9:9;43:18 fixed (2) 39:21;44:19 flexible (1) 48:5 flow (2) 6:1,3 focus (5) 4:9;30:6;34:18; 42:2;52:18 focused (2) 13:21;35:22 focusing (1) 35:8 folks (1) 51:15 follow (4) 8:6;23:10;24:9; 28:16 followed (4) 7:18;18:9;28:20; 34:15 following (2)</p>	<p>7:23;11:20 follows (1) 21:7 forecast (1) 25:13 forecasts (1) 55:9 form (1) 50:10 formation (1) 27:2 forth (1) 7:14 fortunate (1) 11:18 forum (1) 18:24 forward (11) 16:5;22:8,13;37:8; 38:14,23;40:1;46:11; 47:8;52:4;53:13 Fossum (6) 16:2;18:9;22:17, 24;23:2;28:19 found (5) 19:3;35:24;44:3,9, 21 Foundation (3) 18:14,23;22:6 founding (1) 8:12 frame (1) 24:8 framework (1) 21:1 fuel (1) 35:3 full (2) 40:21;44:18 fully (1) 22:2 fundamental (1) 35:19 funding (1) 13:4 funds (1) 53:24 further (4) 19:14,18;22:10; 29:20 future (8) 25:16,17,20;29:18; 31:11;42:15;46:13; 53:14</p>
F				
		<p>facilitating (1) 17:1 facilities (1) 47:19 facility (1) 10:9 fact (2) 19:8;35:22 factors (1) 39:17 fair (9) 5:18;28:2,13; 42:13;45:21;47:20; 48:4,9,10 fairly (1) 47:22 families (3) 12:14;42:20;46:18 family (1) 12:17 far (3)</p>		
			G	
			<p>gardening (1) 10:20 gas (1) 42:6 general (11) 19:9,10,20;23:24;</p>	

29:11;39:24;40:4; 47:9,23;50:23;53:1 generally (3) 20:14;23:14;34:20 generate (2) 15:9;37:17 generated (1) 40:19 generating (1) 39:6 generation (8) 5:1;34:22;36:1,2, 10;38:21;39:11; 54:17 Geographically (2) 9:4;13:14 gets (1) 7:1 given (3) 24:23;39:13;54:7 gives (2) 38:13,23 goal (1) 13:15 goals (2) 16:19;21:10 Good (12) 3:2;8:7;10:16; 14:14;23:3;36:4; 38:22;52:1,3,16; 53:15;55:19 grant (1) 9:21 great (3) 25:18;41:3;47:4 greatest (1) 21:21 greatly (1) 46:8 Grid (7) 15:2;16:22;40:4; 46:7,17;48:6;52:12 group (9) 3:22;4:3;10:6; 15:3;23:17;33:5; 41:17;46:10;49:2 grow (1) 45:22 growth (3) 43:9;46:5;48:1 guaranty (1) 35:13 Guess (1) 46:24 guided (1) 47:13	14:16;29:8;31:10; 42:22;43:6;44:24; 45:7,13,18 Hampshire's (3) 45:23;46:7,13 Hampshire-specific (3) 20:10;27:11;33:17 hand (1) 6:9 handful (2) 18:20;19:8 handled (1) 34:23 hang (1) 36:4 hanging (1) 51:22 happened (1) 49:10 happier (1) 14:11 hard (2) 41:21;50:12 hard-to-monetize (1) 21:15 hard-to-quantify (2) 21:6,19 Hawes (6) 41:9;46:22;52:15, 16,17;55:22 Hayden (2) 17:16,18 HB (1) 54:8 HB1116 (1) 47:11 head (1) 51:24 health (4) 18:16;21:24;26:15; 42:19 hear (6) 4:10;41:10;47:2; 48:23;50:6;51:6 hearing (5) 8:14;28:7;43:13; 47:6;56:11 heat (2) 12:24;39:11 Hedging (7) 31:19;32:4,5,6; 55:11,14,14 help (2) 8:20;42:12 helpful (3) 7:7;28:11;34:13 Henry (7) 7:15,17,21;11:14; 12:9;14:7,15 Herndon (11) 7:16,17,20,21;8:5; 11:14;12:9;14:13,14, 15;51:7	high (4) 13:22;31:24;52:5; 53:4 higher (1) 37:14 highest (1) 45:13 highlight (5) 12:5;23:12,18; 24:19;28:5 highlights (1) 43:12 highly (1) 37:16 hire (2) 50:14;52:1 historic (1) 25:6 home (1) 9:9 homes (2) 12:17,18 HONIGBERG (27) 3:2;5:23;7:6,12; 8:2,23;14:8,13;17:13, 19,23;18:5;22:15,23; 28:18;32:19;33:8,13; 34:11;41:8,11;46:21; 47:3;50:7;52:13; 55:21;56:5 hope (7) 11:21;14:2;16:3, 15;17:8,11;40:6 hopes (1) 29:23 horse (1) 50:18 host (1) 33:23 hour (2) 40:17,19 House (1) 47:10 hundred (1) 10:13	implication (1) 36:1 important (5) 5:7;30:18;36:18; 43:14;45:23 importantly (1) 9:11 improve (2) 10:1;12:21 inaccurate (1) 25:10 incentive (4) 32:10;34:1;45:24; 46:14 incentives (13) 32:11;43:1,4,8,17, 21;44:6,8,11;45:3,3, 8,9 incentivized (1) 44:1 Incentivizing (1) 42:24 inception (1) 47:14 include (11) 21:19;26:12,23; 30:11;38:14;39:16; 50:1;54:2;55:3,8,10 included (11) 5:5,11;22:2;24:15; 25:22,24;26:7;27:6, 13;33:20;55:15 includes (5) 11:12;21:1;26:11; 29:24;43:6 including (5) 12:24;22:6;25:24; 26:19;42:4 inclusive (1) 16:16 income (2) 15:15,19 incorporate (1) 54:4 incorporates (1) 53:11 increase (3) 31:24;32:1;38:15 increased (1) 42:9 increases (1) 31:16 Indeed (3) 20:15;35:11;50:11 independence (1) 48:2 independent (2) 6:24;19:13 In-Depth (1) 42:24 indicates (2) 48:17;49:3 individual (1)	51:9 industrial (1) 45:14 industry (2) 27:11;33:18 infinite (1) 37:2 inform (4) 8:20;15:10;24:6; 29:20 information (3) 7:4;21:12;28:9 informative (1) 19:4 infrastructure (1) 44:20 initial (2) 7:24;27:3 initiated (1) 11:11 inject (1) 24:7 innovation (1) 18:19 innovative (1) 17:6 input (4) 7:24;19:14,18; 46:11 install (1) 43:24 installation (1) 44:14 installations (3) 26:2;43:23;44:7 Installed (7) 27:9,12;28:8,10; 33:15,18,24 instance (1) 20:9 instances (1) 20:6 Institute (1) 12:2 instructed (1) 47:11 instructions (1) 47:9 insuring (2) 45:20;47:21 integrate (1) 10:18 intend (1) 23:10 intended (1) 29:17 interconnect (1) 47:18 interconnection (1) 30:17 interconnections (2) 30:15,21 interest (4)
H		I		
habitat (1) 10:22 Hampshire (12) 9:7;11:14;12:3;		identified (2) 21:10;26:20 identify (2) 30:18,24 ignore (1) 33:2 impact (1) 30:1 impacts (6) 5:1;21:7,9,15,20; 50:24 imperative (1) 51:1 implement (1) 14:20	implication (1) 36:1 important (5) 5:7;30:18;36:18; 43:14;45:23 importantly (1) 9:11 improve (2) 10:1;12:21 inaccurate (1) 25:10 incentive (4) 32:10;34:1;45:24; 46:14 incentives (13) 32:11;43:1,4,8,17, 21;44:6,8,11;45:3,3, 8,9 incentivized (1) 44:1 Incentivizing (1) 42:24 inception (1) 47:14 include (11) 21:19;26:12,23; 30:11;38:14;39:16; 50:1;54:2;55:3,8,10 included (11) 5:5,11;22:2;24:15; 25:22,24;26:7;27:6, 13;33:20;55:15 includes (5) 11:12;21:1;26:11; 29:24;43:6 including (5) 12:24;22:6;25:24; 26:19;42:4 inclusive (1) 16:16 income (2) 15:15,19 incorporate (1) 54:4 incorporates (1) 53:11 increase (3) 31:24;32:1;38:15 increased (1) 42:9 increases (1) 31:16 Indeed (3) 20:15;35:11;50:11 independence (1) 48:2 independent (2) 6:24;19:13 In-Depth (1) 42:24 indicates (2) 48:17;49:3 individual (1)	51:9 industrial (1) 45:14 industry (2) 27:11;33:18 infinite (1) 37:2 inform (4) 8:20;15:10;24:6; 29:20 information (3) 7:4;21:12;28:9 informative (1) 19:4 infrastructure (1) 44:20 initial (2) 7:24;27:3 initiated (1) 11:11 inject (1) 24:7 innovation (1) 18:19 innovative (1) 17:6 input (4) 7:24;19:14,18; 46:11 install (1) 43:24 installation (1) 44:14 installations (3) 26:2;43:23;44:7 Installed (7) 27:9,12;28:8,10; 33:15,18,24 instance (1) 20:9 instances (1) 20:6 Institute (1) 12:2 instructed (1) 47:11 instructions (1) 47:9 insuring (2) 45:20;47:21 integrate (1) 10:18 intend (1) 23:10 intended (1) 29:17 interconnect (1) 47:18 interconnection (1) 30:17 interconnections (2) 30:15,21 interest (4)

12:1;13:6;45:19; 47:16 interested (5) 3:22,24;17:5; 18:18;41:15 interests (2) 16:23;18:16 into (6) 4:23;6:23;19:14; 30:9;37:15,21 invest (2) 28:2;47:18 investment (1) 34:5 involved (1) 16:23 ISO-New (3) 27:2;31:6;55:7 issuance (1) 5:17 issue (9) 5:5,20;6:18;19:24; 34:21;35:19;40:22; 55:12;56:8 issued (5) 4:21;5:19;47:9; 48:15;49:5 issues (3) 4:4;19:9;49:4 Item (6) 24:16,19;26:4; 27:8;50:2;54:5 items (14) 4:9;24:13;25:2,6,8, 11,13,21,23;49:24; 50:8;53:3,8;55:4 iteration (1) 28:12 Ives (1) 9:8	kilowatt (2) 40:17,19 kind (2) 50:12;51:12 knows (1) 45:12 Kreis (7) 12:2;34:16;41:9; 46:22,23;47:5;52:14 kW (2) 10:8,10	Likewise (1) 20:18 limited (2) 12:17;20:10 line (2) 15:7;26:21 listed (2) 4:2;6:13 lists (2) 7:9,10 little (4) 3:12;8:24;33:3; 48:23 LNS (1) 25:5 load (3) 31:23;37:17;38:16 loading (4) 36:24;38:2,3;41:7 Local (2) 14:17;43:7 locally-produced (1) 47:20 located (4) 9:4;10:8,11;12:15 location (2) 30:17;40:13 locational (3) 4:24;6:12;36:18 locations (3) 12:16,19;30:21 long (2) 25:14;41:24 long-term (2) 32:5;42:19 look (6) 6:1;22:13;33:9; 46:11;50:22;54:11 looked (1) 35:23 looking (7) 24:14,15;25:1; 26:3;27:8;54:5,9 looks (2) 37:23;40:19 loss (1) 40:22 lot (6) 3:6;10:2;15:11,16; 16:7;25:14 lots (1) 49:14 low (4) 15:15,19;37:12; 46:18 low- (1) 12:14 low-emissions (1) 22:9 lower (1) 44:1 luck (1) 38:21	M main (1) 39:17 maintain (1) 46:16 makes (3) 38:16;39:12;53:14 making (1) 52:9 Manual (3) 20:22;21:3,7 many (4) 9:7;17:4,4;39:18 map (1) 7:8 March (1) 23:20 Margaret (1) 9:22 marginal (1) 6:19 mark (1) 52:6 Market (8) 22:8;27:2;31:23; 32:1;35:9,12;39:9; 40:12 market-based (3) 18:19;22:7;25:23 market-oriented (1) 35:6 market-priced (1) 25:21 markets (3) 22:4;26:22;46:2 marks (1) 17:15 Maslansky (1) 12:4 matching (1) 39:2 material (2) 20:19;21:19 Matthew (1) 16:2 May (19) 4:17;5:24;6:16; 12:22;20:10;21:5; 25:15;26:12;27:5,23; 28:1;30:8;31:24; 32:21,22;40:10,20; 44:14;46:19 maybes (1) 17:15 meaning (1) 30:19 meet (3) 33:6;42:12;46:19 meeting (3) 9:14;12:10;49:16 meetings (2)	23:22;49:2 meets (1) 16:22 Melissa (2) 7:18;18:13 melt (1) 37:2 member (2) 8:12;41:16 members (3) 11:12;18:17;41:12 mentioned (1) 54:11 Merrimack (2) 8:9;9:5 met (2) 12:9;38:12 meter (1) 37:24 metered (1) 27:18 Metering (14) 3:5;5:16;7:4;10:6; 15:4;28:12;29:18; 31:9;34:6;35:10; 44:16;45:2,8;54:23 meters (1) 11:8 method (2) 39:12;41:6 metrics (2) 28:9;34:3 mic (2) 23:2;46:24 Michael (1) 12:2 might (7) 7:22;35:4,24; 46:24;51:20;54:22; 55:24 mind (1) 34:12 minus (1) 30:19 missing (1) 39:19 misunderstood (1) 55:6 mitigated (1) 26:18 model (5) 11:6;13:1,16,17; 14:2 modeling (1) 31:7 models (1) 54:11 moderate (2) 15:15,19 moderate-income (1) 12:14 modern (2) 17:6;48:5
J	L			
Jack (1) 17:19 job (1) 14:18 joint (1) 52:22 July (4) 18:2,3,7;56:8	Labrecque (1) 16:1 language (2) 32:18;54:7 large (2) 33:23;37:24 largely (2) 19:22;44:12 last (4) 5:14;10:3,9;21:23 later (2) 49:14;54:1 Law (3) 18:14,22;22:6 lead (1) 25:15 leadership (1) 15:13 learn (1) 11:21 least (1) 43:20 leave (1) 55:16 leaving (1) 34:12 Lebanon (2) 11:20;15:13 left (1) 6:11 legislative (1) 35:1 legislature (1) 47:15 less (3) 20:12;43:24;53:8 level (5) 5:1;34:24;35:1; 38:3;53:4 levelized (1) 34:4 levels (1) 25:12 Liberty (2) 11:21;15:14 light (1) 51:2 likely (1) 25:14	Jack (1) 17:19 job (1) 14:18 joint (1) 52:22 July (4) 18:2,3,7;56:8		
K				
keep (4) 20:2,4;23:7;45:24 keeps (1) 46:17 Kevin (2) 18:10;28:23 key (5) 12:6;13:15;43:16; 48:8;52:11				

<p>Modernization (1) 15:3 modernizing (1) 46:6 Modifies (1) 6:8 momentarily (1) 3:10 momentum (1) 14:1 monetary (1) 30:9 monetize (1) 21:11 months (2) 3:21;5:22 more (11) 7:22;10:4;15:18; 18:21;30:8;34:20; 35:5;36:14;38:10; 45:18;53:14 morning (13) 3:2,4;14:14;23:3,5, 8,15;24:7,11;27:7; 28:4,16;52:16 Morrison (1) 11:16 most (10) 9:11;23:14;39:13; 44:10;45:16;48:20; 49:24;53:5,6,15 mostly (1) 15:6 moving (3) 4:13;16:5;47:8 much (6) 25:16;34:17;35:21; 37:23;53:23;55:12 multi-family (1) 12:18 multiple (2) 9:24;43:4 municipal (5) 10:5,14;11:10,24; 13:11 museums (1) 9:9 must (1) 32:2</p>	<p>44:2 nationwide (1) 44:11 natural (1) 42:6 naturally (1) 20:11 NE (4) 35:4;40:12,13;41:1 necessarily (3) 24:4;38:18;49:3 need (5) 20:11;23:19;37:14; 40:1;46:16 negative (1) 30:22 neighbor (1) 40:20 NEM (4) 27:19,24;29:18,20 Net (24) 3:5,5:16;7:4;10:6; 15:3;26:13;27:9,17; 28:12;29:18;30:5,7, 18;31:9;33:24;34:5; 35:10;44:16;45:2,8; 50:19;54:19,22,24 neutral (2) 18:24;20:24 new (23) 6:20;7:3;9:7; 11:14;12:3;14:15; 18:14;20:9;27:10; 29:8;31:9;33:17; 42:21,23;43:5,6; 44:24;45:7,12,17,23; 46:6,13 next (7) 5:18,22;6:21;25:1; 26:3,9;28:12 non-consensus (2) 4:9;53:3 non-energy (1) 50:20 non-participants (1) 32:2 non-partisan (1) 41:23 non-profit (2) 12:18;41:24 non-profits (1) 12:15 non-solar (1) 44:21 non-wires (1) 4:23 non-zero (1) 20:19 northeast (1) 52:19 note (2) 3:24;4:20 noted (7)</p>	<p>4:5;5:2;6:16,22; 17:24;23:15;53:18 notes (2) 27:16,22 notice (1) 4:20 NOx (2) 27:1;54:21 nuances (1) 19:22 nuclear (1) 42:5 number (7) 3:21;4:1;12:16; 20:6,8;23:16;54:11 numerous (1) 16:23</p>	<p>30:7 option (1) 13:2 options (3) 42:10;45:22;46:15 order (14) 4:21;5:3;26:11,11, 22;27:10;32:18,20; 33:1,2,7,16;54:7;56:9 organization (1) 18:15 orient (1) 7:7 out (11) 26:21;30:13;31:5, 20;32:9;33:10,10,12; 41:2;50:9;54:24 outside (1) 35:5 outstanding (1) 5:2 over (6) 3:20;10:3;11:11; 14:7;15:12;25:13 overall (3) 43:24;46:17;55:17 overbuilt (1) 38:8 overloaded (1) 38:10 over-recover (1) 38:7 own (3) 39:10,11;54:16 owners (1) 43:19</p>	<p>participate (1) 41:18 participating (3) 12:22;15:1;27:19 participation (1) 11:19 participatory (1) 16:17 particular (4) 22:3;27:23;32:22; 54:5 particularly (2) 15:12;18:18 parties (7) 3:24;17:12;19:6, 12,16;23:10;52:23 partnership (1) 16:6 parts (1) 4:13 party (1) 41:16 pass (1) 17:18 passes (1) 9:8 past (4) 11:11;15:12;36:22; 39:3 path (1) 53:13 pause (1) 50:5 pay (4) 32:3;40:18,21; 44:17 payback (1) 34:5 paying (1) 36:9 payment (1) 41:6 penetrations (1) 31:24 Pentti (1) 11:16 people (4) 7:16,17;39:6;40:3 per (3) 44:1;45:3,9 percent (8) 10:13;43:20;44:4, 5,7;45:4,10,18 perform (2) 5:12;9:21 performed (2) 3:19;6:24 perhaps (3) 36:14;53:5;55:6 period (2) 3:20;34:5 perspective (2) 27:18;48:11</p>
N		O		
<p>name (5) 7:15;14:15;18:12; 28:22;41:13 name's (1) 8:8 nation (1) 42:8 National (6) 20:21;21:3,4; 41:23;42:1;45:19 Nationally (1)</p>		<p>objective (1) 20:24 observed (1) 4:14 Obviously (1) 15:22 OCA (2) 29:9;34:8 occurring (1) 46:1 off (3) 7:11;38:24;41:22 offer (1) 4:15 offers (1) 13:22 Office (2) 48:11;51:23 Once (1) 34:7 One (20) 5:1;6:7,11,20;9:20; 10:15;13:7,13;19:24; 20:2,4;22:18;23:22; 32:20;34:23;35:2,22; 38:9;49:1,18 only (1) 40:22 onto (1) 44:20 open (1) 47:12 Operating (2) 31:14,16 opportunities (5) 19:17;28:2;47:17; 48:9;49:17 opportunity (11) 18:12;23:4;29:1; 30:24;34:18;40:24; 41:18;46:9;47:7; 49:21;52:21 opposed (1)</p>	P	

<p>pertain (1) 8:18</p> <p>pertains (1) 21:23</p> <p>petroleum (1) 42:5</p> <p>photovoltaic (1) 43:8</p> <p>phrase (1) 48:8</p> <p>piece (1) 39:17</p> <p>pieces (1) 11:22</p> <p>pilot (13) 4:23;6:19;8:19; 11:5;12:13;13:10,13, 15,21;15:8,22;16:17; 51:9</p> <p>place (2) 51:19;52:10</p> <p>placed (1) 51:18</p> <p>places (1) 23:16</p> <p>plan (1) 10:18</p> <p>planning (1) 31:5</p> <p>playing (1) 16:13</p> <p>Please (1) 3:3</p> <p>pleased (2) 3:24;51:6</p> <p>plus (1) 6:18</p> <p>point (8) 6:18;10:22;13:3; 29:16;30:13;35:7; 41:2;54:1</p> <p>pointed (1) 26:21</p> <p>points (1) 12:6</p> <p>policies (4) 42:2,16;45:24; 46:14</p> <p>policy (5) 21:10;47:13,24; 51:2;52:20</p> <p>political (1) 51:3</p> <p>pollinator-friendly (1) 10:22</p> <p>popping (1) 51:10</p> <p>portfolio (1) 42:3</p> <p>portion (2) 36:20;56:6</p> <p>position (1) 46:2</p>	<p>positive (3) 10:15;54:18,23</p> <p>possible (4) 19:7;33:24;46:18; 51:14</p> <p>potential (6) 16:8;26:16;31:16, 17;38:20;40:9</p> <p>Power (9) 11:10,24;35:9,15; 36:15;37:14,18; 40:12;47:21</p> <p>power-measuring (1) 37:23</p> <p>practical (1) 20:2</p> <p>Practice (2) 20:21;21:3</p> <p>practices (2) 10:24;21:8</p> <p>pragmatism (1) 20:15</p> <p>Precinct (1) 10:7</p> <p>preclude (1) 13:12</p> <p>predetermine (1) 29:18</p> <p>predictability (1) 48:3</p> <p>prefer (1) 25:17</p> <p>preferable (1) 21:15</p> <p>preferential (1) 34:1</p> <p>preliminary (3) 4:12;12:10;16:3</p> <p>Premium (2) 31:20,21</p> <p>premiums (1) 32:1</p> <p>prepared (1) 7:17</p> <p>present (1) 42:7</p> <p>presented (2) 29:6,15</p> <p>presents (1) 20:23</p> <p>pretty (1) 23:7</p> <p>price (11) 26:24;27:2;35:11; 36:16,21,23;37:1,2; 38:2,17;40:21</p> <p>prices (7) 26:8;31:22;32:3; 35:14;37:14;42:13; 54:16</p> <p>pricing (11) 11:9;22:3;35:8; 36:18;37:7,9,16,18;</p>	<p>39:5,23;40:11</p> <p>primarily (1) 32:14</p> <p>primary (2) 37:24;45:19</p> <p>principles (1) 21:2</p> <p>probability (1) 13:22</p> <p>probably (1) 34:23</p> <p>problem (1) 24:1</p> <p>problems (1) 40:4</p> <p>proceeding (4) 4:14;7:3;16:24; 53:19</p> <p>proceedings (3) 14:24;29:21;41:19</p> <p>process (10) 4:18;17:1;19:3; 29:5;36:5,13;40:8; 45:20;46:3;47:8</p> <p>processes (2) 20:17;49:15</p> <p>pro-consumer (1) 42:18</p> <p>produce (1) 10:12</p> <p>production (1) 44:19</p> <p>program (2) 4:23;10:6</p> <p>programs (7) 6:19;15:16;32:11, 13;34:1;44:17,22</p> <p>progress (3) 15:12,15,17</p> <p>pro-grid (1) 42:17</p> <p>project (22) 8:19;11:5,10,20,22, 23,24;12:20;13:11, 21;14:22;15:7,14,21; 16:9,17,20;17:2,3; 21:5;29:6;33:23</p> <p>projections (3) 25:3,9,18</p> <p>projects (9) 9:20,24;10:3,16; 11:2;13:7,13;14:20; 15:9</p> <p>promote (1) 47:24</p> <p>promotes (1) 48:1</p> <p>promoting (2) 46:5,15</p> <p>proper (2) 38:17;39:23</p> <p>properly (2) 38:5;40:11</p>	<p>proposal (9) 8:19;11:4,6;12:7, 11;14:4;23:8;24:14; 50:24</p> <p>proposals (2) 5:11;51:10</p> <p>proposed (5) 3:16;4:11;22:7; 23:6;24:1</p> <p>pro-solar (1) 42:17</p> <p>problem (2) 10:12;42:10</p> <p>prove (1) 25:10</p> <p>provide (15) 8:15;14:10,18; 15:21;18:24;29:2; 35:4;38:2,17;39:5, 22;40:18;41:5;42:18; 47:16</p> <p>provided (3) 26:16;40:15;43:10</p> <p>provides (4) 9:24;21:20;37:10; 48:6</p> <p>providing (5) 7:24;10:21;13:6; 15:6;52:20</p> <p>proxies (2) 21:12;53:10</p> <p>proxy (4) 20:7,16;21:20;50:4</p> <p>public (9) 3:7;14:23;18:16; 21:24;26:15;47:6,13, 16;56:6</p> <p>PUC (8) 9:21;13:10,24; 29:8;32:18;46:2; 49:15;51:23</p> <p>PUC's (1) 52:7</p> <p>pumps (2) 12:24;39:11</p> <p>purpose (2) 11:4;15:5</p> <p>pursue (1) 12:20</p> <p>pursued (1) 10:4</p> <p>pursuing (1) 13:12</p> <p>put (2) 11:4;37:22</p> <p>putting (1) 50:17</p> <p>PV (1) 55:8</p>	<p>21:13;30:8;50:3</p> <p>qualitative/quantitative (2) 20:7;53:10</p> <p>quantifiable (3) 26:13;30:5,7</p> <p>quantified (2) 30:10;53:22</p> <p>quantify (4) 21:11;43:3;50:12; 53:7</p> <p>quantitative (1) 50:3</p> <p>quick (1) 16:18</p> <p>quickly (1) 56:9</p> <p>quite (2) 19:20;41:2</p> <p>quote (2) 26:10;47:15</p>
R				
			<p>railroads (1) 40:7</p> <p>raise (1) 23:6</p> <p>raised (1) 55:5</p> <p>random (1) 31:8</p> <p>range (4) 3:23;20:4,5;54:19</p> <p>rapidly (1) 37:6</p> <p>rate (1) 43:21</p> <p>ratepayer (1) 53:24</p> <p>ratepayers (4) 27:21;48:7,13;52:8</p> <p>rates (6) 29:19;44:1,18; 45:15,17;46:17</p> <p>rather (2) 29:20;30:16</p> <p>reached (1) 23:23</p> <p>reading (1) 14:9</p> <p>ready (1) 37:1</p> <p>real (2) 30:15;38:1</p> <p>reality (1) 49:11</p> <p>really (4) 15:20;24:20;50:10; 51:8</p> <p>realm (1) 50:21</p> <p>reason (5) 22:5;35:2,3;53:17,</p>	
Q				
			<p>qualitative (3)</p>	

<p>19 reasonable (9) 20:3,5,13;28:1; 31:7;47:17;48:9; 50:4;54:12 reasonably (2) 21:22;51:1 rebates (1) 32:11 REC (1) 54:16 receive (5) 28:2;43:19;44:3,7; 47:19 received (1) 16:14 receives (3) 44:10;45:1,7 recent (1) 45:16 recently (1) 10:4 recommendation (6) 4:7;5:24;26:5; 27:16;29:10;53:9 recommendations (6) 19:5,7,21;20:6; 53:3;54:10 recommended (4) 23:17;24:5;29:5; 53:13 recommends (1) 26:6 reconsider (1) 7:4 record (4) 7:11;11:1;13:23; 41:22 recover (3) 38:9,10;39:21 recycling (1) 10:19 reduction (1) 27:1 referenced (1) 23:17 references (1) 24:17 referred (1) 6:12 reflect (2) 19:5,8 reflection (1) 32:14 reflects (2) 3:20;40:12 refocused (1) 4:22 regarding (4) 3:8;5:15;19:1;23:6 regional (2) 22:5;31:5 regions (1)</p>	<p>51:10 region's (1) 22:4 regularly (1) 28:7 regulation (1) 20:13 regulatory (1) 48:3 reiterate (2) 16:1;29:16 Rejects (1) 6:8 related (2) 11:2;31:22 relating (2) 25:24;27:9 relative (1) 27:17 relatively (1) 37:20 released (1) 42:23 relevant (4) 21:9;25:23;26:14; 43:13 reliability (1) 48:2 reliable (1) 46:16 rely (1) 17:9 remain (1) 45:21 remaining (1) 49:24 remarks (2) 34:12;55:7 renewable (3) 10:19;32:12,13 replicated (2) 13:18;17:3 report (15) 3:7,16,19;4:1;6:6; 9:23;23:16;24:14; 25:3;29:3;34:10; 42:23;43:5,11;49:5 representation (1) 23:22 representative (4) 8:9;14:21;15:4; 16:9 representatives (1) 12:11 representing (2) 3:23;8:10 represents (3) 35:9;45:4,10 request (1) 5:11 require (1) 20:14 required (1)</p>	<p>3:18 requirement (1) 38:12 requirements (1) 37:10 requires (1) 15:23 reserve (1) 29:13 residential (7) 33:22;43:17;44:3, 17,22;45:14;50:22 residents (1) 9:6 resilient (1) 46:16 resolution (1) 5:21 resolved (2) 5:6,20 Resource (2) 15:2;20:24 Resources (12) 3:18;8:17;17:7; 20:23;22:9;24:22; 42:4,11;48:15;49:1; 52:10;53:15 respect (3) 21:6;30:20;49:22 respond (2) 37:18;39:10 response (1) 39:2 response] (1) 56:4 responsible (1) 9:18 restoration (1) 23:20 result (3) 20:4;30:22;31:10 resulted (1) 9:20 resulting (2) 13:16;14:1 results (4) 25:15;29:15,17; 34:2 retail (4) 31:9,21;39:9;44:18 retained (1) 19:13 revenue (3) 37:10;38:12;40:22 review (3) 33:21;34:2;43:2 reviewed (1) 39:19 rewards (1) 16:24 RFP (2) 5:17,19 RGGI (1)</p>	<p>54:15 RGGIs (1) 26:24 Rick (1) 16:1 right (7) 6:9;18:8;22:23; 26:9;29:13;34:14; 56:5 rightie (1) 8:2 rigid (1) 31:6 rigorous (1) 29:24 rises (2) 37:5,5 Risk (3) 31:19,21;32:1 RNS (1) 25:5 role (1) 16:12 rooftop (3) 43:8;44:2;45:6 room (1) 15:17 Ross (8) 28:21;34:15;41:9, 10,12,13;46:22;47:1 roughly (2) 9:6;44:7 Route (1) 9:5 Roy (1) 11:16 RPS (2) 25:5;26:22 Ruderman (2) 17:20,21</p>	<p>schematic (2) 8:21;15:8 scheme (1) 28:14 school (4) 49:7,9,10,12 scope (30) 3:16;5:7,10;6:6; 8:15;19:2,9,10,15; 23:6;24:2,3;27:6; 29:3,6;31:2,5,15,21; 32:9,21;33:10,10,12, 16;39:15;48:13;50:9; 53:2;55:17 scoping (1) 51:17 Scott (1) 12:3 Screening (1) 21:5 seated (1) 3:3 second (1) 10:10 security (1) 9:17 seek (3) 5:21;13:4;20:7 seeking (1) 14:19 seems (3) 32:16;33:2;52:17 segments (1) 37:8 Selectman (1) 51:6 selectmen (1) 8:11 selling (1) 35:14 sense (6) 38:16;39:13;46:24; 52:1,3;53:14 sensitivity (5) 26:8;30:1,2;53:12; 54:8 separate (4) 6:15,16;7:10;37:7 separately (1) 53:21 serious (1) 24:22 seriously (1) 52:4 serve (1) 13:16 service (7) 6:19;31:22;37:24; 40:15,19,23,23 services (1) 25:5 set (2) 26:24;53:14</p>
S				
			<p>safe (1) 5:8 same (1) 40:20 satisfy (1) 32:17 saying (2) 32:24;49:6 scale (2) 37:9;38:10 scaled (1) 38:5 scattered (1) 13:14 scenarios (1) 34:6 scene (1) 3:12 Scenic (1) 9:8</p>	

<p>setting (3) 3:22;10:21;25:19</p> <p>settling (1) 20:12</p> <p>setup (1) 3:12</p> <p>several (1) 32:10</p> <p>shape (1) 40:10</p> <p>share (3) 41:19;43:12;46:10</p> <p>sheet (1) 7:15</p> <p>sheets (2) 3:9;7:14</p> <p>shift (4) 37:17;38:20;44:14, 19</p> <p>show (2) 37:12,13</p> <p>shows (1) 37:3</p> <p>side (1) 6:11</p> <p>signal (2) 28:5;39:5</p> <p>signals (2) 38:17;39:23</p> <p>signed (1) 55:23</p> <p>significant (7) 19:17;24:1;25:12; 30:16;43:18;44:11; 53:6</p> <p>sign-in (1) 3:9</p> <p>similar (1) 54:18</p> <p>simultaneously (1) 39:5</p> <p>single (3) 12:17;44:24;45:5</p> <p>situation (1) 36:19</p> <p>six (2) 21:1;50:1</p> <p>sixth (1) 13:3</p> <p>slow (1) 8:23</p> <p>slower (1) 9:3</p> <p>slowly (1) 37:5</p> <p>small (3) 9:10;13:21;33:22</p> <p>smart (1) 11:8</p> <p>snow (3) 49:8,11,13</p> <p>SO2 (1) 27:1</p>	<p>so-called (1) 21:2</p> <p>social (2) 54:20,21</p> <p>societal (1) 35:1</p> <p>solar (29) 10:5,8,10;11:7; 26:1;31:24;33:21; 35:1;42:4,9,11,15,18, 24;43:1,3,8,17,23; 44:2,3,6,10,14,17,22; 45:22;46:6;55:8</p> <p>solution (1) 22:7</p> <p>Solutions (1) 14:17</p> <p>sometimes (3) 20:16;38:6,6</p> <p>sorry (2) 9:2;49:20</p> <p>sort (5) 7:23;15:24;16:10, 18;53:12</p> <p>sorts (1) 6:2</p> <p>sounds (1) 47:3</p> <p>sources (1) 26:24</p> <p>SOx (1) 54:21</p> <p>speak (7) 18:12;22:19,22; 34:18;41:1;52:21; 55:24</p> <p>speaking (2) 17:17;39:7</p> <p>specific (2) 24:13;36:14</p> <p>specifically (6) 8:18;21:6;24:15; 32:20;34:19;44:24</p> <p>spot (1) 35:12</p> <p>Sprague (9) 18:10;22:24;28:20, 22,23;33:4,11,14; 53:18</p> <p>stack (3) 48:21;49:22;50:11</p> <p>Staff (24) 4:6;19:24;23:8; 24:13;26:6,20;27:15, 22;29:9;30:3;34:8; 41:20;43:14;48:15; 49:3,5;50:2;51:18, 23;52:2;53:2,9; 54:10;55:18</p> <p>Staff's (8) 3:7,15;5:23;19:4,7, 21;50:23,24</p> <p>stage (1)</p>	<p>55:2</p> <p>stakeholder (3) 19:18;29:4;49:14</p> <p>stakeholders (11) 3:22;16:15,23; 17:11;20:1;22:5; 29:9;30:4;34:9; 48:18;52:7</p> <p>stand-alone (1) 5:4</p> <p>standard (6) 13:17;15:2;20:21; 21:3;34:3;43:21</p> <p>standards (1) 48:13</p> <p>start (1) 17:14</p> <p>state (10) 8:8;13:14,19;14:2, 19;17:4;41:14;42:1; 43:7;51:11</p> <p>stated (1) 15:5</p> <p>statement (2) 26:12;43:11</p> <p>states (10) 21:7;26:5;27:10; 33:17;43:4,6,18; 44:15;45:15;52:19</p> <p>states' (1) 44:16</p> <p>state's (1) 10:6</p> <p>station (2) 10:11,17</p> <p>stenographer (2) 14:11;34:13</p> <p>stenographer's (1) 8:24</p> <p>step (1) 5:18</p> <p>sticker (1) 6:3</p> <p>still (2) 6:17;15:16</p> <p>stock (1) 47:7</p> <p>storage (2) 11:8;15:14</p> <p>storm (2) 23:20;48:24</p> <p>straightforward (2) 53:7;54:14</p> <p>strike (1) 46:14</p> <p>strong (1) 55:18</p> <p>strongly (2) 42:8;53:1</p> <p>structure (7) 35:6,9;37:9;39:1; 40:6,11;43:22</p> <p>struggling (1)</p>	<p>46:19</p> <p>studied (1) 53:22</p> <p>studies (2) 6:20;39:18</p> <p>Study (68) 3:8,18;4:1,24;5:4, 5,8,12;6:5,13,15,18, 23;7:1,8;17,21;9:24; 13:11,24;15:10;19:2, 10,10,15,19;20:3; 23:6;24:4,5,9,18,20; 25:4;26:8,12;27:6,14, 15,16;28:6;29:2,12, 15,17,24;30:6,11,18; 31:1,2;33:1,20; 39:16;41:17;44:2,9; 45:20;46:3,13;48:15, 19;50:16;51:20;52:5; 53:2;54:2,16;55:17</p> <p>study's (2) 43:16;45:11</p> <p>stuff (1) 51:13</p> <p>subject (9) 4:2,5,17;7:2;22:10, 14;25:11,16,18</p> <p>submit (2) 17:22;18:6</p> <p>submitted (1) 55:18</p> <p>submitting (1) 52:22</p> <p>subsidiaries (1) 35:4</p> <p>subsidy (1) 33:24</p> <p>substantial (2) 28:7;36:8</p> <p>substantive (1) 21:9</p> <p>subtract (2) 54:15,24</p> <p>success (1) 13:22</p> <p>successful (2) 14:5;15:22</p> <p>successfully (1) 11:1</p> <p>suggested (1) 50:8</p> <p>suggests (1) 33:20</p> <p>summarize (1) 16:19</p> <p>summarizing (1) 3:16</p> <p>summary (1) 13:20</p> <p>sunk (1) 39:20</p> <p>suppliers (1) 35:16</p>	<p>supplies (1) 42:3</p> <p>supply (2) 13:10;32:5</p> <p>support (10) 9:16;10:19;11:5, 16;14:3;16:9,13; 17:9;49:3;53:9</p> <p>supported (1) 32:10</p> <p>supportive (1) 19:20</p> <p>supports (4) 9:19;42:8;48:1; 53:2</p> <p>sure (3) 4:18;24:6;52:9</p> <p>sustainability (1) 9:17</p> <p>sustainable (6) 9:12;10:20,24; 11:13,15;14:16</p> <p>Swack (1) 12:2</p> <p>system (23) 27:12,19;31:11,13; 36:15,21,24,24;37:8, 11,23;38:11,19,21; 39:1,4;43:20;44:5,8; 45:1,5,7,11</p> <p>systems (5) 28:8;33:19;43:9; 44:2,3</p> <p>system-status (1) 36:17</p>
T				
			<p>table (6) 11:5;24:16;25:2; 26:3;27:8;31:3</p> <p>tables (1) 24:14</p> <p>talked (1) 8:22</p> <p>talking (1) 49:19</p> <p>tariff (7) 5:16;29:19,20; 31:9;34:6;53:19;54:4</p> <p>tariffs (2) 25:20;28:13</p> <p>tax (2) 32:11;44:13</p> <p>taxpayer (2) 45:2,8</p> <p>team (1) 11:11</p> <p>technical (1) 14:18</p> <p>technology (1) 17:6</p> <p>teeing (1)</p>	

51:20 temper (1) 42:12 tend (1) 36:10 term (1) 25:14 terms (3) 6:4;39:15;53:8 Thanks (1) 33:13 therefore (1) 49:9 there'll (1) 38:22 thinking (2) 4:16,17 third-party-owned (1) 44:10 third-party-owner (1) 45:6 though (2) 49:8,23 thought (1) 12:6 thoughtful (1) 46:14 three (3) 7:16;14:24;35:24 thresholds (1) 21:13 thus (2) 16:15;32:6 time-dependent (1) 36:17 timeline (7) 3:17;4:11;6:6,14; 8:16;29:3;48:14 time-of-use (1) 11:8 today (10) 4:10;9:12;18:12, 21;23;11;43:12; 46:11,20;49:19; 51:17 today's (2) 11:3;41:19 together (3) 8:3;46:12;52:7 top (1) 56:3 total (5) 30:19,20;43:20; 44:5,8 toward (2) 36:3,16 town (9) 8:11,18;9:9,10,14, 22;10:4,9,12 towns (4) 8:10;9:7;14:19; 17:5 town's (4)	9:14,16;10:11,19 track (3) 6:16;11:1;13:23 trade (1) 41:24 transfer (2) 10:11,17 translate (1) 30:9 Transmission (5) 31:4,5,11;55:5,10 transparently (2) 47:22;53:22 treated (1) 31:2 treatment (2) 10:9;34:2 tremendous (2) 43:9;45:24 try (3) 41:2,5;52:24 trying (3) 5:9;9:1;51:15 turn (1) 14:7 turning (1) 24:12 two (3) 7:9,14;8:3 type (3) 35:11;37:9,16 types (3) 34:22;37:4;39:17 typical (1) 9:7	28:24,24;29:3,7,11, 13,15,23;30:13,23; 33:20;34:7;50:6,8; 55:5 universal (1) 21:2 unlikely (1) 32:16 unnecessarily (1) 24:7 unnecessary (1) 40:5 unresolved (1) 6:17 unsurprisingly (1) 44:23 unwarranted (1) 54:14 up (12) 3:8;18:9;26:21; 36:4;40:3;49:13,17; 51:10,20;54:18; 55:23;56:7 upcoming (1) 19:2 updates (1) 43:2 upfront (1) 13:5 upon (1) 31:9 usage (2) 9:18;10:14 use (9) 13:23;15:18;24:17, 23;25:3;37:5;40:20; 42:9;53:15 used (4) 8:20;13:24;27:23; 29:24 useful (5) 13:23;30:3;35:2,3; 51:16 users (1) 42:7 uses (2) 11:7;38:15 using (3) 5:13;21:12;31:6 usual (1) 37:3 Utilities (4) 11:21;15:24;32:4; 55:13 utilities' (1) 38:12 utility (12) 12:9;14:24;17:1; 23:22;27:19,21; 35:17;37:11;39:24; 40:18,22;44:20 Utility-scale (2) 43:23;44:6	utilization (1) 42:11 utilize (1) 11:22 V vague (1) 30:8 valuable (2) 7:22;19:15 valuation (4) 5:13;20:17,24; 27:23 valuations (1) 20:20 Value (34) 3:8,17;4:24;5:8; 6:4,13,23;8:16; 15:21;19:2,11;21:17; 22:9;29:2,12;30:10, 22;32:15;34:21; 35:20;36:3,14;40:12; 41:17;46:3;48:14,21; 49:22;50:11;54:3,17, 19,24;55:14 values (6) 20:16,19;53:6,14, 16;54:9 variety (1) 28:9 various (4) 33:21;34:5,22; 51:10 vary (1) 44:23 VDER (6) 13:17,24;15:10; 48:21;51:20;52:5 VDR (1) 13:11 vehicle (1) 12:24 verbal (1) 56:4 via (1) 47:10 vibrant (1) 9:10 vice-president (1) 41:14 view (1) 35:7 views (1) 49:18 village (2) 9:11;10:7 vision (2) 10:23;11:2 volatile (2) 37:16;42:13 volatility (2) 31:23;32:1	voters (2) 9:15;10:10 W Wait (1) 32:19 wants (1) 12:20 Warner (21) 8:10,11,12,18;9:4, 6,15;10:7,23;11:10, 12,24;12:15,19; 13:11,18,21;15:21; 16:21;51:8,15 waste (2) 10:8;40:5 Water (3) 10:7,8;52:5 watt (3) 44:1;45:4,9 way (9) 6:13,14;7:21; 22:18;36:11;38:9,19, 19;40:7 Webster (1) 8:10 weeks (1) 6:21 Weisner (6) 3:11,13;6:4;18:1,3; 23:15 well-deserved (1) 52:10 what's (2) 24:3;51:7 wherever (1) 19:6 whole (4) 16:22;27:19;37:11; 38:11 wholesale (3) 22:4;31:19;55:15 who's (1) 52:1 widely (1) 22:1 wind (1) 42:4 winter (1) 48:24 wires (4) 34:19;35:20;40:15, 23 wire's (1) 37:1 within (9) 5:22;6:21;12:12; 13:18;20:3,5;24:3; 38:21;51:3 without (1) 38:18 word (1)
	U			

9:1 work (16) 3:20;5:10;13:8; 14:4,15;16:16;17:11; 38:23;39:22;40:10; 41:21;43:15;46:12; 49:14;51:4;52:7 working (10) 3:21;4:3;5:21; 14:21;15:3;33:5; 41:16;46:10;49:2; 52:17 works (1) 18:15 worthy (1) 48:16 wrestled (1) 20:1 writing (1) 18:22 written (12) 14:9;17:22,24; 18:6;19:23;22:11; 23:10;28:17;34:12; 41:4;52:22;56:7 wrote (1) 22:20	49:24 14 (1) 27:8 140 (1) 44:5 148 (1) 45:10 16 (3) 26:4;32:8;54:5 16-576 (3) 3:4;11:6;47:13 17 (2) 6:1;15:8 19 (3) 27:8;33:14;49:24	61 (1) 33:16		
		7		
		7 (2) 8:9;25:1 75 (1) 43:20		
		8		
		8 (2) 25:1;31:13 89 (1) 9:5		
Y	2			
year (5) 5:14;10:9;11:11; 15:12;23:21 years (4) 7:3;10:3;15:1; 38:22	2 (4) 24:16;25:2;26:3; 27:8 2007 (1) 9:14 2016 (3) 10:6;43:3;47:10 21st (1) 52:12 24 (1) 12:17 25 (1) 43:6 26,029 (1) 26:11 26-029 (1) 27:10			
Z	3			
zero (3) 37:1,1;53:16	3,000 (1) 9:6			
1	4			
1 (2) 24:16;25:2 10 (2) 18:7;56:8 100 (2) 10:8,10 104 (1) 44:4 10th (3) 18:2,3;52:23 11:12 (1) 56:11 1116 (2) 47:11;54:8 118 (1) 45:4 12 (2) 26:3;31:19 13 (1)	4 (1) 27:15 45 (1) 44:7			
	5			
	5 (2) 25:2;31:3 50 (1) 35:23 53 (1) 45:18			
	6			
	6 (1) 24:16 6.1-kilowatt (2) 45:1,6			