

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION
DOCKET NO. E-100, SUB 137

FILED

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COMMENTS Clerk's Office
N.C. Utilities Commission

In the Matter of:)
2013 Biennial Integrated Resource Plans)
and Related 2013 REPS Compliance)
Plans)

NCSEA'S COMMENTS

Pursuant to the North Carolina Utilities Commission ("Commission") *Order Establishing Dates for Comments on Integrated Resource Plans and REPS Reports* issued in this docket on 11 October 2013, as modified by the 13 March 2014 Commission *Order Granting Further Extensions of Time*, the North Carolina Sustainable Energy Association ("NCSEA") submits the following initial comments on the 2013 integrated resource plans ("IRPs") and 2013 REPS compliance plans of Duke Energy Carolinas, LLC ("DEC"), Duke Energy Progress, Inc. ("DEP"), and Dominion North Carolina Power ("DNCP").

Introduction

NCSEA's initial comments are arranged as follows: First, NCSEA provides general contextualizing comments about DEC's and DEP's existing generation resources and their 2013 plans to bring additional generation resources online during the planning horizon (*i.e.*, through 2028). Second, NCSEA more narrowly discusses DEC's and DEP's plans as they relate to renewable energy generation resources and demand-side management/energy efficiency ("DSM/EE") resources. Third, building upon these comments, NCSEA makes four IRP-related arguments:

- a. To maintain or even enhance the value of the IRP process, the Commission should reaffirm the foundational importance of the

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proceeding and the need for consistency with other proceedings, including the avoided cost proceeding;

- b. To maintain or even enhance the value of the IRP process, the Commission should require the utilities to set out concisely in their IRPs the key policy landscape assumptions upon which their plans are based;
- c. The utilities need to be pushed to innovate if they are to exceed their “base case” DSM/EE projections and approximate the performance savings to which they aspire and the Commission can provide the needed “push” by strongly encouraging the utilities to work with stakeholders to develop new programs and measures, including a combined heat and power (“CHP”) pilot program; and
- d. The utilities need to be pushed to innovate if they are to exceed their “base case” DSM/EE projections and approximate the performance savings to which they aspire and the Commission can provide the needed “push” by strongly encouraging the utilities to advance their data access protocols, including making their forms for customer authorization of sharing usage information with a third-party accessible via the internet.

Next, NCSEA’s initial comments turn to the utilities’ REPS compliance plans, with a quick review of past and projected compliance costs relative to the statute-based cost cap.

Finally, NCSEA makes two REPS compliance plan-related arguments:

- e. DEP, DEC and DNCP should be directed to submit letters containing a one-sentence certification that their 2009 REPS compliance plan reviews have been conducted and to include, in future REPS compliance plans, a one-sentence certification that a review has been conducted (if this is not otherwise obvious via the filing of a revised past compliance plan with removed redactions); and
- f. In light of the ongoing first phase of the 2014 biennial avoided cost proceeding, the utilities should be directed to create their 2014 REPS compliance plan avoided cost projections using the methodological approaches approved in the 2012 biennial avoided cost order, together with a statement (for DEC and DEP) indicating whether the effect of the Joint Dispatch Agreement was incorporated or not.

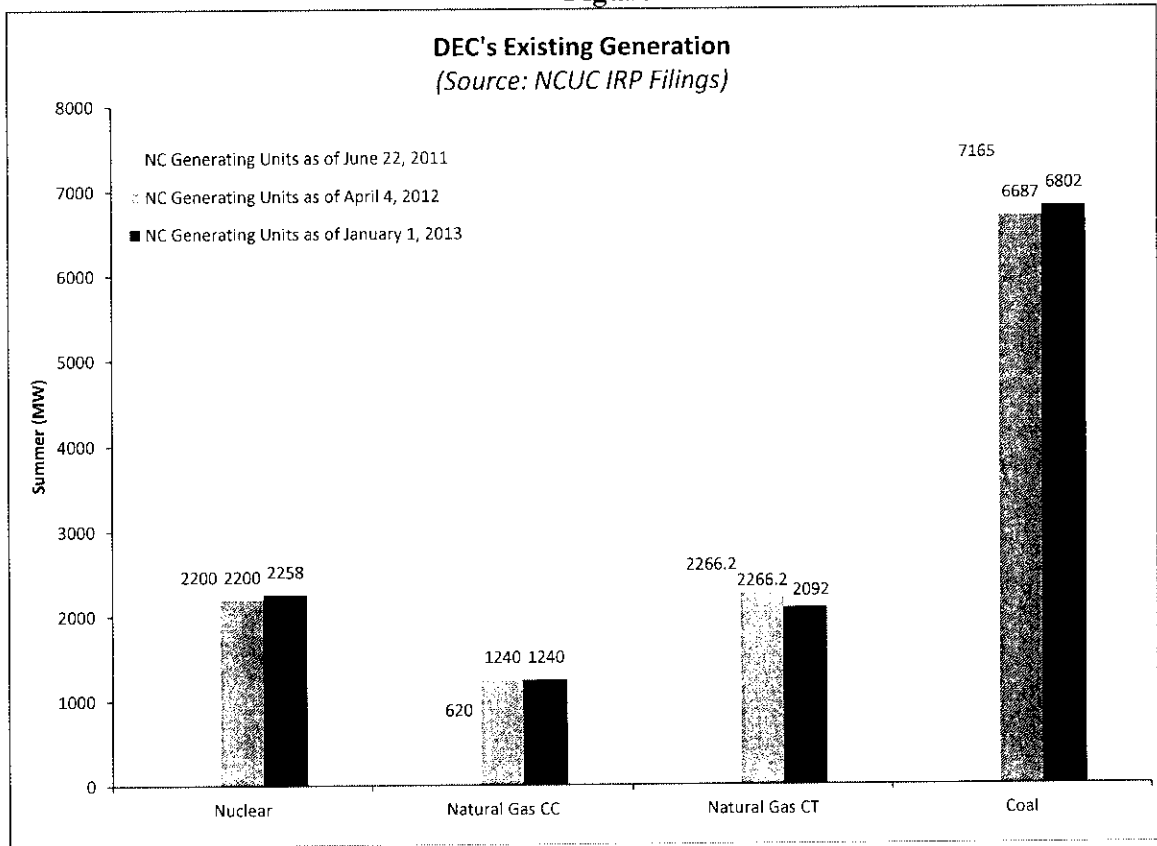
Attached to NCSEA’s initial comments are four exhibits: **Exhibit A** includes NCSEA’s workpapers, showing the quantitative data and sources therefor used to

generate graphs and other numbers cited herein; **Exhibit B** is a DEC/DEP data response to a Southern Alliance for Clean Energy data request; **Exhibit C** is an Opower report; and **Exhibit D** contains DEC/DEP and DNCP data responses related to usage information authorization forms.

Existing Generation Resources and Planned Generation Resources

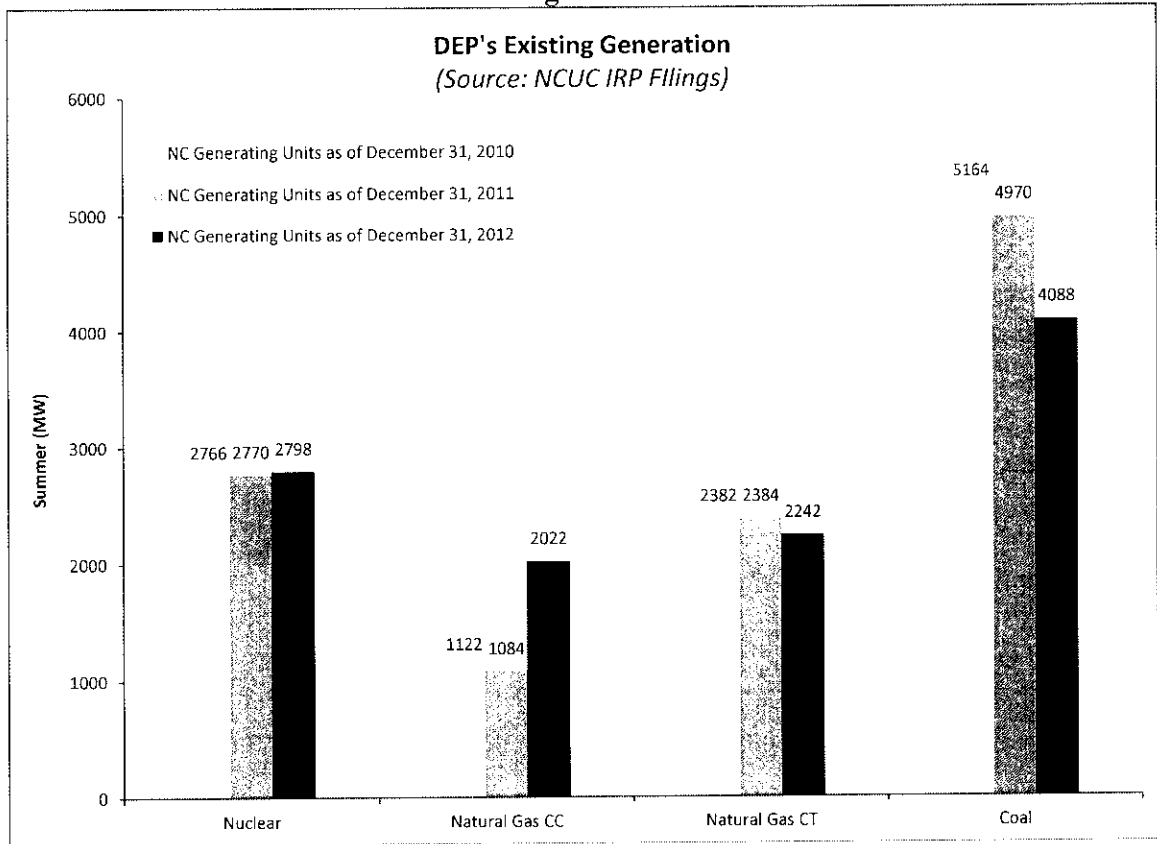
Year to year, the utilities' existing generation resources can and do change. When such changes occur, it is important to keep these changes in mind as they influence the utilities' constantly evolving resource plans. Together, DEC's and DEP's existing generation includes: 5,056 MW of nuclear; 3,262 MW of natural gas combined cycle (CC); 4,334 MW of natural gas combustion turbine (CT); and 10,890 MW of coal. *See* Figures 1 and 2 *infra*. Coal remains the dominant generation resource.

Figure 1¹



¹ *Duke Energy Carolinas, LLC's 2011 Integrated Resource Plan ("DEC 2011 IRP")*, Table 5.A, pp. 38, 40, 47, Commission Docket No. E-100, Sub 128 (1 September 2011); *Duke Energy Carolinas, LLC's 2012 Integrated Resource Plan ("DEC 2012 IRP")*, Table 5.A, pp. 44-46, 53, Commission Docket No. E-100, Sub 137 (4 September 2012); *Duke Energy Carolinas, LLC's 2013 Integrated Resource Plan ("DEC 2013 IRP")*, pp. 52-54, 58, Commission Docket No. E-100, Sub 137 (15 October 2013).

Figure 2²



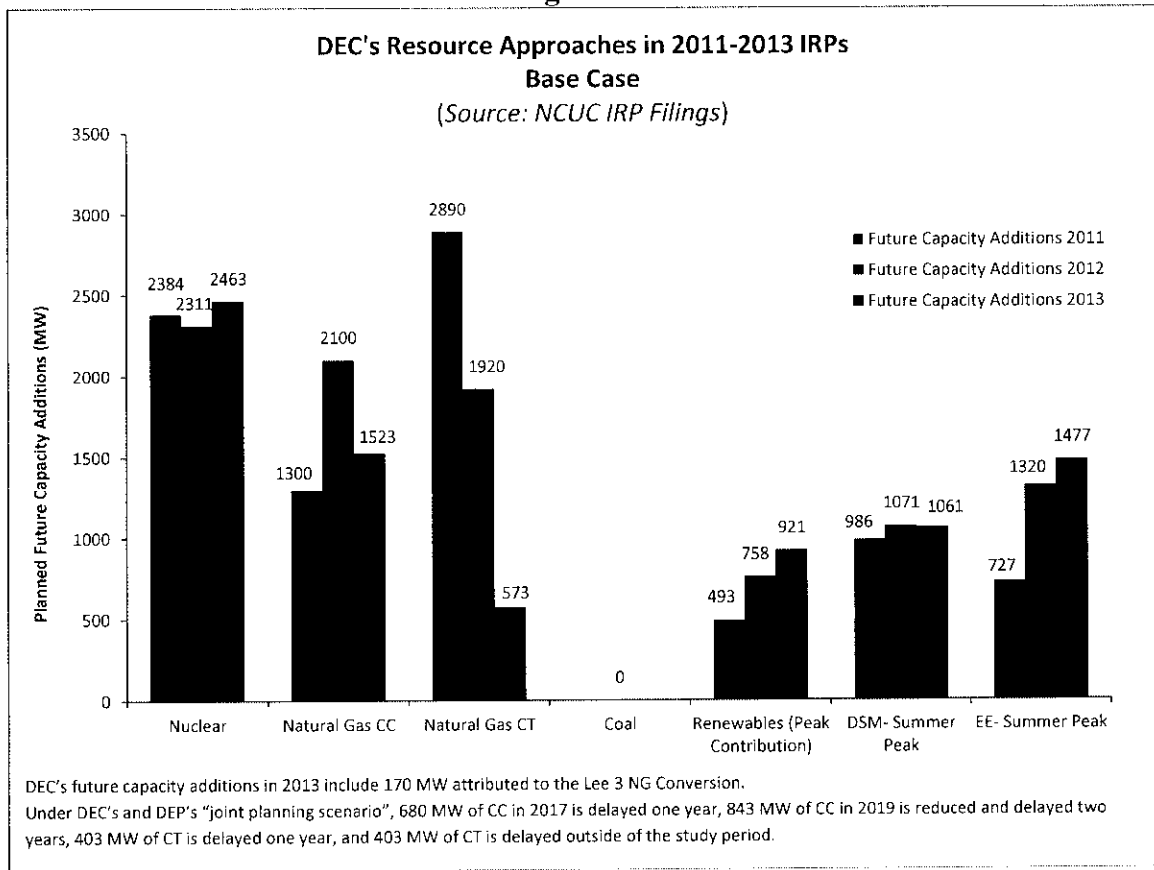
As the figures illustrate, DEC's and DEP's combined traditional generation *capacity* has not changed significantly over the past three years. From 2011 to 2013, DEC's existing summer capacity (MW) increased 1.15%; during the same period, DEP's existing summer capacity (MW) decreased 2.5%. While overall traditional generation capacity has not changed significantly during the past three years, there has been a marked resource shift as almost 1,600 MWs of CC has come on line and an almost-equal amount of coal capacity has been retired. *See Figures 1 and 2 supra.*

² *Progress Energy, Inc.'s 2011 Integrated Resource Plan ("DEP 2011 IRP")*, Appendix B, Commission Docket No. E-100, Sub 128 (1 September 2011); *Progress Energy, Inc.'s 2012 Integrated Resource Plan ("DEP 2012 IRP")*, Appendix B, Commission Docket No. E-100, Sub 137 (4 September 2012); *Duke Energy Progress 2013 Integrated Resource Plan ("DEP 2013 IRP")*, pp. 48-51, Commission Docket No. E-100, Sub 137 (15 October 2013).

Against the backdrop of DEC's and DEP's existing generation resources, the implications of their "base case" resource plans³ over the last three years are better understood. Neither utility's plans over the last three years have included an addition of coal capacity; both utilities' plans have, however, included additions of significant amounts of CC capacity over the planning horizon: 2,500 MWs in the 2011 plans, 5,200 MWs in the 2012 plans, and, most recently, 4,800 MWs in the 2013 plans. *See* Figures 3 and 4 *infra*. As far as traditional generation resources go, a clear shift is underway – from the existing reliance on coal capacity to an increased future reliance on CC capacity.

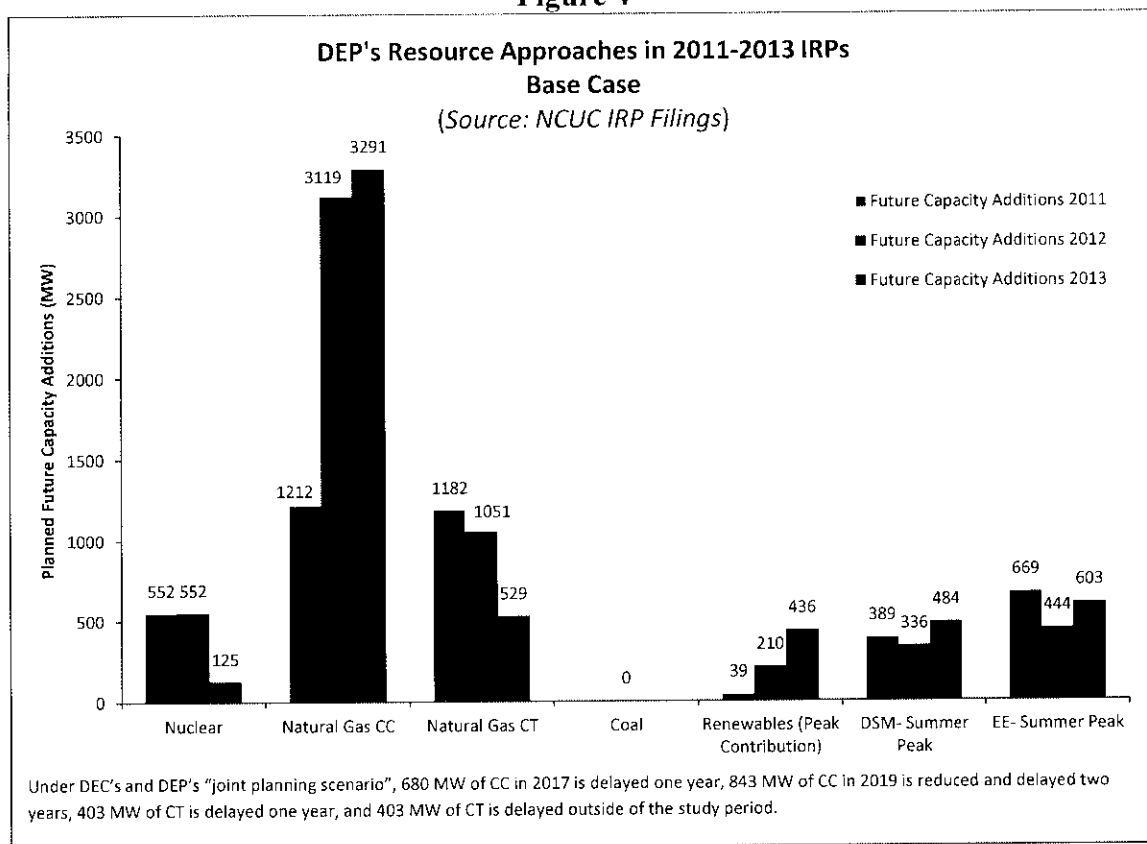
³ The "base case" resource plans represent updates to the utilities' 2012 IRPs but do "not take into account the [potential] sharing of capacity between DEC and DEP. However, the Base Case incorporates the JDA between DEC and DEP which represents a non-firm energy only commitment between the companies." *DEC 2013 IRP*, p. 27, Commission Docket No. E-100, Sub 137 (15 October 2013).

Figure 3⁴



⁴ Exhibit A (NCSEA Workpaper 1).

Figure 4⁵



Almost all of the utilities' planned CC capacity is scheduled to come on line in the next five to seven years – *i.e.*, in the first half of the 15-year planning horizon. See DEC's and DEP's "base case" tables *infra*.

⁵ Exhibit A (NCSEA Workpaper 1).

| Table 1-A DEC Base Case | | | | |
|--|---------------------|-----------------|------|----|
| (Source: DEC 2013 IRP, p. 8, Commission Docket No. E-100, Sub 137 (15 October 2013)) | | | | |
| Year | Resource | | MW | |
| 2014 | Nuclear Uprates | | 20 | |
| 2015 | Lee 3 NG Conversion | Nuclear Uprates | 170 | 32 |
| 2016 | | | | |
| 2017 | New CC | Nuclear Uprates | 680 | 45 |
| 2018 | VC Summer Nuclear | | 66 | |
| 2019 | New CC | | 843 | |
| 2020 | VC Summer Nuclear | | 66 | |
| 2021 | | | | |
| 2022 | New CT | | 403 | |
| 2023 | | | | |
| 2024 | New Nuclear | | 1117 | |
| 2025 | | | | |
| 2026 | New Nuclear | | 1117 | |
| 2027 | | | | |
| 2028 | | | | |
| Note: Table includes both designated and undesignated capacity additions | | | | |

| Table 1-A DEP Base Case | | | | | |
|--|-------------------|------------------|-------------------|-----|--------|
| (Source: DEP 2013 IRP, p. 8, Commission Docket No. E-100, Sub 137 (15 October 2013)) | | | | | |
| Year | Resource | | | MW | |
| 2014 | Sutton CC* | Nuclear Uprates* | | 625 | 9 |
| 2015 | Nuclear Uprates | | | 24 | |
| 2016 | | | | | |
| 2017 | | | | | |
| 2018 | Fast Start CT | CC Uprates | VC Summer Nuclear | 126 | 137 46 |
| 2019 | New CC | | | 843 | |
| 2020 | VC Summer Nuclear | | | 46 | |
| 2021 | New CC | | | 843 | |
| 2022 | New CC | | | 843 | |
| 2023 | | | | | |
| 2024 | | | | | |
| 2025 | | | | | |
| 2026 | | | | | |
| 2027 | New CT | | | 403 | |
| 2028 | | | | | |
| Note: Table includes both designated and undesignated capacity additions | | | | | |
| *Sutton CC and nuclear uprates projected online 2013; Sutton Coal units 1-3 to be retired Dec 2013 | | | | | |

The Plans for Renewable Energy Resources

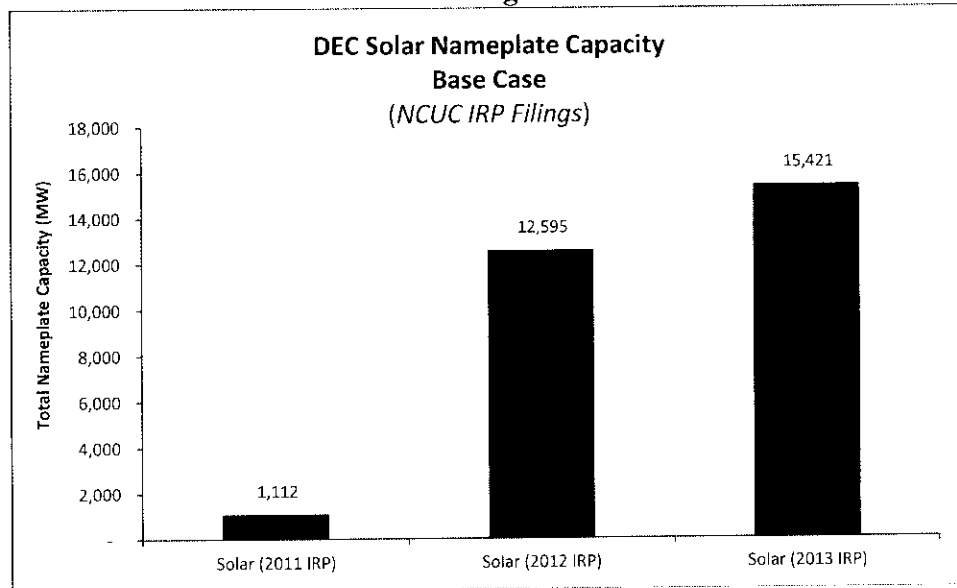
If nothing else were to change in the utilities' base case IRPs, their near-term shift to increased reliance on natural gas would be akin to putting all of our planning "eggs in one basket"⁶ even as the Commission has "recognize[d] that diversity in a utility's resource mix may help to protect the utility and its customers from fuel price fluctuations, fuel unavailability, and regulatory uncertainties, and may also ensure stability and reliability in the State's electricity supply." *Order Approving Integrated Resource Plans and REPS Compliance Plans*, p. 40, Commission Docket No. E-100, Sub 137 (14 October 2013). However, something else is changing in the utilities' plans. The utilities' 2013 IRPs reflect an increasing willingness to diversify into clean energy resources, particularly renewable energy. See Figures 3 and 4 *supra*. DEC's and DEP's planned renewables-based *peak* capacity increased to 1,357 MW in their 2013 IRPs – a 155% increase from a combined 532 MW in their 2011 IRPs and a 40% increase from a combined 968 MW in their 2012 IRPs. *Id.*

At the same time that DEC and DEP increased their planned renewables-based *peak* capacity additions, the two utilities also revised upward their planned renewables-based *nameplate* capacity additions. The increase in planned renewables-based nameplate capacity is overwhelmingly attributable to solar. By way of example, as illustrated in Figure 5 *infra*, DEC's planned solar nameplate capacity jumped by more than 1000% between 2011 and 2012 and increased an additional 22% from 12,595 MW

⁶ Duke Vice President Rob Caldwell has said, "I think you're going to see us asking regulators, 'Here's our least-cost plan – today you know that's going to be a gas plant – but we think there's an opportunity for a more diversified portfolio so we don't get all our eggs in one basket.'" Downey, J., *Duke Energy mulls adding solar to the utilities' mix*, Charlotte Business Journal (8 November 2013) (accessed on 5 April 2014 at <http://www.bizjournals.com/charlotte/print-edition/2013/11/08/duke-mulls-adding-solar-to-utilities.html?page=all>). Like traditional physical and financial hedges, diversifying into clean energy resources, including solar, wind, hydro, biomass and DSM/EE, offers an additional technique for hedging against the historic (and recent "polar vortex"-related) volatility of natural gas prices.

in 2012 to 15,421 MW in 2013. DEP's 2013 IRP adds 4,162 MW of solar nameplate capacity for a DEC-DEP total of 19,583 MWs of solar nameplate capacity to be added during the 2013 IRP planning horizon. See **Exhibit A** (NCSEA Workpaper 2).

Figure 5⁷



The utilities' plans for greater inclusion of renewables, including solar, is not only contributing diversity to the utilities' portfolios, but it is also actually helping to alleviate the utilities' need to rely so heavily on natural gas: "[DEC]'s plan currently projects that by the end of the planning horizon, [DEC] will have met over 700 MW of peak demand through solar resources – the equivalent of one large natural gas facility." *DEC 2013 IRP*, p. 5, Commission Docket No. E-100, Sub 137 (15 October 2013).

As stated above, the utilities' 2013 IRPs reflect an increasing willingness to diversify into renewable energy resources. NCSEA finds this promising. At the same time, NCSEA is concerned that these promising plans for renewable energy resources could be viewed as interesting conceptual exercises, the product of which is limited to

⁷ **Exhibit A** (NCSEA Workpaper 2).

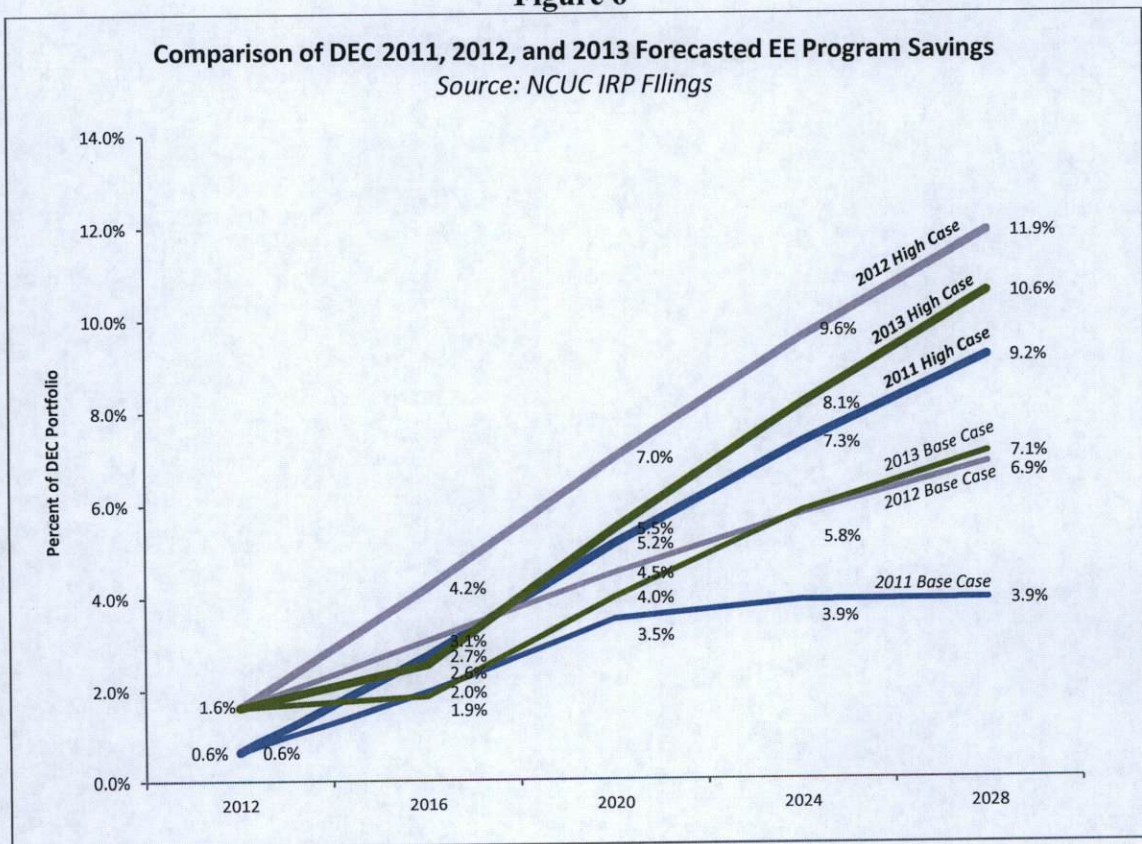
life within the vacuum of this proceeding. The IRP proceeding draws attention from an array of stakeholders; the parties, including the utilities and the Public Staff, dedicate time, talent, and treasure to the IRP process. The value of the IRP process is significantly diminished if the proceeding is treated as a stand-alone proceeding and not as a proceeding that is a foundational building block for “upper story” proceedings like the biennial avoided cost proceeding. To maintain or even enhance the value of the process, NCSEA argues, *infra*, that (a) the Commission should reaffirm the foundational importance of the IRP process and the need for consistency across multiple proceedings, including the avoided cost proceeding, and (b) the Commission should require the utilities to set out concisely in their IRPs the key policy landscape assumptions upon which their plans are based.

The Plans for DSM/EE Resources

The utilities’ 2013 IRPs reflect a much more pronounced willingness to diversify into renewable energy resources than into DSM/EE. DEC’s and DEP’s 2013 IRPs project DSM/EE *peak* capacity increases totaling a combined 3,625 MWs – reflecting a 31% increase from a combined 2,771 MWs in the 2011 IRPs and a 14% increase from a combined 3,171 MWs in the 2012 IRPs. *See* Figures 3 and 4 *supra*. While the utilities’ 2013 “base case” projections reflect DSM/EE increases by the end of the planning horizon, a comparison to last year’s IRPs reveals that a temporal shift has occurred with DEC and DEP now projecting, in their “base cases,” less DSM/EE contribution to peak capacity in the near-term – *i.e.*, over the next two to eight years. In other words, the utilities’ plan-over-plan “base case” *peak* capacity increases are back-end loaded, coming to fruition only in the later years of the planning period. *See* Figures 6 and 7 *infra*.

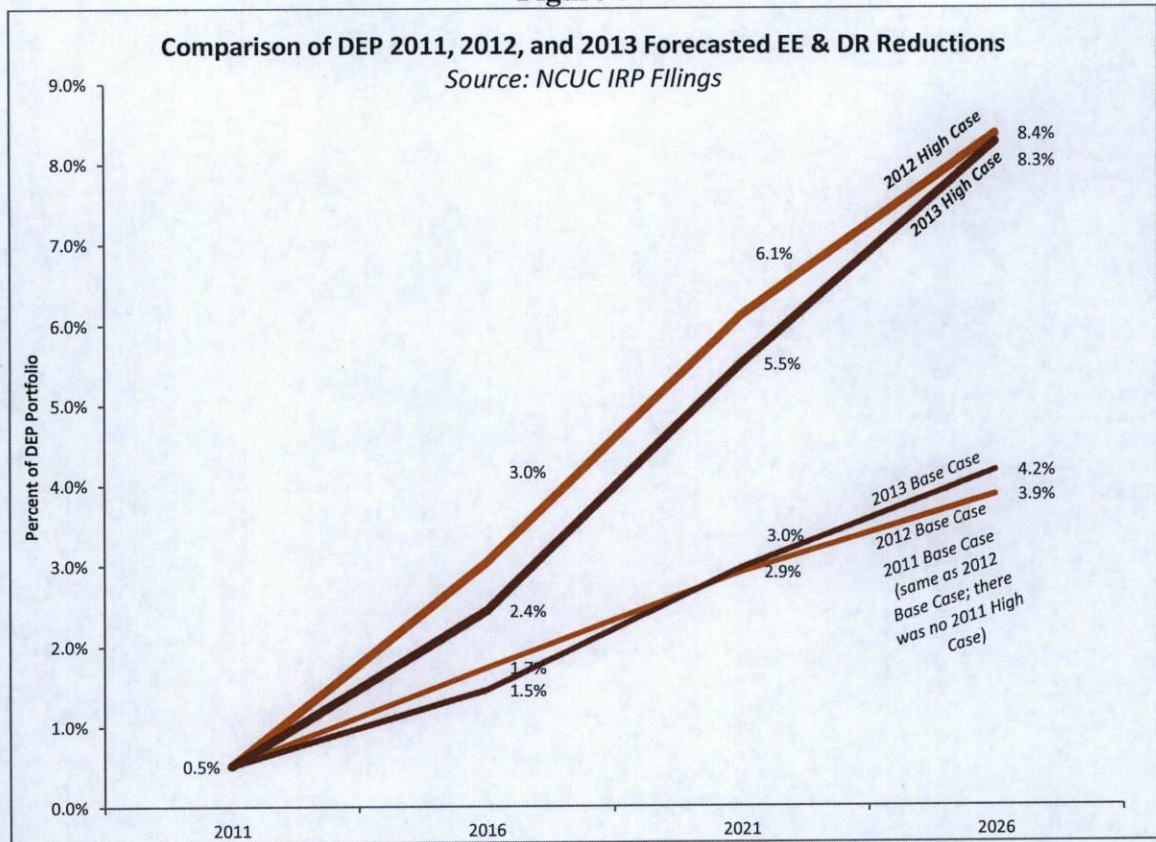
In addition to “base case” projections, Figures 6 and 7 include DEC’s and DEP’s “high case”/“environmental focus” projections. The “high case” projections reflect DEC’s/DEP’s “aspirational energy efficiency targets . . . approximately twice the level considered in the ‘base case’ resource plan.” *DEC 2013 IRP*, p. 33, Commission Docket E-100, Sub 137 (15 October 2013); *DEP 2013 IRP*, p. 32, Commission Docket E-100, Sub 137 (15 October 2013).

Figure 6⁸



⁸ Exhibit A (NCSEA Workpaper 3).

Figure 7⁹



As the Commission will recall, DEC and DEP have “agreed to adopt the following EE savings performance targets for five years: an annual savings target of 1% of the previous year’s retail electricity sales beginning in 2015 and a cumulative savings target of 7% of retail electricity sales over the five-year period of 2014-2018.” *Direct Testimony of Timothy J. Duff for DEC*, p. 21, Commission Docket No. E-7, Sub 1032 (6 March 2013); see *Supplemental Comments of Environmental Intervenors*, Exhibit A, Commission Docket Nos. E-2, Sub 998 & E-7, Sub 986 (18 June 2012) (copy of 8 December 2011 settlement agreement). The savings projected in the “high case”

⁹ Exhibit A (NCSEA Workpaper 4).

scenarios set out in Figures 6 and 7, *supra*, are more consistent with the savings performance targets set out in the 8 December 2011 settlement agreement.

DEC and DEP will have to be innovative to meet their obligations to aspire.¹⁰ As stated in DEC's/DEP's 2013 IRPs,

[t]he high EE savings projections are well beyond the level of savings attained by DEC[/DEP] in the past and higher than the forecasted savings contained in the new market potential study. The effort to meet them will require a substantial expansion of DEC's[/DEP's] current Commission-approved EE portfolio. *New programs and measures must be developed, approved by regulators, and implemented within the next few years.* More importantly, significantly higher levels of customer participation must be generated.

DEC 2013 IRP, p. 91, Commission Docket No. E-100, Sub 137 (15 October 2013) (emphasis added); *DEP 2013 IRP*, p. 81, Commission Docket No E-100, Sub 137 (15 October 2013) (emphasis added).

Again, the utilities' 2013 IRPs reflect an increasing willingness to diversify into clean energy resources, including DSM/EE. NCSEA finds this promising. At the same time, the utilities need to be pushed to innovate if they are to exceed their "base case" DSM/EE projections and approximate the performance savings to which they aspire. NCSEA argues, *infra*, that the Commission can provide the needed "push" by (a) strongly encouraging the utilities to work with stakeholders to develop new programs and measures, like a CHP pilot program, and (b) strongly encouraging the utilities to advance their data access protocols such that customers' authorized proxies can access data and use it in the development and refinement of tools that could serve as cornerstones for future DSM/EE programs and measures.

¹⁰ Merriam-Webster defines the verb "aspire" as "to seek to attain or accomplish a particular goal."

IRP-Related Arguments

To maintain or even enhance the value of the IRP process, NCSEA believes that (a) the Commission should reaffirm the foundational importance of the IRP process and the need for consistency across multiple proceedings, including the avoided cost proceeding, and (b) the Commission should require the utilities to set out concisely in their IRPs the key policy landscape assumptions upon which their plans are based.

Furthermore, while the utilities' 2013 IRPs reflect an increasing willingness to diversify into clean energy resources, including DSM/EE, the utilities need to be pushed to innovate if they are to exceed their "base case" DSM/EE projections and approximate the performance savings to which they aspire under the 8 December 2011 settlement agreement. The Commission can provide the needed "push" by (c) strongly encouraging the utilities to work with stakeholders to develop new programs and measures, like a CHP pilot program, and (d) strongly encouraging the utilities to advance their data access protocols such that customers' authorized proxies can access data and use it in the development and refinement of tools that could serve as cornerstones for future DSM/EE programs and measures.

a. Consistency Across Multiple Proceedings

The value of the IRP process is significantly diminished if the proceeding is treated as a stand-alone proceeding and not as a proceeding that is a foundational building block for "upper story" proceedings, like the biennial avoided cost proceeding. The Commission should endorse consistency across proceedings. NCSEA's argument will focus, for illustrative purpose, on the relationship of the IRP to the biennial avoided cost proceeding.

In each IRP, the utilities make assumptions and project such things as CT costs and capacity needs. The same kind of assumptions and projections are needed to calculate avoided cost rates. When the assumptions and projections in these two proceedings are inconsistent, it raises multiple questions which require undue amounts of time to uncover and understand. Inconsistency can call into question the accuracy of one or the other proceeding. It was for this very reason that, in the 2012 biennial avoided cost proceeding, NCSEA and “the Public Staff emphasized the importance of consistency between the assumptions and the projected CT costs used in the utilities’ respective IRPs and avoided cost calculations.” *See Order Establishing Standard Rates and Contract Terms for Qualifying Facilities*, p. 17, Commission Docket No. E-100, Sub 136 (21 February 2014) (referring to Public Staff’s Reply Comments).

Commission endorsement of consistency across proceedings would help reinforce the concept that proceedings required by Chapter 62 of the General Statutes are inter-related and contribute to a holistic approach to electric service in the State. 40 years ago, in *State ex rel. Utilities Com. v. General Tel. Co.*, the North Carolina Supreme Court stated: “Chapter 62 provides for the granting of a monopoly and for the regulation of its service and its charges by the Utilities Commission. *The entire chapter is a single, integrated plan.* Its several provisions must be construed together[.]” 285 N.C. 671, 680, 208 S.E.2d 681, 687 (1974) (emphasis added). Last year, the Supreme Court reaffirmed its earlier conclusion that Chapter 62 is “a single, integrated plan” and that “[i]ts several provisions must be construed together[.]” *State ex rel. Utils. Comm’n v. Cooper*, 366 N.C. 484, 495, 739 S.E.2d 541, 548 (2013). Implementation of an integrated plan requires reasonable consistency across proceedings.

NCSEA understands that the Commission may not view the biennial avoided cost proceeding as part of Chapter 62's integrated plan. Last year, the Commission concluded that

biennial avoided costs are established by the Commission pursuant to the Public Utility Regulatory Policies Act of 1978 (PURPA), not Chapter 62. The goal underlying PURPA's avoided cost provisions is mainly the development of small wholesale power producers. On the other hand, the "single, integrated plan" of Chapter 62 cited by the Supreme Court in the *General Telephone* and *Cooper* decisions is in reference to the Commission's role in setting retail rates for utilities providing monopoly service, a very different function.

Order Granting General Rate Increase, p. 79, Commission Docket No. E-2, Sub 1023 (30 May 2013). NCSEA believes this Commission conclusion should be re-visited and clarified so that it is not used to justify *inconsistency* between the IRP and avoided cost proceedings. Chapter 62 mandates the IRP process in N.C. Gen. Stat. § 62-110.1(c). Similarly, the determination of avoided cost rates has been incorporated into Chapter 62 such that the process should be considered part of, and not foreign to, Chapter 62. *See, e.g.*, N.C. Gen. Stat. § 62-156 (requiring a proceeding every two years for setting avoided cost rates); N.C. Gen. Stat. § 62-133.8(h)(1)a. (referring to "avoided costs" in connection with electric suppliers' annual REPS cost recovery proceedings).

A Commission endorsement of the need for consistency would be particularly timely given the opening of the 2014 biennial avoided cost proceeding. In late February, the Commission issued an order opening the 2014 avoided cost proceeding, during which the Commission will, among other things, entertain arguments related to how capacity payments are made and whether there should be a cap on capacity payments. *Order Establishing Biennial Proceeding and Scheduling Hearing*, p. 2, Commission Docket No. E-100, Sub 140 (25 February 2014). The utilities' projections of capacity needs in their

2014 IRPs (along with their assumptions and projections of CT costs) should be reasonably consistent with the inputs used to derive their 2014 proposed avoided cost rates.

b. Concise Articulation of Key Policy Assumptions

The IRP process is, at least in part, intended to enable the Commission to inform the State's executive and legislative decision-makers about any "long-range needs for expansion of facilities for the generation of electricity in North Carolina[.]" N.C. Gen. Stat. § 62-110.1(c). To this end, the Commission is required, each year, to "submit to the Governor and to the appropriate committees of the General Assembly a report of its analysis and plan, the progress to date in carrying out such plan, and the program of the Commission for the ensuing year in connection with such plan." *Id.* To the extent our State's decision-makers rely on the report to assist them in gauging, from a policy standpoint, whether they find the utilities' plans to be in the people's best interest, it would be helpful for them to understand the key policy assumptions used by the utilities in proposing their plans.

In their IRPs, the utilities analyze multiple scenarios using various policy assumptions. The utilities ultimately recommend approval of "base case" plans. The "base case" plans, like all the scenarios, are built upon certain policy assumptions. For example, a utility might assume one or all of the following: (a) continuation of the REPS law, (b) discontinuation of the REPS law, (c) enactment of a South Carolina RPS,¹¹ (d)

¹¹ "[T]he Company has assumed for purposes of the 2013 IRP that a new legislative requirement would be implemented in the future that would result in additional renewable resource development in South Carolina. For planning purposes, DEC has assumed that the requirement would be similar in many respects to the NC REPS requirement, but with a different implementation schedule. Specifically, the Company has assumed that this requirement would have an initial 3% milestone in 2018 and would gradually increase to

continuation/extension of the North Carolina renewable energy tax credit, (e) discontinuation of the North Carolina renewable energy tax credit, and (f) legalization of third-party sales in North Carolina.¹² There are certainly other assumptions that could be made as well. Given the multiple scenarios that are analyzed in the utilities' IRPs, the piecemeal articulation of assumptions in various places throughout a utility's plan can cause confusion about which scenarios rely upon which assumptions. Similarly, some key assumptions (*e.g.*, the third-party sales assumption) may not be articulated at all in the plans.

To avoid confusion and provide our State decision-makers with as clear a report as possible, each utility should be required to concisely list in one place in its filed plan all of the key policy assumptions which underlie its "base case" or recommended plan. To the extent the utilities assume a *status quo* policy landscape – *i.e.*, that all federal and state laws, regulations and rules will remain as is, including any changes imbedded in those policies like a REPS compliance step-up or the sunset of a tax credit – the utilities can simply state this. However, to the extent the utilities assume a deviation from the *status quo* policy landscape, they should be required to expressly articulate each such deviation. These articulations can then be incorporated into the Commission's report to the State's decision-makers, where they will help those decision-makers better understand the plans and their policy underpinnings (and whether the decision-makers need to take, or refrain from taking, any actions).

a 12.5% level by 2026. Similar to NC REPS, this assumed legislative requirement would incorporate renewable energy and EE, as well as a limited capability to utilize out of state unbundled purchases of RECs." *DEC 2013 IRP*, p. 17, Commission Docket No. E-100, Sub 137 (15 October 2013); *see DEP 2013 IRP*, p. 17, Commission Docket No. E-100, Sub 137 (15 October 2013) (DEP makes same assumption).

¹² DEC and DEP appear to have assumed, in at least one scenario, that third-party sales will be legalized in North Carolina in 2015. *SACE DR*, Item No. 1-16, Page 1 of 1, Commission Docket No. E-100, Sub 137 (attached as **Exhibit B** hereto).

c. Encouraging Innovative DSM/EE Programs and Measures

In a recent paper entitled “Five Universal Truths about Energy Consumers,”¹³ Opower found one universal truth to be that “[u]tilities are not meeting customer expectations” (p. 3). Our State Supreme Court has recognized “the customer-driven focus of Chapter 62 as a whole.” *State ex rel. Utils. Comm’n v. Cooper*, 366 N.C. 484, 495, 739 S.E.2d 541, 548 (2013). Our Supreme Court has also recognized that a “complacent monopoly” is not in the public interest. *State ex rel. Utilities Com. v. General Tel. Co.*, 285 N.C. 671, 680, 208 S.E.2d 681, 687 (1974). In order to better meet customer expectations, our electric utilities must innovate internally and enable external innovation that can be incorporated into utility operations in the future. It is the Commission’s prerogative, and perhaps its duty, to help push the utilities to innovate so as to better serve the public interest.

While the utilities’ 2013 IRPs reflect an increasing willingness to diversify into clean energy resources, including DSM/EE, DEC and DEP need to be pushed to innovate if they are to exceed their “base case” DSM/EE projections and approximate the performance savings to which they aspire under the 8 December 2011 settlement agreement.

The effort to meet the[savings targets] will require a substantial expansion of DEC’s[/DEP’s] current Commission-approved EE portfolio. *New programs and measures must be developed, approved by regulators, and implemented within the next few years.* More importantly, significantly higher levels of customer participation must be generated.

¹³ Attached as **Exhibit C** hereto.

DEC 2013 IRP, p. 91, Commission Docket No. E-100, Sub 137 (15 October 2013) (emphasis added); *DEP 2013 IRP*, p. 81, Commission Docket No E-100, Sub 137 (15 October 2013) (emphasis added).

If the utilities are to exceed their “base cases,” new DSM/EE programs and measures are needed and they must be customer-driven to secure customer participation. The Commission should strongly encourage the utilities to continue, generally, to seek out – via surveys and other mechanisms – the DSM/EE expectations and desires of electric customers. The Commission should also strongly encourage the utilities to continue to work with customers and stakeholders, such as the U.S. Department of Energy’s Southeast Clean Energy Application Center (“SE-CEAC”), to develop and secure near-term approval of a robust combined heat and power (“CHP”) pilot program.

NCSEA understands that innovation – *i.e.*, development and approval of new programs and measures – can have an impact on customer bills. NCSEA also understands, however, that when customers get good value from their utility and trust its intentions, they are more likely to be satisfied with the rates they pay. In “Five Universal Truths about Energy Consumers,” Opower reported that its

research uncovered a surprising fact: actual energy costs are not predictive of customer satisfaction with those costs. This is a counter-intuitive finding: one would expect that customers in countries facing high retail electricity costs would be more dissatisfied with cost than customers in countries with low costs. But in fact, our analysis shows no clear relationship between cost and customer perception of cost. We see that even in countries exhibiting quite low electricity costs (by international standards), customers are prone to voice high levels of dissatisfaction regarding cost.

The weak relationship between cost and satisfaction with cost is surprising, and leads to an interesting corollary: factors other than actual [dollars and cents] strongly influence customers’ perception of cost. *What it really comes down to is, whether customers feel they are getting good*

value from their utility and trust its intentions; if so, then they are more likely to be satisfied with the prices they pay.

(p. 5) (emphasis added). In short, the potential for near-term rate increases is not a reason to forego or avoid development of innovative DSM/EE programs and measures that can yield mid- and long-term savings when compared to a complacent *status quo* approach.

d. Moving Data Access Forward

In their 2013 IRPs, DEC and DEP state that each

company continues to expand its portfolio of energy efficiency products and services – offering customers more ways to take control of their energy usage and save money.

DEC 2013 IRP, p. 4, Commission Docket No. E-100, Sub 137 (15 October 2013); *DEP 2013 IRP*, p. 4, Commission Docket No. E-100, Sub 137 (15 October 2013).

Energy savings within the utilities’ portfolios of DSM/EE products are only a part of the planning picture; energy savings are also being realized outside the utilities’ portfolios. A number of the innovative third-party DSM/EE products that enable the outside savings will mature to the point that they can be considered by the utilities for inclusion in their portfolios. These products, and the innovation pipeline they promise, are created and incubated outside of the utilities. Solar in North Carolina has helped show that enabled third-parties can bring an innovative technology to the point that utilities can buy-in to a mature concept rather than drive the innovation themselves. In the DSM/EE context, if DEC and DEP want to exceed their base case projections (and aim for achievement of the savings they agreed to in the merger settlement), they need to step out of “complacent monopoly” mode and grow more comfortable with enabling outside incubation of innovative products.

One way in which the utilities can enable third-party development of innovative DSM/EE products is by making it easier for utility customers to share their usage data with these third-parties. On this topic, the Commission last year stated as follows:

[T]he Commission notes that the authorization forms attached to the DEC/DEP [Code of Conduct] include the statement: “DEC/PEC will provide this [customer] data on a non-discriminatory basis to any other person or entity upon the Customer’s authorization.” Similarly, DNCP states in its reply comments that customers can give written consent to have their data released to a third party. Thus, *it does not appear that the IOUs’ customers face an impediment to sharing their usage information with any person they desire, although the IOUs may be able to more readily facilitate the authorization for such sharing by creating a standard authorization form.*

Order Requesting Additional Information and Declining to Initiate Rulemaking, pp. 9-10, Commission Docket No. E-100, Sub 137 (23 August 2013) (emphasis added). While impediments were not apparent to the Commission, it does not mean impediments do not exist. They do.

The Commission followed the quoted statement up by requesting additional information. Specifically, the Commission directed the following two requests to the utilities in Attachment A to its order:

4. State the details of the modes by which retail customers can authorize the release of their usage information to a third party . . .
[.]
5. Does your company have a standard form that retail customers can sign to authorize the release of their usage information to a third party? If so, please attach a copy of the form to your responses.

Id. at Attachment A. The utilities provided the following responses:

| | DEC/DEP Response | DNCP Response |
|---|--|---|
| State the details of the modes by which retail customers can authorize the release of their usage information to a third party . . . [.] | “Customers must provide explicit and informed written consent prior to DEC or DEP disclosing “Customer Information” (as defined in the Code of Conduct), to a third party. The written consent may be submitted to Duke Energy via email, postal service, fax or other means.” <i>Verified Response to August 23, 2013 Order</i> , p. 2, Commission Docket No. E-100, Sub 137 (23 September 2013). | “Customers may use the following modes to authorize release of their usage information to a third party: 1) The customer may mail a written release to the Company authorizing release of their usage information to a third party.” <i>Response to August 23, 2013 Order</i> , p. 4, Commission Docket No. E-100, Sub 137 (23 September 2013). |
| Does your company have a standard form that retail customers can sign to authorize the release of their usage information to a third party? If so, please attach a copy of the form to your responses. | “DEC and DEP use standard templates for customer consent (attached).” <i>Verified Response to August 23, 2013 Order</i> , p. 2, Commission Docket No. E-100, Sub 137 (23 September 2013) (included in Exhibit D attached hereto). | “Yes. See Attachment Question 5 for a letter template and a copy of the form.” <i>Response to August 23, 2013 Order</i> , p. 4, Commission Docket No. E-100, Sub 137 (23 September 2013). |

In preparation for the filing of these comments, NCSEA served data requests on the utilities seeking updates and clarification. Specifically, NCSEA asked the utilities (1) to provide the latest versions of the authorization forms the utilities filed in September 2013; (2) to explain how a customer could secure a copy of the form; (3) whether the form is available online; and (4) whether a customer can complete and submit the form online. The utility responses, included in **Exhibit D** attached hereto, indicate: DEC and DEP have revised their forms since September 2013.¹⁴ DEC’s and DEP’s forms are not available online; instead, as their data responses indicate: “Access [to the DEC/DEP form] is obtained through interaction with [a] DEC[/DEP] customer service

¹⁴ It is also worth noting that DEC’s and DEP’s form indicates that it is valid for disclosure of information “only once.” DNCP’s form on the other hand more reasonably covers “requests . . . each time requested within the . . . [authorization] period.” The Commission should encourage DEC and DEP to adopt DNCP’s more reasonable approach. The DEC and DEP forms also describe a fee to be paid by a third party requesting customer information. Interestingly, the charge is not applicable to requests made in Duke’s Ohio, Kentucky or Florida territories. NCSEA believes the fee issue is more appropriately raised in the upcoming smart grid planning process under Commission Rule R8-60.1 and plans to pursue clarification of the fee issue in that proceeding.

representative.” Finally, the DEC and DEP forms cannot be completed and submitted online; instead, the forms must be mailed in or scanned and emailed in. As for DNCP, its form has not changed from what was filed in September. However, as with DEC and DEP, DNCP “does not have a standardized form . . . available electronically online.” Nor can a DNCP customer “complete and submit a written consent . . . on line[;]” instead, customers must telephone DNCP and request the paper form.

The Commission should help advance data access (and the third-party innovation it enables) by strongly encouraging the utilities to make their authorization forms available electronically. As Opower’s report states:

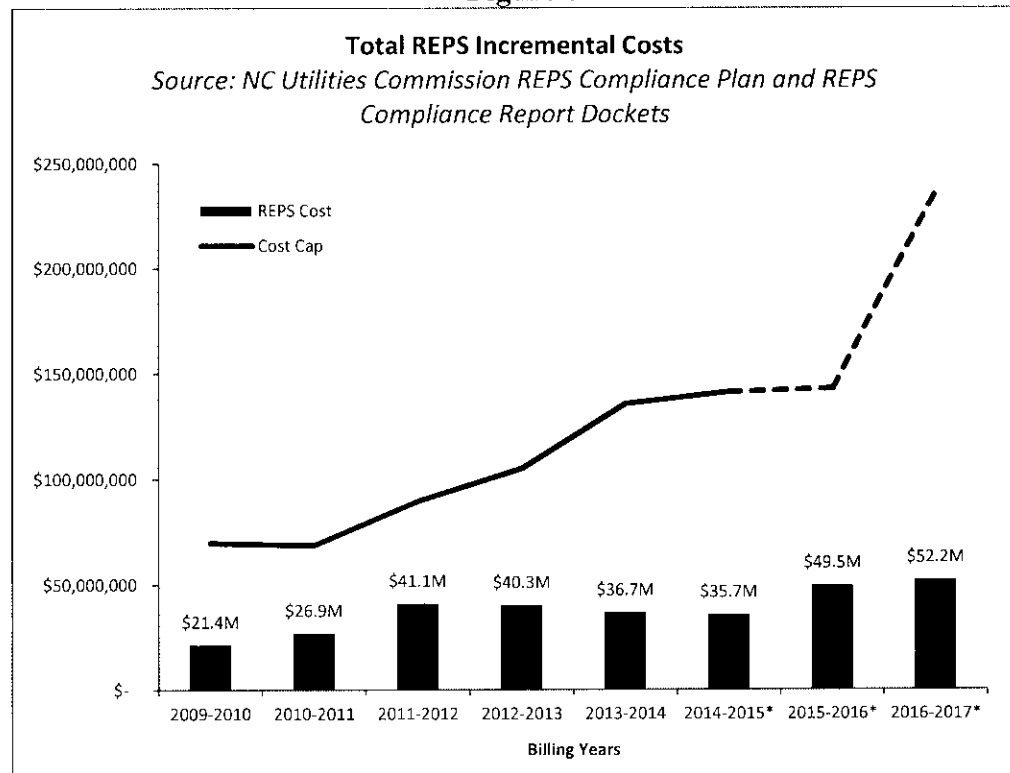
[C]ompanies as diverse as retail banks and mobile phone providers have developed robust, multi-channel communication strategies that span postal mail, email, SMS alerts, mobile applications, call centers, physical locations, and of course online tools. *Giving customers the information they want, via the channel of their choice, has become the norm in many consumer industries.* However, very few utilities offer this level of outreach or customer choice.

(p. 8) (emphasis added). The absence of convenient internet access to authorization forms is an impediment to customers desiring to share their usage information with third parties of their choice. Last year, the Commission stated that it “expects the IOUs to provide [customer] information in the available format that is efficient and most convenient to the customer, whether that is . . . in a separate written statement or on the internet.” *Order Requesting Additional Information and Declining to Initiate Rulemaking*, p. 8, Commission Docket No. E-100, Sub 137 (23 August 2013) (emphasis added). While the authorization form is not customer data, it too should be made available in a way that is most efficient and convenient to the customer, including availability via the internet.

REPS Compliance Plans

North Carolina's utilities have incurred and, for the foreseeable future, will incur REPS incremental costs well below the statutory cost caps provided for in N.C. Gen. Stat. § 62-133.8. See Figure 8 *infra*.

Figure 8¹⁵



NCSEA has two REPS compliance plan-related requests.

REPS Compliance Plan-Related Arguments

a. Certifying Review of Past REPS Compliance Plans

NCSEA's first request relates to the ongoing obligation of the utilities to review past REPS compliance plans and unredact information that no longer constitutes a trade

¹⁵ Costs represent compliance costs for DEC, DEP, DNCP, NCEMPA, NCMPA1, and Greenco. See Exhibit A (NCSEA Workpaper 5). The "*" beside billing years indicates a reflection of the utilities' projected costs in their REPS Compliance Plans.

secret. Last year, the Commission ordered “[t]hat DEP, DEC and DNCP shall annually review their REPS compliance plans from four years earlier and disclose any redacted information that is no longer a trade secret.” *Order Granting in Part and Denying in Part Motion for Disclosure*, p. 14, Commission Docket No. E-100, Sub 137 (3 June 2013). In a given year, it is possible that a utility could review its compliance plan from four years earlier and conclude that no changes to its redactions are merited; it is also possible that a utility could forget to conduct the review. It would be difficult, if not impossible, for a member of the public reviewing public filings to tell whether the utility conducted the review or not. NCSEA believes clarity can be provided by requiring the utilities to (a) submit letters containing a one-sentence certification that the 2009 plan review has been conducted in conjunction with the filing of the 2013 REPS compliance plans and (b) include, in future REPS compliance plans, a one-sentence certification that the review has been conducted (if this is not otherwise obvious via the filing of a revised past compliance plan).

b. Avoided Cost Projections

NCSEA’s second request relates to “Commission Rule R8-67(b)(1)(v), which requires electric power suppliers to include ‘the current and projected avoided cost rates for each year’ in their REPS compliance plans.” *Order Establishing Standard Rates and Contract Terms for Qualifying Facilities*, p. 38, Commission Docket No. E-100, Sub 136 (21 February 2014). In the Commission’s 2012 biennial avoided cost order, the Commission concluded that

DEC and DEP, in their 2012 REPS Compliance Plans filed in Sub 137, inappropriately reported no change in their avoided costs, showing their avoided cost rates in 2013 and 2014 to be projected to be the same as the

avoided cost rates approved in Sub 127. Because QFs rely on this information, DEC and DEP henceforth should include actual projected avoided costs rates, as of the date of the REPS compliance filing[.]

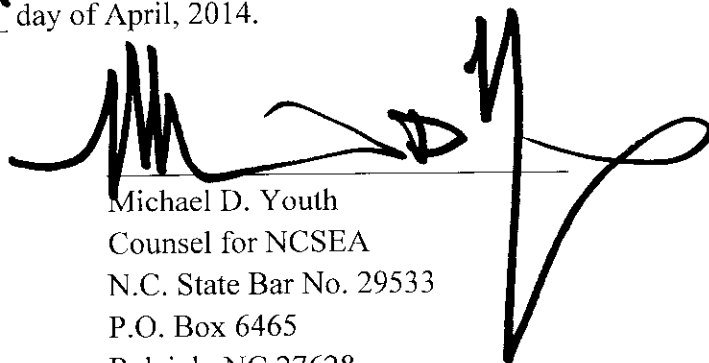
id., and, based on this conclusion, ordered

[t]hat DEC and DEP, in their 2014 REPS Compliance Plan and thereafter, shall include actual projected avoided costs rates as of the date of the compliance filing.

Id. at p. 49.

Given that the first phase of the 2014 biennial avoided cost proceeding will contemplate methodological changes, is set for hearing on 7 July 2014, and will not likely yield an order in time for any methodological changes to be incorporated into the DEC, DEP, and DNCP 2014 REPS compliance plans, NCSEA requests that the utilities be directed to create their 2014 REPS compliance plan projections using the methodological approaches approved in the 2012 biennial avoided cost order, together with a statement (for DEC and DEP) indicating whether the effect of the Joint Dispatch Agreement was incorporated or not.

Respectfully submitted, this the 11th day of April, 2014.

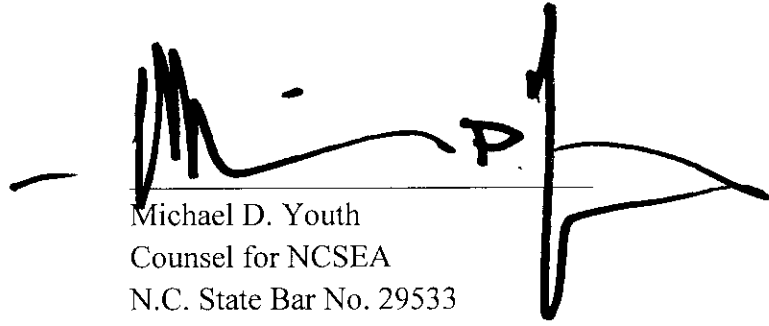
A large, stylized handwritten signature in black ink, appearing to read 'Michael D. Youth', is written over a horizontal line.

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CERTIFICATE OF SERVICE

I hereby certify that all persons on the docket service list have been served true and accurate copies of the foregoing Comments, together with any attachments, by hand delivery, first class mail deposited in the U.S. mail, postage pre-paid, or by email transmission with the party's consent.

This the 11th day of April, 2014.

A handwritten signature in black ink, appearing to read "M. Youth", is written over a horizontal line. To the right of the signature, there is a vertical line with a small "P" written next to it.

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EXHIBIT A

| | Duke Energy Carolinas Resource Approaches in 2011-2013 IRPs | | | | | | Duke Energy Progress Resource Approaches in 2011-2013 IRPs | | | | | |
|--------------------------------|---|---|--|---|--|--|--|---|--|--|--|--|
| | Future Capacity Additions 2011 IRP (planned for 2014-2032) | Source | Future Capacity Additions 2012 IRP (planned for 2014-2032) | Source | Future Capacity Additions 2013 IRP (planned for 2014-2028) | Source | Future Capacity Additions 2011 IRP (planned for 2014-2026) | Source | Future Capacity Additions 2012 IRP (planned for 2014-2027) | Source | Future Capacity Additions 2013 IRP (planned for 2014-2028) | Source |
| Nuclear | 2,384 | DEC 2011 IRP, Table 8.D, p. 92, Commission Docket No. E-100, Sub 128 (1 September 2011) | 2,311 | DEC 2012 IRP, Table 1.A, p. 16, Commission Docket No. E-100, Sub 137 (4 September 2013) | 2,463 | DEC 2013 IRP, Table 1-A, p. 8, Commission Docket No. E-100, Sub 137 (15 October 2013) | 552 | DEP 2011 IRP, p. 24, Commission Docket No. E-100, Sub 128 (1 September 2011) | 552 | DEP 2012 IRP, p. 25, Commission Docket No. E-100, Sub 137 (4 September 2013) | 125 | DEP 2013 IRP, Table 1-A, p. 8, Commission Docket No. E-100, Sub 137 |
| Natural Gas CC | 1,300 | DEC 2011 IRP, Table 8.D, p. 92, Commission Docket No. E-100, Sub 128 (1 September 2011) | 2,100 | DEC 2012 IRP, Table 1.A, p. 16, Commission Docket No. E-100, Sub 137 (4 September 2013) | 1,523 | DEC 2013 IRP, Table 1-A, p. 8, Commission Docket No. E-100, Sub 137 (15 October 2013) | 1,212 | DEP 2011 IRP, p. 24, Commission Docket No. E-100, Sub 128 (1 September 2011) | 3,119 | DEP 2012 IRP, p. 25, Commission Docket No. E-100, Sub 137 (4 September 2013) | 3,291 | DEP 2013 IRP, Table 1-A, p. 8, Commission Docket No. E-100, Sub 137 (15 October 2013) |
| Natural Gas CT | 2,890 | DEC 2011 IRP, Table 8.D, p. 92, Commission Docket No. E-100, Sub 128 (1 September 2011) | 1,920 | DEC 2012 IRP, Table 1.A, p. 16, Commission Docket No. E-100, Sub 137 (4 September 2013) | 573 | DEC 2013 IRP, Table 1-A, p. 8, Commission Docket No. E-100, Sub 137 (15 October 2013) | 1,182 | DEP 2011 IRP, p. 24, Commission Docket No. E-100, Sub 128 (1 September 2011) | 1,051 | DEP 2012 IRP, p. 25, Commission Docket No. E-100, Sub 137 (4 September 2013) | 529 | DEP 2013 IRP, Table 1-A, p. 8, Commission Docket No. E-100, Sub 137 (15 October 2013) |
| Coal | 0 | DEC 2011 IRP, Table 8.D, p. 92, Commission Docket No. E-100, Sub 128 (1 September 2011) | 0 | DEC 2012 IRP, Table 1.A, p. 16, Commission Docket No. E-100, Sub 137 (4 September 2013) | 0 | DEC 2013 IRP, Table 1-A, p. 8, Commission Docket No. E-100, Sub 137 (15 October 2013) | 0 | DEP 2011 IRP, p. 24, Commission Docket No. E-100, Sub 128 (1 September 2011) | 0 | DEP 2012 IRP, p. 25, Commission Docket No. E-100, Sub 137 (4 September 2013) | 0 | DEP 2013 IRP, Table 1-A, p. 8, Commission Docket No. E-100, Sub 137 (15 October 2013) |
| Renewables (Peak Contribution) | 493 | DEC 2011 IRP, Table 5.E, p. 55, Commission Docket No. E-10, Sub 128 (1 September 2011) | 758 | DEC 2012 IRP, Table 8.A, p. 93, Commission Docket No. E-100, Sub 137 (4 September 2013) | 921 | DEC 2013 IRP, Table 5-A, p. 18, Commission Docket No. E-100, Sub 137 (15 October 2013) | 99 | DEP 2011 IRP, Table 1, p. 26, Commission Docket No. E-100, Sub 128 (1 September 2011) | 210 | DEP 2012 IRP, p. 26, Commission Docket No. E-100, Sub 137 (4 September 2013) | 436 | DEP 2013 IRP, Table 5-A, p. 18, Commission Docket No. E-100, Sub 137 (15 October 2013) |
| DSM- Summer Peak | 986 | DEC 2011 IRP, Table 4.A, p. 34, Commission Docket No. E-100, Sub 128 (1 September 2011) | 1,071 | DEC 2012 IRP, Table 4.A, p. 39, Commission Docket No. E-100, Sub 137 (4 September 2013) | 1,061 | DEC 2013 IRP, p. 90, Commission Docket No. E-100, Sub 137 (15 October 2013) | 389 | DEP 2011 IRP, E-8, p. 79, Commission Docket No. E-100, Sub 128 (1 September 2011) | 336 | DEP 2012 IRP, E-11, p. 98, Commission Docket No. E-100, Sub 137 (4 September 2013) | 484 | DEP 2013 IRP, p. 79, Commission Docket No. E-100, Sub 137 (15 October 2013) |
| EE- Summer Peak | 727 | DEC 2011 IRP, Table 4.A, p. 34, Commission Docket No. E-100, Sub 128 (1 September 2011) | 1,320 | DEC 2012 IRP, Table 4.A, p. 39, Commission Docket No. E-100, Sub 137 (4 September 2013) | 1,477 | DEC 2013 IRP, p. 90, Commission Docket No. E-100, Sub 137 (15 October 2013) | 669 | DEP 2011 IRP, E-8, p. 79, Commission Docket No. E-100, Sub 128 (1 September 2011) | 444 | DEP 2012 IRP, E-11, p. 98, Commission Docket No. E-100, Sub 137 (4 September 2013) | 603 | DEP 2013 IRP, Table C-4 and C-6, pp. 61-63, Commission Docket No. E-100, Sub 137 (15 October 2013) |

| Nameplate (MW) Renewable Capacity by Resource Base Case | | | | |
|--|--|--|--|--|
| | Duke Energy Carolinas | | | Duke Energy Progress |
| Source | <i>DEC 2011 IRP, Table 5.E, p. 55, Commission Docket No. E-100, Sub 128 (1 September 2011)</i> | <i>DEC 2012 IRP, Table 1.A, p. 16, Commission Docket No. E-100, Sub 137 (4 September 2012)</i> | <i>DEC 2013 IRP, p. 18, Commission Docket No. E-100, Sub 137 (15 October 2013)</i> | <i>DEP 2013 IRP, p. 18, Commission Docket No. E-100, Sub 137 (15 October 2013)</i> |
| Year | Solar | Solar | Solar | Solar |
| 2014 | 24 | 135 | 294 | 120 |
| 2015 | 42 | 253 | 519 | 120 |
| 2016 | 45 | 320 | 569 | 120 |
| 2017 | 45 | 352 | 609 | 120 |
| 2018 | 49 | 398 | 730 | 142 |
| 2019 | 51 | 471 | 845 | 156 |
| 2020 | 56 | 495 | 957 | 203 |
| 2021 | 51 | 538 | 1,052 | 248 |
| 2022 | 57 | 649 | 1,142 | 293 |
| 2023 | 72 | 692 | 1,229 | 340 |
| 2024 | 73 | 736 | 1,309 | 385 |
| 2025 | 73 | 840 | 1,424 | 430 |
| 2026 | 81 | 885 | 1,499 | 476 |
| 2027 | 73 | 928 | 1,554 | 524 |
| 2028 | 74 | 946 | 1,689 | 485 |
| 2029 | 82 | 965 | - | - |
| 2030 | 82 | 984 | - | - |
| 2031 | 82 | 1,004 | - | - |
| 2032 | - | 1,004 | - | - |
| Total | 1,112 | 12,595 | 15,421 | 4,162 |

| DEC 2011 IRP Base Case | | | |
|---------------------------|--|-----------|--|
| | DEC 2011 IRP, p. 34, Commission Docket No. E-100, Sub 128 (1 September 2011) | | DEC 2011 IRP, Table 3.E, p. 21, Commission Docket No. E-100, Sub 128 (1 September 2011) |
| | A | (A/B) | B |
| Year | EE Energy | % of Load | System Sales w/o EE (MWh) |
| 2012 | 601,792 | 0.6% | 93,281,000 |
| 2016 | 2,008,940 | 2.0% | 102,481,000 |
| 2020 | 3,937,401 | 3.5% | 111,873,000 |
| 2024 | 4,655,623 | 3.9% | 119,235,000 |
| 2028 | 4,990,171 | 3.9% | 127,025,000 |

| DEC 2012 IRP Base Case | | | |
|---------------------------|--|-----------|---|
| | DEC 2012 IRP, Table 4.A, p. 39, Commission Docket No. E-100, Sub 137 (4 September 2012) | | DEC 2012 IRP, Table 3.E, p. 25, Commission Docket No. E-100, Sub 137 (4 September 2012) |
| | C | (C/D) | D |
| Year | EE Energy | % of Load | System Sales w/o EE (MWh) |
| 2012 | 1,471,184 | 1.6% | 90,572,000 |
| 2016 | 3,047,522 | 3.1% | 99,147,000 |
| 2020 | 4,879,948 | 4.5% | 108,141,000 |
| 2024 | 6,712,374 | 5.8% | 115,894,000 |
| 2028 | 8,544,800 | 6.9% | 124,352,000 |

| DEC 2013 IRP Base Case | | | |
|---------------------------|--|-----------|--|
| | DEC 2013 IRP, p. 90, Commission Docket No. E-100, Sub 137 (15 October 2013) | | DEC 2013 IRP, p. 70, Commission Docket No. E-100, Sub 137 (15 October 2013) |
| | E | (E/F) | F |
| Year | EE Energy | % of Load | System Sales w/o EE |
| 2012 | 1,471,184 | 1.6% | 90,572,000 |
| 2016 | 1,824,144 | 1.9% | 98,023,000 |
| 2020 | 4,260,057 | 4.0% | 106,904,000 |
| 2024 | 6,682,978 | 5.8% | 114,471,000 |
| 2028 | 8,683,743 | 7.1% | 122,243,000 |

| DEC 2011 IRP High Case | | | |
|---------------------------|---|-----------|--|
| | DEC 2011 IRP, Table 4.B, p. 35, Commission Docket No. E-100, Sub 128 (1 September 2011) | | DEC 2011 IRP, Table 3.E, p. 21, Commission Docket No. E-100, Sub 128 (1 September 2011) |
| | G | (G/H) | H |
| Year | EE Energy | % of Load | System Sales w/o EE (MWh) |
| 2012 | 601,792 | 0.6% | 93,281,000 |
| 2016 | 2,809,117 | 2.7% | 102,481,000 |
| 2020 | 5,765,231 | 5.2% | 111,873,000 |
| 2024 | 8,721,341 | 7.3% | 119,235,000 |
| 2028 | 11,677,451 | 9.2% | 127,025,000 |

| DEC 2012 IRP High Case | | | |
|---------------------------|--|-----------|---|
| | DEC 2012 IRP, Table 4.B, p. 40, Commission Docket No. E-100, Sub 137 (4 September 2012) | | DEC 2012 IRP, Table 3.E, p. 25, Commission Docket No. E-100, Sub 137 (4 September 2012) |
| | I | (I/J) | J |
| Year | EE Energy | % of Load | System Sales w/o EE (MWh) |
| 2012 | 1,471,184 | 1.6% | 90,572,000 |
| 2016 | 4,173,219 | 4.2% | 99,147,000 |
| 2020 | 7,572,072 | 7.0% | 108,141,000 |
| 2024 | 11,111,672 | 9.6% | 115,894,000 |
| 2028 | 14,798,419 | 11.9% | 124,352,000 |

| DEC 2013 IRP High Case | | | |
|---------------------------|--|-----------|--|
| | NCSEA DR1, Item No. 1-9, Page 1 of 1, Commission Docket No. E-100, Sub 137 | | NCSEA DR1, Item No. 1-8, Page 1 of 1, Commission Docket No. E-100, Sub 137 |
| | K | (K/L) | L |
| Year | EE Energy | % of Load | System Sales w/o EE |
| 2012 | 1,471,184 | 1.6% | 90,572,000 |
| 2016 | 2,504,114 | 2.6% | 98,023,000 |
| 2020 | 5,848,871 | 5.5% | 106,904,000 |
| 2024 | 9,327,087 | 8.1% | 114,471,000 |
| 2028 | 12,942,843 | 10.6% | 122,243,000 |

NCSEA's DR listed in the tables above is attached at the end of the Workpapers.

DUKE ENERGY CAROLINAS

Request:

Please provide the quantitative data underlying the load impacts of energy efficiency and demand-side management programs, annual energy savings, for the:

- a. Environmental Focus Scenario
- b. Joint Planning Scenario

The data I am looking for is comparable to the table, Base Case Load Impacts of EE and DSM Programs, on page 90 of this filing.

Response:

- a. Please see the attached spreadsheet labeled "NCSEA DR1 - Q9a - DEC.xlsx"



NCSEA DR1 - Q9a -
DEC.xlsx

- b. The Joint Planning Scenario used the energy efficiency and demand-side management information from the Base Case forecast already included in the IRP document and referenced in this Data Request question.

NCSEA

Docket No. E-100, Sub 137

NCSEA Data Request

Duke Energy Carolinas

Question 9a

| Year | Annual Energy Savings, MWh Gross of Free Riders, At Generator Environmental Focus Scenario |
|-------------|---|
| 2013 | 435,988 |
| 2014 | 875,988 |
| 2015 | 1,686,380 |
| 2016 | 2,504,114 |
| 2017 | 3,328,614 |
| 2018 | 4,160,503 |
| 2019 | 5,000,452 |
| 2020 | 5,848,871 |
| 2021 | 6,705,725 |
| 2022 | 7,571,089 |
| 2023 | 8,444,834 |
| 2024 | 9,327,087 |
| 2025 | 10,217,794 |
| 2026 | 11,117,307 |
| 2027 | 12,025,639 |
| 2028 | 12,942,843 |

DUKE ENERGY CAROLINAS

Request:

Please provide the quantitative data underlying the load forecast without energy efficiency programs for the:

- a. Environmental Focus Scenario
- b. Joint Planning Scenario

The data I am looking for is comparable to the data found in Table C-4, Load Forecast without Energy Efficiency Programs, on page 70 of this filing.

Response:

- a. The load forecast without energy efficiency is the same for the Environmental Focus Scenario as it is for the Base Case. The Environmental Focus Scenario differs from the Base Case by utilizing higher renewable energy and EE projections than used in the Base Case.
- b. The Joint Planning Scenario also utilizes the same load forecasts utilized in the Base Scenario. The difference in the Joint Planning Scenarios is that the DEC and DEP load forecasts are additive to represent the load of the entire DEC/DEP region.

| DEP 2011 IRP | | | |
|--------------|---|-----------|---|
| Base Case | | | |
| | DEP 2011 IRP, p. 8, Commission Docket No. E-100, Sub 128 (1 September 2011) | | DEP 2011 IRP, p. 8, Commission Docket No. E-100, Sub 128 (1 September 2011) |
| | A | (A/B) | B |
| Year | EE Energy | % of Load | System Sales w/o EE (MWh) |
| 2011 | 328,927 | 0.5% | 63,708,226 |
| 2016 | 1,107,365 | 1.6% | 68,253,825 |
| 2021 | 1,842,266 | 2.5% | 72,570,646 |
| 2026 | 2,739,957 | 3.6% | 76,607,711 |

| DEP 2012 IRP | | | |
|--------------|---|-----------|---|
| Base Case | | | |
| | DEP 2012 IRP, p. 9, Commission Docket No. E-100, Sub 137 (4 September 2012) | | DEP 2012 IRP, p. 9, Commission Docket No. E-100, Sub 137 (4 September 2012) |
| | C | (C/D) | D |
| Year | EE Energy | % of Load | System Sales w/o EE |
| 2011 | 328,927 | 0.5% | 64,037,153 |
| 2016 | 1,190,332 | 1.7% | 68,710,361 |
| 2021 | 2,134,878 | 2.9% | 73,369,196 |
| 2026 | 3,026,108 | 3.9% | 78,116,005 |

| DEP 2013 IRP | | | |
|--------------|---|-----------|--|
| Base Case | | | |
| | DEP 2013 IRP, p. 79, Commission Docket No. E-100, Sub 137 (15 October 2013) | | DEP 2013 IRP, Table C-4, p. 61, Commission Docket No. E-100, Sub 137 (15 October 2013) |
| | E | (E/F) | F |
| Year | DSM/EE & DSDR | % of Load | System Sales w/o EE |
| 2011 | 328,927 | 0.5% | 64,037,153 |
| 2016 | 990,876 | 1.5% | 68,141,000 |
| 2021 | 2,190,879 | 3.0% | 73,975,000 |
| 2026 | 3,352,066 | 4.2% | 80,252,000 |

| DEP 2012 IRP | | | |
|--------------|---|-----------|---|
| High Case | | | |
| | DEP's 2012 "high" case projections were obtained during 2012 IRP discovery | | DEP 2012 IRP, p. 9, Commission Docket No. E-100, Sub 137 (4 September 2012) |
| | G | (G/H) | H |
| Year | EE Energy | % of Load | System Sales w/o EE |
| 2011 | 328,927 | 0.5% | 64,037,153 |
| 2016 | 2,087,000 | 3.0% | 68,710,361 |
| 2021 | 4,484,000 | 6.1% | 73,369,196 |
| 2026 | 6,533,000 | 8.4% | 78,116,005 |

| DEP 2013 IRP | | | |
|--------------|---|-----------|---|
| High Case | | | |
| | NCSEA DR1, Item No. 1-9, Page 1 of 1, Commission Docket No. E-100, Sub 137 (15 October 2013) | | NCSEA DR1, Item No. 1-8, Page 1 of 1, Commission Docket No. E-100, Sub 137 (15 October 2013) |
| | I | (I/J) | J |
| Year | DSM/EE & DSDR | % of Load | System Sales w/o EE |
| 2011 | 328,927 | 0.5% | 64,037,153 |
| 2016 | 1,662,555 | 2.4% | 68,141,000 |
| 2021 | 4,075,098 | 5.5% | 73,975,000 |
| 2026 | 6,634,530 | 8.3% | 80,252,000 |

NCSEA's DR listed in the tables above is attached at the end of the Workpapers.

DUKE ENERGY PROGRESS

Request:

Please provide the quantitative data underlying the energy efficiency and demand-side management programs annual energy savings for the:

- a. Environmental Focus Scenario
- b. Joint Planning Scenario

The data I am looking for is comparable to the data found in the table, Annual MWh Energy Savings for Post SB-3 DSM/EE (at generator), on page 79 of this filing.

Response:

- a. Please see the attached spreadsheet labeled "NCSEA DR1 - Q9a - DEP.xlsx".



NCSEA DR1 - Q9a -
DEP.xlsx

- b. The Joint Planning Scenario used the energy efficiency and demand-side management information from the Base Case forecast already included in the IRP document and referenced in this Data Request question.

NCSEA

Docket No. E-100, Sub 137

NCSEA Data Request

Duke Energy Progress

Question 9a

| Year | Annual Energy Savings, MWh Gross of Free Riders, At Generator Environmental Focus Scenario |
|------|--|
| 2013 | 210,013 |
| 2014 | 735,013 |
| 2015 | 1,197,124 |
| 2016 | 1,662,555 |
| 2017 | 2,134,042 |
| 2018 | 2,611,362 |
| 2019 | 3,093,790 |
| 2020 | 3,581,539 |
| 2021 | 4,075,098 |
| 2022 | 4,574,712 |
| 2023 | 5,080,491 |
| 2024 | 5,592,504 |
| 2025 | 6,110,621 |
| 2026 | 6,634,530 |
| 2027 | 7,163,749 |
| 2028 | 7,697,756 |

DUKE ENERGY PROGRESS

Request:

Please provide the quantitative data underlying the load forecast without energy efficiency programs for the:

- a. the Environmental Focus Scenario
- b. the Joint Planning Scenario

The data I am looking for is comparable to the data found in Table C-4, Load forecast without Energy Efficiency Programs, on page 61 of this filing.

Response:

- a. The load forecast without energy efficiency is the same for the Environmental Focus Scenario as it is for the Base Case. The Environmental Focus Scenario differs from the Base Case by utilizing higher renewable energy and EE projections than used in the Base Case.
- b. The Joint Planning Scenario also utilizes the same load forecast utilized in the Base Scenario. The difference in the Joint Planning Scenarios is that the DEC and DEP load forecasts are additive to represent the load of the entire DEC/DEP region.

DUKE ENERGY CAROLINAS, LLC
Response to NCSEA Request
NCSEA PEC 3-3

Docket No. E-100, Sub 137

Date of Request: 11/8/2012
Response Dated: 11/28/2012

CONFIDENTIAL:

☐

YES

☒

No

(Provided Pursuant to Confidentiality Agreement)

The attached response was consolidated and prepared under my supervision.

Kendal Bowman
Name

Associate General Counsel
Title

550 South Tryon Street, Charlotte, NC 2802
Business address

Request Number: NCSEA PEC 3-3

Request:

On page A-12, two graphs show PEC's high and low case DSM capacity and energy impacts, but do not list each year's impacts. Please provide numerical, annual estimates of the low- and high-case DSM/EE capacity and energy impacts for PEC's service territory, broken out by North Carolina and South Carolina jurisdictions.

Response:

The base case energy efficiency (EE) savings projection and high case EE sensitivity for the PEC system are provided in the table below. PEC does not have this information broken out by state.

Note that the second chart on page A-12 of the IRP (Energy Efficiency – Annual Energy Reduction) is incorrect. The table below contains the correct data. In addition, a corrected version of page A-12 is included with this response document in file 'NCSEA PEC 3-3 corrected page A-12.pdf'.

| Year | Base Case EE Savings | | High Case EE Savings | |
|------|----------------------|--------|----------------------|--------|
| | Summer | GWh | Summer | GWh |
| | Peak MW | Energy | Peak MW | Energy |
| 2013 | 100 | 626 | 128 | 808 |
| 2014 | 127 | 794 | 187 | 1,178 |
| 2015 | 154 | 975 | 257 | 1,629 |
| 2016 | 182 | 1,167 | 326 | 2,087 |
| 2017 | 206 | 1,320 | 399 | 2,552 |
| 2018 | 227 | 1,494 | 460 | 3,024 |
| 2019 | 251 | 1,688 | 521 | 3,504 |
| 2020 | 278 | 1,895 | 585 | 3,990 |
| 2021 | 306 | 2,108 | 650 | 4,484 |
| 2022 | 334 | 2,315 | 715 | 4,962 |
| 2023 | 361 | 2,515 | 778 | 5,423 |
| 2024 | 386 | 2,707 | 837 | 5,865 |
| 2025 | 409 | 2,860 | 889 | 6,217 |
| 2026 | 428 | 2,997 | 933 | 6,533 |
| 2027 | 444 | 3,117 | 971 | 6,809 |
| 2028 | 459 | 3,218 | 1,004 | 7,042 |
| 2029 | 470 | 3,300 | 1,031 | 7,229 |
| 2030 | 479 | 3,351 | 1,050 | 7,347 |
| 2031 | 483 | 3,375 | 1,060 | 7,400 |

| Duke Energy Carolinas North Carolina REPS Incremental Cost Comparison | | | | | | | | | |
|--|---|---|--|---|--|---------------|---|---------------------------|--|
| | | A | | B | | C | | D=(A+B) | |
| Compliance Year | Billing Period | Total Incremental Costs (Billing Period) | Source | Total Test (EMF) Period Over/Under Recovery | Source | Cost Cap | Source | Total Incremental Cost | Source |
| 2008 | September 1, 2009 - August 31, 2010 | \$1,375,973 | <i>Second Revised McManeas Exhibit No. 3, Page 2 of 3, Commission Docket No. E-7, Sub 872 (24 September 2009)</i> | \$2,824,898 | <i>Second Revised McManeas Exhibit No. 3, Page 1 of 3, Commission Docket No. E-7, Sub 872 (24 September 2009)</i> | \$31,697,079 | <i>Second Revised McManeas Exhibit No. 3, Page 2 of 3, Commission Docket No. E-7, Sub 872 (24 September 2009)</i> | \$4,200,871 | - |
| 2009 | September 1, 2010 - August 31, 2011 | \$6,111,683 | <i>Order Approving REPS and REPS EMF Rider, p. 5, Commission Docket No. E-7, Sub 936 (13 August 2010)</i> | \$3,267,325 | <i>Order Approving REPS and REPS EMF Rider, p. 5, Commission Docket No. E-7, Sub 936 (13 August 2010)</i> | \$30,991,960 | <i>Duke Energy Carolinas, LLC 2009 REPS Compliance Report, Smith Exhibit No. 1, p. 5, Commission Docket No. E-7, Sub 936 (2 March 2010)</i> | \$9,379,008 | - |
| 2010 | September 1, 2011 - August 31, 2012 | \$13,109,241 | <i>Order Approving REPS and REPS EMF Riders and 2010 REPS Compliance, p. 4, Commission Docket No. E-7, Sub 984 (23 August 2011)</i> | \$3,636,122 | <i>Order Approving REPS and REPS EMF Riders and 2010 REPS Compliance, p. 4, Commission Docket No. E-7, Sub 984 (23 August 2011)</i> | \$32,065,620 | <i>Duke Energy Carolinas, LLC 2010 REPS Compliance Report, Felt Exhibit No. 1, p. 4, Commission Docket No. E-7, Sub 984 (11 March 2011)</i> | \$16,745,363 | - |
| 2011 | September 1, 2012- August 31, 2013 | \$13,359,907 | <i>Order Approving REPS and REPS EMF Riders and 2011 REPS Compliance, p. 4, Commission Docket No. E-7, Sub 1008 (16 August 2012)</i> | \$197,365 | <i>Order Approving REPS and REPS EMF Riders and 2011 REPS Compliance, p. 4, Commission Docket No. E-7, Sub 1008 (16 August 2012)</i> | \$46,624,570 | <i>Smith Exhibit No. 3, Page 1 of 2, Commission Docket No. E-7, Sub 1008 (12 March 2012)</i> | \$13,557,272 | - |
| 2012 | September 1, 2013- August 31, 2014 | \$13,547,264 | <i>Order Approving REPS and REPS EMF Riders and 2012 REPS Compliance, p. 5, Commission Docket No. E-7, Sub 1034 (20 August 2013)</i> | -\$5,105,735 | <i>Order Approving REPS and REPS EMF Riders and 2012 REPS Compliance, p. 5, Commission Docket No. E-7, Sub 1034 (20 August 2013)</i> | \$58,237,362 | <i>Williams Exhibit No. 3, Page 2 of 3, Commission Docket No. E-7, Sub 1034 (13 March 2013)</i> | \$8,441,529 | - |
| 2013* | September 1, 2014- August 31, 2015 | - | - | - | - | \$63,600,083 | <i>DEC 2013 IRP, Table 5, p. 145, Commission Docket No. E-100, Sub 137 (15 October 2013)</i> | \$8,278,714 | <i>DEC 2013 IRP, Table 5, p. 145, Commission Docket No. E-100, Sub 137 (15 October 2013)</i> |
| 2014* | September 1, 2015- August 31, 2016 | - | - | - | - | \$64,543,124 | <i>DEC 2013 IRP, Table 5, p. 145, Commission Docket No. E-100, Sub 137 (15 October 2013)</i> | \$12,129,777 | <i>DEC 2013 IRP, Table 5, p. 145, Commission Docket No. E-100, Sub 137 (15 October 2013)</i> |
| 2015* | September 1, 2016- August 31, 2017 | - | - | - | - | \$106,425,364 | <i>DEC 2013 IRP, Table 5, p. 145, Commission Docket No. E-100, Sub 137 (15 October 2013)</i> | \$14,582,132 | <i>DEC 2013 IRP, Table 5, p. 145, Commission Docket No. E-100, Sub 137 (15 October 2013)</i> |

* Utilities projected cost in REPS Compliance Plans

| Duke Energy Progress | | | | | | | | | |
|---|---|--|---|---|---|---------------|---|--------------------------------------|--|
| North Carolina REPS Incremental Cost Comparison | | | | | | | | | |
| Compliance Year | Billing Period | E Total Incremental Costs (Billing Period) | Source | F Total Test (EMF) Period Over/Under Recovery | Source | G Cost Cap | Source | H=(E+F) Total Incremental Cost | Source |
| 2008 | December 1, 2009- November 30, 2010 | \$13,913,741 | Order Approving REPS and REPS EMF Riders, p. 3, Commission Docket No. E-2, Sub 948 (12 November 2009) | \$1,655,711 | Order Approving REPS and REPS EMF Riders, p. 3, Commission Docket No. E-2, Sub 948 (12 November 2009) | \$20,402,501 | Fonvielle Exhibit 1, Commission Docket No. E-2, Sub 948 (18 May 2009) | \$15,569,452 | - |
| 2009 | December 1, 2010- November 30, 2011 | \$14,484,441 | Order Approving REPS and REPS EMF Riders, p. 4, Commission Docket No. E-2, Sub 974 (17 November 2010) | -\$196,457 | Order Approving REPS and REPS EMF Riders, p. 4, Commission Docket No. E-2, Sub 974 (17 November 2010) | \$20,992,940 | Ellis Revised Exhibit No 3., Page 2, Commission Docket No. E-2, Sub 974 (20 August 2010) | \$14,287,984 | - |
| 2010 | December 1, 2011- November 30, 2012 | \$22,237,600 | Order Approving REPS and REPS EMF Riders and 2010 REPS Compliance, p. 4, Commission Docket No. E-2, Sub 1000 (10 November 2011) | \$434,948 | Order Approving REPS and REPS EMF Riders and 2010 REPS Compliance, p. 4, Commission Docket No. E-2, Sub 1000 (10 November 2011) | \$41,143,111 | Foster Exhibit No. 3, Page 2, Commission Docket No. E-2, Sub 1000 (3 June 2011) | \$22,672,548 | - |
| 2011 | December 1, 2012- November 30, 2013 | \$18,746,453 | Order Approving REPS and REPS EMF Riders and 2011 REPS Compliance, p. 4, Commission Docket No. E-2, Sub 1020 (16 November 2012) | \$2,519,486 | Order Approving REPS and REPS EMF Riders and 2011 REPS Compliance, p. 4, Commission Docket No. E-2, Sub 1020 (16 November 2012) | \$41,887,788 | Ellis Exhibit No. 3, Page 1, Commission Docket No. E-2, Sub 1020 (4 June 2012) | \$21,265,939 | - |
| 2012 | December 1, 2013- November 30, 2014 | \$21,558,084 | Order Approving REPS and REPS EMF Riders and 2012 REPS Compliance, p. 4, Commission Docket No. E-2, Sub 1032 (25 November 2013) | -\$986,645 | Revised Williams Exhibit No. 1, Commission Docket No. E-2, Sub 1032 (29 August 2013) | \$42,703,052 | Byrd Exhibit No. 1, Commission Docket No. E-2, Sub 1032 (12 June 2013) | \$20,571,439 | - |
| 2013* | December 1, 2014- November 30, 2015 | - | - | - | - | \$42,520,860 | DEP 2013 IRP, Table 5, p. 149, Commission Docket No. E-100, Sub 137 (15 October 2013) | \$20,324,166 | DEP 2013 IRP, Table 5, p. 149, Commission Docket No. E-100, Sub 137 (15 October 2013) |
| 2014* | December 1, 2015- November 30, 2016 | - | - | - | - | \$42,825,158 | DEP 2013 IRP, Table 5, p. 149, Commission Docket No. E-100, Sub 137 (15 October 2013) | \$24,016,763 | DEP 2013 IRP, Table 5, p. 149, Commission Docket No. E-100, Sub 137 (15 October 2013) |
| 2015* | December 1, 2016- November 30, 2017 | - | - | - | - | \$68,889,101 | DEP 2013 IRP, Table 5, p. 149, Commission Docket No. E-100, Sub 137 (15 October 2013) | \$21,797,340 | DEP 2013 IRP, Table 5, p. 149, Commission Docket No. E-100, Sub 137 (15 October 2013) |

* Utilities projected cost in REPS Compliance Plans

| Dominion North Carolina Power | | | | | | | | | |
|---|-----------------------------------|--|---|---|---|-------------|--|------------------------|--|
| North Carolina REPS Incremental Cost Comparison | | | | | | | | | |
| | | I | | J | | K | | L=I+J | |
| Compliance Year | Billing Period | Total Incremental Costs (Billing Period) | Source | Total Test (EMF) Period Over/Under Recovery | Source | Cost Cap | Source | Total Incremental Cost | Source |
| 2012 | January 1, 2014-December 31, 2014 | \$879,731 | Order Approving REPS and REPS EMF Riders and 2012 REPS Compliance, p. 4, Commission Docket No. E-22, Sub 503 (18 December 2013) | \$797,661 | Order Approving REPS and REPS EMF Riders and 2012 REPS Compliance, p. 4, Commission Docket No. E-22, Sub 503 (18 December 2013) | \$3,848,626 | Direct Testimony and Exhibits of Muchhala, Courts, Givens and Rice, p. 5, Commission Docket No. E-22, Sub 503 (29 August 2013) | \$1,677,392 | - |
| 2013* | - | - | - | - | - | \$3,868,370 | DNCP 2013 IRP, Figure 1.8.1, p. 15, Commission Docket No. E-100, Sub 137 (30 August 2013) | \$546,115 | DNCP 2013 IRP, Figure 1.8.1, p. 15, Commission Docket No. E-100, Sub 137(30 August 2013) |
| 2014* | - | - | - | - | - | \$4,112,426 | DNCP 2013 IRP, Figure 1.8.1, p. 15, Commission Docket No. E-100, Sub 137 (30 August 2013) | \$1,443,347 | DNCP 2013 IRP, Figure 1.8.1, p. 15, Commission Docket No. E-100, Sub 137(30 August 2013) |
| 2015* | - | - | - | - | - | \$6,547,470 | DNCP 2013 IRP, Figure 1.8.1, p. 15, Commission Docket No. E-100, Sub 137 (30 August 2013) | \$1,467,387 | DNCP 2013 IRP, Figure 1.8.1, p. 15, Commission Docket No. E-100, Sub 137(30 August 2013) |

* Utilities projected cost in REPS Compliance Plans

| NCEMPA | | | | |
|---|------------------|--|--------------|--|
| North Carolina REPS Incremental Cost Comparison | | | | |
| | M | | N | |
| Compliance Year | Incremental Cost | Source | Cost Cap | Source |
| 2008 | \$0 | NCEMPA's Revised 2008 REPS Compliance Report, p. 4, Commission Docket No. E-100, Sub 131 (31 August 2011) | \$4,445,770 | NCEMPA's Revised 2008 REPS Compliance Report, p. 4, Commission Docket No. E-100, Sub 131 (31 August 2011) |
| 2009 | \$0 | NCEMPA's Revised 2009 REPS Compliance Report, p. 4, Commission Docket No. E-100, Sub 131 (31 August 2011) | \$4,462,770 | NCEMPA's Revised 2009 REPS Compliance Report, p. 5, Commission Docket No. E-100, Sub 131 (31 August 2011) |
| 2010 | \$493,185 | NCEMPA's 2010 REPS Compliance Report (Redacted), p. 5, Commission Docket No. E-100, Sub 131 (31 August 2011) | \$4,483,690 | NCEMPA's 2010 REPS Compliance Report (Redacted), p. 6, Commission Docket No. E-100, Sub 131 (31 August 2011) |
| 2011 | \$460,090 | NCEMPA's 2011 REPS Compliance Report - Public Version, p. 6, Commission Docket No. E-100, Sub 135 (30 August 2012) | \$4,486,330 | NCEMPA's 2011 REPS Compliance Report - Public Version, p. 6, Commission Docket No. E-100, Sub 135 (30 August 2012) |
| 2012 | \$951,890 | NCEMPA's REPS Compliance Report for 2012, p. 6, Commission Docket No. E-100, Sub 139 (26 August 2013) | \$8,958,140 | NCEMPA's REPS Compliance Report for 2012, p. 7, Commission Docket No. E-100, Sub 139 (26 August 2013) |
| 2013* | \$1,500,000 | NCEMPA's REPS Compliance Plan for 2013 to 2015, p. 15, Commission Docket No. E-100, Sub 139 (26 August 2013) | \$9,000,000 | NCEMPA's REPS Compliance Plan for 2013 to 2015, p. 15, Commission Docket No. E-100, Sub 139 (26 August 2013) |
| 2014* | \$1,900,000 | NCEMPA's REPS Compliance Plan for 2013 to 2015, p. 15, Commission Docket No. E-100, Sub 139 (26 August 2013) | \$9,100,000 | NCEMPA's REPS Compliance Plan for 2013 to 2015, p. 15, Commission Docket No. E-100, Sub 139 (26 August 2013) |
| 2015* | \$2,400,000 | NCEMPA's REPS Compliance Plan for 2013 to 2015, p. 15, Commission Docket No. E-100, Sub 139 (26 August 2013) | \$14,300,000 | NCEMPA's REPS Compliance Plan for 2013 to 2015, p. 15, Commission Docket No. E-100, Sub 139 (26 August 2013) |

* Utilities projected cost in REPS Compliance Plans

| NCMPA1 | | | | |
|---|------------------|---|-------------|---|
| North Carolina REPS Incremental Cost Comparison | | | | |
| | O | | P | |
| Compliance Year | Incremental Cost | Source | Cost Cap | Source |
| 2008 | \$230,613 | NCMPA Number 1's 2008 REPS Compliance Report, p. 5, Docket No. E- 100, Sub 125 (31 August 2009) | \$2,974,660 | Order on 2008 REPS Compliance Report, p. 4, Commission Docket No. E-43, Sub 6 (3 May 2011) |
| 2009 | \$466,006 | North Carolina Eastern Municipal Power Agency 1's 2009 Compliance Report, p. 4, Commission Docket No. E-100, Sub 129 (1 September 2010) | \$2,920,550 | North Carolina Eastern Municipal Power Agency 1's 2009 Compliance Report, p. 5, Commission Docket No. E-100, Sub 129 (1 September 2010) |
| 2010 | \$1,156,489 | NCMPA1's 2010 REPS Compliance Report, p. 4, Commission Docket No. E-100, Sub 131 (31 August 2011) | \$2,915,050 | NCMPA1's 2010 REPS Compliance Report, p. 5, Commission Docket No. E-100, Sub 131 (31 August 2011) |
| 2011 | \$2,239,244 | NCMPA1's 2011 REPS Compliance Report - Public Version, p. 5, Commission Docket No. E-100, Sub 135 (30 August 2012) | \$2,916,040 | NCMPA1's 2011 REPS Compliance Report - Public Version, p. 6, Commission Docket No. E-100, Sub 135 (30 August 2012) |
| 2012 | \$1,073,918 | NCMPA1's REPS Compliance Report for 2012, p. 6, Commission Docket No. E-100, Sub 139 (26 August 2013) | \$6,117,760 | NCMPA1's REPS Compliance Report for 2012, p. 7, Commission Docket No. E-100, Sub 139 (26 August 2013) |
| 2013* | \$1,700,000 | NCMPA1's REPS Compliance Plan for 2013 Through 2015, p. 19, Commission Docket No. E-100, Sub 139 (26 August 2013) | \$6,200,000 | NCMPA1's REPS Compliance Plan for 2013 Through 2015, p. 19, Commission Docket No. E-100, Sub 139 (26 August 2013) |
| 2014* | \$1,600,000 | NCMPA1's REPS Compliance Plan for 2013 Through 2015, p. 19, Commission Docket No. E-100, Sub 139 (26 August 2013) | \$6,200,000 | NCMPA1's REPS Compliance Plan for 2013 Through 2015, p. 19, Commission Docket No. E-100, Sub 139 (26 August 2013) |
| 2015* | \$1,600,000 | NCMPA1's REPS Compliance Plan for 2013 Through 2015, p. 19, Commission Docket No. E-100, Sub 139 (26 August 2013) | \$9,200,000 | NCMPA1's REPS Compliance Plan for 2013 Through 2015, p. 19, Commission Docket No. E-100, Sub 139 (26 August 2013) |

* Utilities projected cost in REPS Compliance Plans

| Greenco Solutions | | | | |
|---|------------------|---|--------------|--|
| North Carolina REPS Incremental Cost Comparison | | | | |
| | Q | | R | |
| Compliance Year | Incremental Cost | Source | Cost Cap | Source |
| 2008 | \$1,424,751 | Order Approving 2008 REPS Compliance Report, p. 4, Commission Docket No. EC-83, Sub 1 (3 May 2011) | \$10,273,260 | Order Approving 2008 REPS Compliance Report, p. 3, Commission Docket No. EC-83, Sub 1 (3 May 2011) |
| 2009 | \$2,814,955 | GreenCo Solutions 2009 Compliance Report/ 2010 Compliance Plan (Public Version), p. 7, Commission Docket No. E-100, Sub 128 (1 September 2010) | \$9,253,620 | GreenCo Solutions 2009 Compliance Report/ 2010 Compliance Plan (Public Version), p. 6, Commission Docket No. E-100, Sub 128 (1 September 2010) |
| 2010 | Withheld | GreenCo Solutions, Inc.'s (Public Version) 2011 Compliance Plan and 2010 Compliance Report, p. 9, Commission Docket No. E-100, Sub 131 (19 September 2011) | \$9,127,820 | GreenCo Solutions, Inc.'s (Public Version) 2011 Compliance Plan and 2010 Compliance Report, p. 13, Commission Docket No. E-100, Sub 131 (19 September 2011) |
| 2011 | \$2,735,731 | GreenCo Solutions, Inc.'s 2011 REPS Compliance Report - Public Version, p. 5, Commission Docket No. E-100, Sub 135 (4 September 2012) | \$9,242,930 | GreenCo Solutions, Inc.'s 2011 REPS Compliance Report - Public Version, p. 5, Commission Docket No. E-100, Sub 135 (4 September 2012) |
| 2012 | \$3,971,769 | GreenCo Solution, Inc.'s (Public) 2012 REPS Compliance Plan, p. 11, Commission Docket No. E-100, Sub 137 (4 September 2012) | \$15,889,310 | GreenCo Solution, Inc.'s (Public) 2012 REPS Compliance Plan, p. 12, Commission Docket No. E-100, Sub 137 (4 September 2012) |
| 2013* | \$3,357,237 | GreenCo Solutions, Inc. 2013 REPS Compliance Plan, p. 19, Commission Docket No. E-100, Sub 139 (3 September 2013) | \$16,079,856 | GreenCo Solutions, Inc. 2013 REPS Compliance Plan, p. 19, Commission Docket No. E-100, Sub 139 (3 September 2013) |
| 2014* | \$8,407,255 | GreenCo Solutions, Inc. 2013 REPS Compliance Plan, p. 19, Commission Docket No. E-100, Sub 139 (3 September 2013) | \$16,296,948 | GreenCo Solutions, Inc. 2013 REPS Compliance Plan, p. 19, Commission Docket No. E-100, Sub 139 (3 September 2013) |
| 2015* | \$10,378,257 | GreenCo Solutions, Inc. 2013 REPS Compliance Plan, p. 19, Commission Docket No. E-100, Sub 139 (3 September 2013) | \$31,864,860 | GreenCo Solutions, Inc. 2013 REPS Compliance Plan, p. 19, Commission Docket No. E-100, Sub 139 (3 September 2013) |

* Utilities projected cost in REPS Compliance Plans

| Total Cost of the North Carolina REPS | | |
|---------------------------------------|------------------------|----------------|
| Compliance Year | Total Incremental Cost | Total Cost Cap |
| | (D+H+L+M+O+Q) | (C+G+K+N+P+R) |
| 2008 | \$21,425,687 | \$69,793,270 |
| 2009 | \$26,947,953 | \$68,621,840 |
| 2010 | \$21,067,585 | \$89,735,291 |
| 2011 | \$40,258,276 | \$105,157,658 |
| 2012 | \$36,687,937 | \$135,754,250 |
| 2013* | \$35,706,232 | \$141,269,169 |
| 2014* | \$49,497,142 | \$143,077,656 |
| 2015* | \$52,225,116 | \$237,226,795 |

* Utilities projected cost in REPS Compliance Plans

EXHIBIT B

DUKE ENERGY CAROLINAS AND DUKE ENERGY PROGRESS

Request:

Please provide a copy of any assessment or analysis of the current level of net metering connections and future forecasts of such connections used in the preparation of the DEC and/or DEP 2013 IRPs.

Response:

Attached is the forecast of net metering connections utilized in the DEC and DEP 2013 IRPs.



NEM Forecast_SACE
DR 1-16.xlsx

Implicit Assumptions and Commentary

| | |
|------------------------|--|
| Tax Credits | Fed ITC remains at 30% until scheduled decline to 10% in 2017. NC ETC remains at 35% through 2015. No other tax credits assumed |
| 3rd Party Sales | Implemented by 2015 |
| NC | 2013-2014 % growth in level of new installations at PEC are initially slower than 2010-2012 period due to reduction in Residential SunSense incentive and termination of Commercial SunSense program. Implementation of 3rd party sales in 2015 has substantial positive impact on level of installations, far greater than the negative impacts due to expiration of NC ETC and the reduction of the FED ITC from 30% to 10%. |
| SC | Level of new installations through 2014 fairly similar to recent history, especially at PEC. Implementation of 3rd party sales in 2015 has substantial positive impact on level of installations, far greater than the negative impact due to the reduction of the FED ITC from 30% to 10%. |

EXHIBIT C

Five Universal Truths about Energy Consumers

What research across 12 countries says about what customers expect from their utility companies



Introduction

What do utility customers care about most? Does it vary from one country or one continent to another?

These are among the most common questions we get from utilities around the world. And for good reason—when we talk to utilities about the power of customer engagement, they want to know if what we've done at 90 utilities in six countries will also work for their customers, in their country and in their language.

To answer these questions and to understand how to deliver effective engagement tools to customers around the world, Opower sponsored a global research study to understand what's on the mind of the utility customers, and to assess how customer needs and wants vary from one region to the next.

This paper presents the paramount finding of this multi-year study—namely, that there is striking similarity in the desires and expectations of utility customers across the globe. This underlying similarity can be distilled into a set of insights that we've termed the "Five Universal Truths"—five things that we've found to be almost universally true for utility customers, irrespective of geography, culture, regulatory environment, or usage profile.

As utility executives navigate a changing industry environment and strategically evaluate how to best engage their customers in the coming years, the Five Universal Truths offers a valuable tool to help guide their thinking. Beyond this white paper, readers can learn more at www.fiveuniversaltruths.com and through our related webinars and data-driven blog posts.

We surveyed energy customers worldwide...



FIGURE 1: GLOBAL RESEARCH

Opower's customer insight team conducted quantitative and qualitative research around the world to explore utility customer expectations.

Methodology

Our findings are based on quantitative and qualitative research around the world. We used a comparative framework for the quantitative research to uncover similarities and differences across markets. Using online panel surveys in 12 countries, we covered a range of topics relating to energy service expectations, satisfaction levels, and attitudes. The margin of error in each country is +/-2%. We used qualitative research to dive deeply into each local market and contextualise the quantitative findings through customer interviews and focus groups in eight countries. Respondents in both quantitative and qualitative studies were representative of national populations in terms of age, income, education, and location.

The Five Universal Truths that span the globe

- 1 Utilities are not meeting customer expectations.**
There is a large gap between expectations and what's delivered.
- 2 Everyone wants lower bills.**
Customers are looking for ways to save.
- 3 People look to their utilities first for energy information.**
While customers don't like their utilities, they look to them for guidance on how to save.
- 4 Customers value personalised energy insights.**
Customers want advice via their choice of channel.
- 5 Everyone wants to know how they measure up.**
Customers everywhere have a strong gut reaction to hearing how they compare to others.

FIGURE 2: THE FIVE UNIVERSAL TRUTHS

Notwithstanding important regional differences, the Five Universal Truths about utility customers hold across the globe—the fundamentals are the same everywhere.

PERFORMANCE GAP

We asked utility customers two types of questions: how important is a given customer service to you, and is your utility performing well in this area? The difference between these two measures can be defined as the “utility performance gap”.

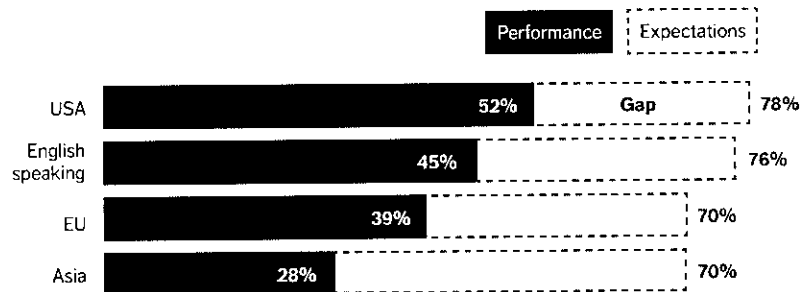
Truth 1: Utilities are not meeting customer expectations

All around the world we heard one thing loud and clear: customers expect more from their utilities. The typical customer experience is largely transaction-oriented: a customer signs up for service, pays bills, deals with outages, and eventually terminates service. Such an experience can be neutral at best, and frustrating at worst.

Our research has found that there is a pervasive gap between customer expectations and utility performance, regardless of geography, culture, regulation, energy prices, and other factors. In Asia, where the utility customer relationship is weakest, only 28% of customers feel that their utilities are performing well. In the United States, where customers are most satisfied, only half of customers believe their utilities are performing well. Although utility customers in America are more satisfied than those elsewhere, American utilities are still in the lower quartile for customer satisfaction among consumer industries in the United States.

Figure 3 shows that while the size of the performance gap varies by region, there are unmet customer expectations around the world.

Customer expectations vs. utility performance on services



English speaking refers to the United Kingdom, Australia, New Zealand, and Canada

FIGURE 3: UTILITIES ARE FALLING SHORT

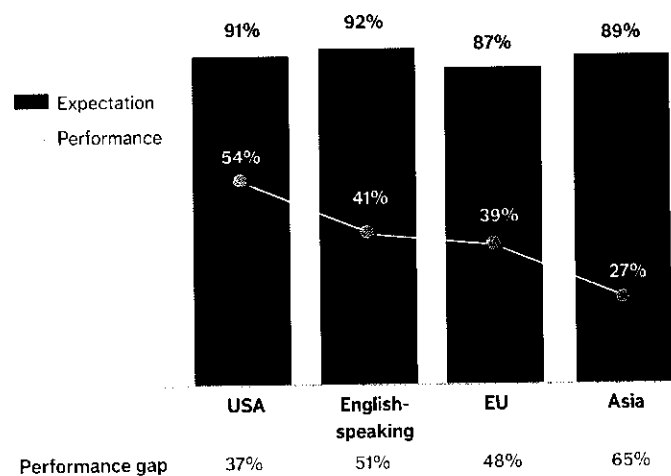
Customers expect more from their utilities. When it comes to cost, personalised information, and outreach—utilities fall short of customer demands.

Truth 2: Everyone wants lower bills

The desire for lower energy bills is universal, irrespective of the prevailing cost of electricity, average bill spend, culture, and income level. In the UK, for example, energy bills have become the biggest financial concern for consumers, according to the Nielsen Global Survey of Consumer Confidence¹.

The performance gap on cost is higher than that on any other service category. Around the world, around 90% of customers view the cost of energy as a top-priority issue, but only 20% to 50% of customers are satisfied with what their utilities are charging².

Customer expectations vs. utility performance on cost



English speaking refers to the United Kingdom, Australia, New Zealand, and Canada

FIGURE 4: COST IS A KEY AREA OF DISSATISFACTION

The utility performance gap is high across regions, and higher than that for any other utility service category.

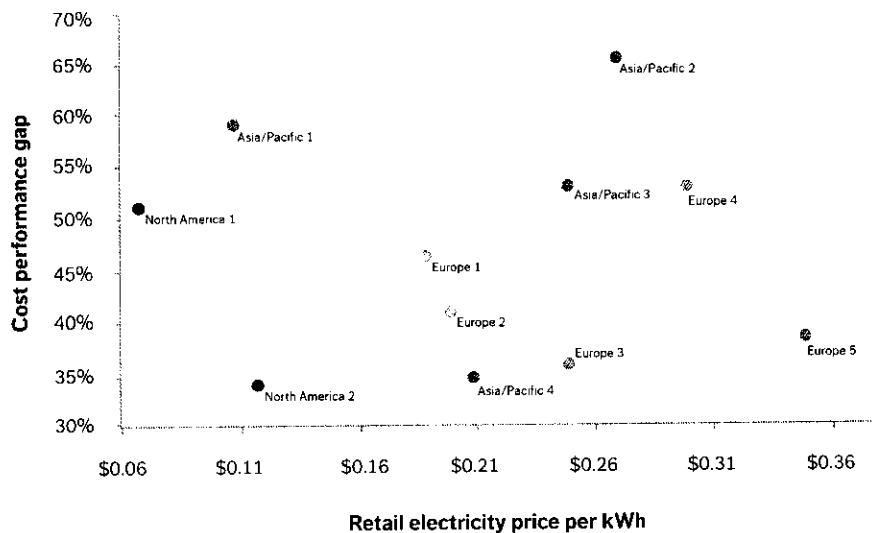
1. uSwitch, 2013, <http://www.uswitch.com/gas-electricity/news/2013/05/14/energy-bills-become-consumers-biggest-concern/>

2. We used a composite metric to account for multiple aspects of what customers pay, including price, value, and rates

Our analysis shows no clear relationship between cost and customer perception of cost.

However, our research uncovered a surprising fact: actual energy costs are not predictive of customer satisfaction with those costs. This is a counter-intuitive finding: one would expect that customers in countries facing high retail electricity costs would be more dissatisfied with cost than customers in countries with low costs. But in fact, our analysis shows no clear relationship between cost and customer perception of cost. We see that even in countries exhibiting quite low electricity costs (by international standards), customers are prone to voice high levels of dissatisfaction regarding cost.

The relationship between cost and satisfaction with cost is weak



Source: CIA World Factbook; EIA; Opower

FIGURE 5: COST OF ENERGY VS. SATISFACTION WITH COST

While one would assume that high energy costs would equate to high dissatisfaction with costs, there is no clear relationship.

The weak relationship between cost and satisfaction with cost is surprising, and leads to an interesting corollary: factors other than actual pounds and pence strongly influence customers' perception of cost. What it really comes down to is, whether customers feel they are getting good value from their utility and trust its intentions; if so, then they are more likely to be satisfied with the prices they pay.

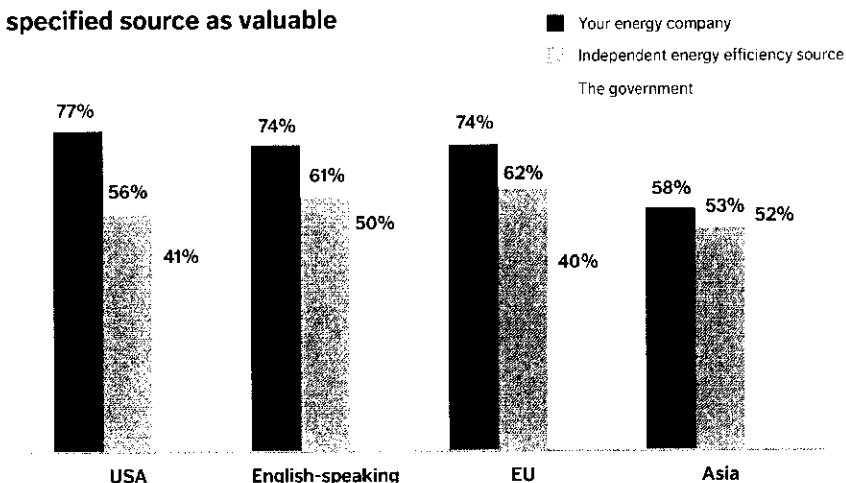
What are these non-cost factors that influence perception of cost? We found that the quality of personalised information provided by one's utility, the utility's outreach via convenient communication channels, and the perceived relationship with the utility all strongly impact customers' perception of cost.

Truth 3: People look to utilities for energy information

Yet another counter-intuitive truth: despite low customer satisfaction with utility services, customers trust their utility—more than any other source—to provide energy information.

In our survey, we asked customers to choose whom they would look to for information on how to manage their use: a government body, an independent energy efficiency source, or their utility. Customers overwhelmingly chose their utility as their preferred source of energy information.

Percentage selecting information from the specified source as valuable



English speaking refers to the United Kingdom, Australia, New Zealand, and Canada

FIGURE 6: CUSTOMERS ARE LOOKING TO UTILITIES FOR ENERGY INFO

While customers may not be satisfied with their utilities, they look to them—as opposed to government entities and third parties—for advice on how to manage their energy use.

This phenomenon was also uncovered by Pike Research in a recent study wherein they asked customers who they were inclined to purchase energy management services from (e.g. in-home displays, home energy management systems, etc.) The results mirrored our own: customers overwhelmingly chose their utilities³.

In some ways this finding is not as surprising as it may initially seem—while you may not love your cable provider, when looking for a lower plan or a breakdown of charges, the cable company's website is likely the first stop. Similarly, your utility is the natural choice for advice on how to save money on your next energy bill.

3. Pike Research, Home Energy Management, 2012

Companies consumers would consider for energy management service

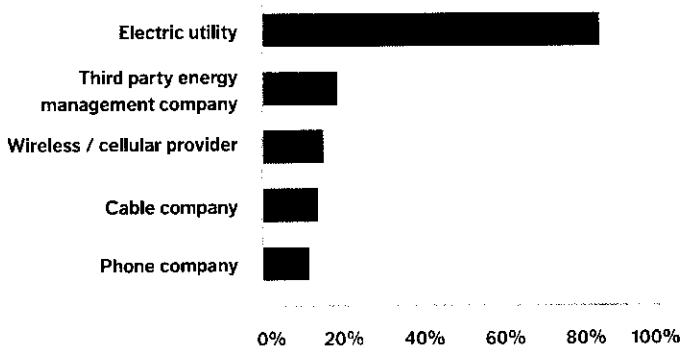


FIGURE 7: CUSTOMERS ARE LOOKING TO UTILITIES FOR ENERGY MANAGEMENT

Pike Research confirms that when it comes to home energy management, utilities are the natural choice for consumers.

Truth 4: Customers value personalised energy insights

Utilities, especially those with smart meters, manage large amounts of data on customers' energy consumption. Their first impulse is often to play this data back to customers via a web portal. But we wanted to dig a bit more deeply into exactly what customers were looking for.

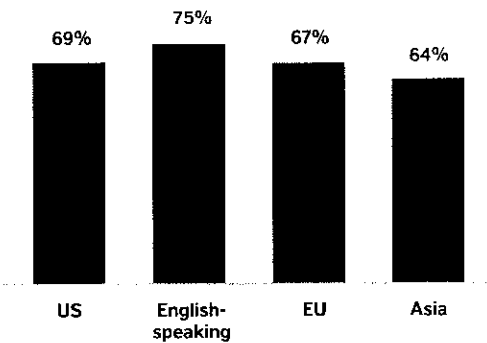
We asked customers to evaluate a number of types of information about energy use. Consistently, they rated personalised, insight-based options as highly valuable, and much more valuable than any other type of information. This reveals that customers want their utilities to do the hard work of analysing the data to give them simple, targeted and actionable takeaways.

However, there is an interesting twist to this truth: while the majority of customers around the world want more personalised information, typically fewer than 5% of them take the initiative to look for that information on a utility's web site or mobile application. In other words, customers want personalised information, but only if there are low or no barriers to access it.

CUSTOMERS WANT

- » Progress updates on how much energy they saved compared to the last billing period
- » Explanation of how their energy use compares to that of utility customers
- » Advice on how to save energy as the weater changes
- » Personalised recommendations from the utility on how to reduce home energy use

Percentage selecting personalised information as a valuable service



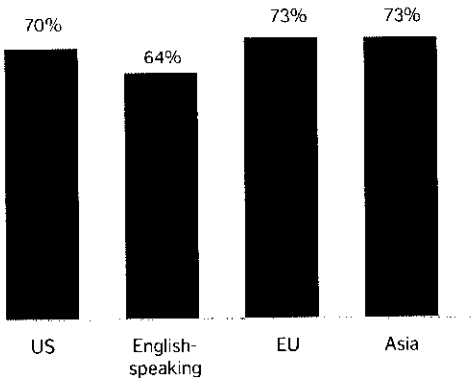
English speaking refers to the United Kingdom, Australia, New Zealand, and Canada

FIGURE 8: CUSTOMERS HAVE COME TO EXPECT MEANINGFUL INFORMATION

People in all countries are looking for personalised energy insights such as progress updates and personalised recommendations.

Service providers in other industries have encountered the phenomenon of the demanding but lazy customer. In response, companies as diverse as retail banks and mobile phone providers have developed robust, multi-channel communication strategies that span postal mail, email, SMS alerts, mobile applications, call centers, physical locations, and of course online tools. Giving customers the information they want, via the channel of their choice, has become the norm in many consumer industries. However, very few utilities offer this level of outreach or customer choice.

Percentage of customers that requested communications through three or more channels



English speaking refers to the United Kingdom, Australia, New Zealand, and Canada

Percentage of customers that would like outreach via the following channels

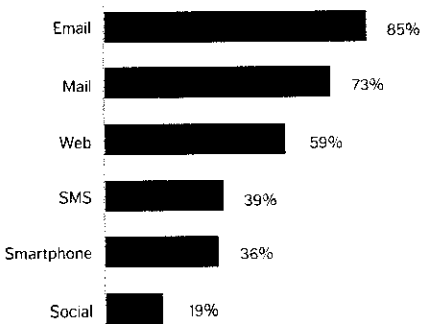
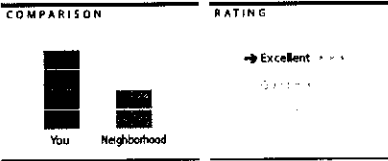


FIGURE 9: CUSTOMERS EXPECT INFORMATION VIA MULTIPLE CHANNELS

Customers around the world want options in how they interact with utilities. Email, mail and web are the most important channels.

OTHER APPLICATIONS OF
NORMATIVE COMPARISONS

Other industries and social interest groups have begun to harness the power of normative comparisons—this year, electoral campaign strategists in the United States compared voters' turnout record to that of their neighbours in order to motivate more people to vote.



Specific to the utility industry, Opower's research shows that the majority of customers around the world would like to have access to information via at least three channel options.

While all customers want options, the actual channels preferred vary substantially by country. In most cases, email is at the top of the list, followed by mail and then web. We should note, however, that mobile is on the rise and can be expected to become a dominant channel in the coming years.

Truth 5: Everyone wants to know how they measure up

While many utilities are interested in building stronger relationships with their customers, it's hard. Energy isn't always the most gripping of topics. But in our research, we've found that people around the world have strong and consistent reactions to learning how their energy use compares to that of others. This is a breakthrough for utilities that have historically found capturing customers' attention borderline impossible.

A landmark behavioural science experiment conducted by Professor Robert Cialdini in 2003 found that the most effective technique for getting people to save energy is telling them how they compare to others. Contrary to the conventional wisdom at the time, this so-called "normative messaging" was much more effective than financial savings messages or messages about helping the environment⁴.

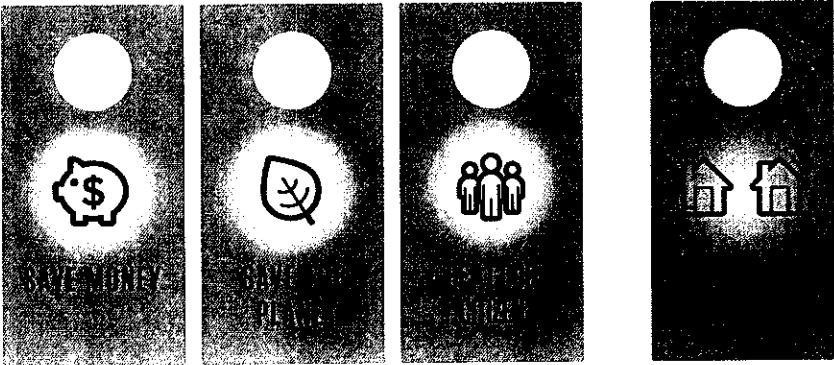


FIGURE 10: THE POWER OF BEHAVIOURAL SCIENCE

Cialdini and his colleagues uncovered the power of social norms in motivating consumers to save energy.

4. Robert Cialdini. Understanding and motivating energy conservation via social norms. 2004. Hewlett Foundation

In running one of the largest continuing behavioural field experiments in the world (involving more than 20 million homes across three continents), Opower has confirmed the power of normative comparisons in shaping consumer behaviour. When we omit neighbour comparisons from our communications, energy savings fall considerably.

"The first thing that jumped into my eyes was the chart. It said that I consumed more electricity than average, so I thought I have to reduce the use of electricity."
- Japanese customer



"I believe it's very beneficial to the customer, as this will give you a gauge on how much power is being used compared to your neighbour."
- NZ customer

"It says that around 100 nearby homes use a heater and shows the average energy bill. I can see that my energy bill is much higher than the average, so I can say 'Oh! Seems like I am using a lot more than the average home.'"
- Chinese customer



FIGURE 11: EVERYONE RESPONDS TO HEARING HOW THEY COMPARE TO OTHERS

When you tell people how their behaviour compares to that of others, it captures everyone's attention—a phenomenon that is deeply rooted in human nature.

Local flavour

While the Five Truths are universal, regional nuance matters. How so? Take a tangible example. All people are wired to crave the fat, salt, and sugar in McDonald's food—it's a basic survival instinct. But McDonald's takes what is universally resonant and adapts this winning combination to local food cultures, coming up with the McBaguette in France and the McFeast in South Africa.

In the energy context, while almost everyone wants personalised energy tools from their utilities, cultural nuances must be factored in. Things as small as different smiley face icons to reward customers for saving, and as large as different communication channels, are key to successfully bridging the utility performance gap in different geographies. For example, in Japan there is a long history of public service announcements with clear slogans and calls to action—for utility customer engagement efforts to work well there, customer communications will need to adopt a relevant localised framework.

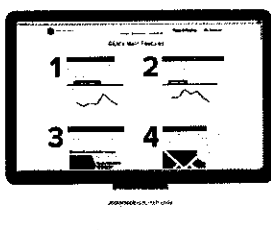
A short word from Opower

Around the world, there is a large gap between what customers expect and what utilities are delivering. As utilities seek to build more valuable customer relationships, they will benefit from understanding these gaps and narrowing them—through delivering a higher level of customer service and deploying innovative programmes to help customers manage their bills. Leading utilities around the world are partnering with Opower to deploy comprehensive customer engagement solutions and have been making huge strides.

For more information, please visit www.fiveuniversaltruths.com or contact us at fivetruths@opower.com

UTILITY SPOTLIGHT

Innovative utilities around the world are already closing the performance gap in order to build a more loyal and profitable customer base.



Mercury Energy in New Zealand offers the Good Energy Monitor (GEM), a set of tools that puts customers in control by providing a clear picture of how much energy they're using and what it's costing. As Mercury explains: "You wouldn't buy petrol without knowing what your bill would be. Why should your power be any different?"



In October 2013, E.ON UK launched their cutting-edge Saving Energy Toolkit to all residential customers so customers can see how their energy use stacks up and learn how to reduce their bills.

For more information, please visit
www.fiveuniversaltruths.com
or email us at: fivetruths@opower.com

EXHIBIT D

**DUKE ENERGY CAROLINAS, LLC
CUSTOMER INFORMATION DISCLOSURE AUTHORIZATION**

Customer Consent for Duke Energy Carolinas, LLC to Release Customer Information

Pursuant to its Code of Conduct, approved by the North Carolina Utilities Commission, and adopted by the Public Service Commission of South Carolina, Duke Energy Carolinas, LLC shall not disclose, to any person or company, customer information without the customer's consent, and then only to the extent allowed by the customer.

The following authorizes Duke Energy Carolinas, LLC to disclose customer information as directed by the customer below.

I authorize Duke Energy Carolinas, LLC to release the data residing in its files, systems, or databases as submitted below:

____ (Number) Months history as of this date _____

Check all that apply:

____ Usage History

____ Billing History

____ Other - Please explain: _____

Duke Energy Carolinas, LLC is authorized to transmit the prescribed data to:

Please print:

Third Party Entity's Name: _____

Address: _____

Contact name: _____

Phone number: _____

I understand that Duke Energy Carolinas will provide this information to the named third party only once. I agree to release Duke Energy from all legal liability from the disclosure of my data.

Please print:

Account number: _____

Account name: _____

Duke Energy Carolinas Service Address: _____

Note: The Account name and Customer Signature must both match the customer of record for the account.

Customer Signature: _____

Date: _____

Please ensure that the account number, service address (city and state) and account name are clearly shown on the form. All of these items are on the customer's monthly bill.

Please submit all consent forms to the fax or email listed below:

Fax Number: 1-800-640-5991

Email: customer billing histories@duke-energy.com

**DUKE ENERGY PROGRESS, INC.
CUSTOMER INFORMATION DISCLOSURE AUTHORIZATION**

Customer Consent for Duke Energy Progress, Inc. to Release Customer Information

Pursuant to its Code of Conduct, approved by the North Carolina Utilities Commission, and adopted by the Public Service Commission of South Carolina, Duke Energy Progress, Inc. shall not disclose, to any person or company, customer information without the customer's consent, and then only to the extent allowed by the customer.

The following authorizes Duke Energy Progress, Inc. to disclose customer information as directed by the customer below.

I authorize Duke Energy Progress, Inc. to release the data residing in its files, systems, or databases as submitted below:

____ (Number) Months history as of this date _____

Check all that apply:

____ Usage History

____ Billing History

____ Other - Please explain: _____

Duke Energy Progress, Inc. is authorized to transmit the prescribed data to:

Please print:

Third Party Entity's Name: _____

Address: _____

Contact name: _____

Phone number: _____

I understand that Duke Energy Progress, Inc. will provide this information to the named third party only once. I agree to release Duke Energy Progress, Inc. from all legal liability from the disclosure of my data.

Please print:

Account number: _____

Account name: _____

Service Address: _____

Note: The Account name and Customer Signature must both match the customer of record for the account.

Customer Signature: _____

Date: _____

Please ensure that the account number, service address (city and state) and account name are clearly shown on the form. All of these items are on the customer's monthly bill.

Please submit all consent forms to the fax listed below:

Fax Number: 1-800-419-5473

DUKE ENERGY CAROLINAS

Request:

Please provide the latest version of Duke Energy Carolinas "Customer Information Disclosure Authorization" form.

Response:

Duke Energy Carolinas objects to this data request on the grounds that it seeks information that is not relevant and not likely to lead to the discovery of admissible evidence in this IRP proceeding. Notwithstanding this objection, and in the spirit of cooperation, please see the attached document, "Energy Data Request Form.docx."



Energy Data
Request Form.docx

Thank you for submitting your Energy Data Request Form. In order for us to proceed with your request, a Customer Data Release Form (provided below) must be signed by the customer of record for each account for which data has been requested.

All Customer Data Release forms must be collected by the requester and forwarded to Duke Energy at 9700 David Taylor Drive, Charlotte, NC 28262 Attn: Customer Data Release DT02V or they may be scanned and emailed to Billhistory@duke-energy.com. Whether sending by mail or email all forms must be sent at the same time to ensure an accurate billing statement.

Upon receipt of all forms, a billing invoice(s) will be issued to the requester. There will be a \$48 flat fee plus a variable fee of \$0.20 per customer. Charges do not apply for customer data requested from Duke Energy Ohio, Inc., Duke Energy Kentucky, Inc. or Duke Energy Florida, Inc. Separate invoices will be issued for data requested from each of the following Duke Energy operating companies: Duke Energy Indiana, Inc.; Duke Energy Carolinas, LLC (in its North Carolina and South Carolina service territories); Duke Energy Progress, Inc. (in its North Carolina and South Carolina service territories).

For Ohio, Kentucky and Florida, the requested data will be provided within 30 days of receipt of all Customer Consent forms. For all other states, the requested data will be provided within 30 days of receipt of payment in full.

DUKE ENERGY CUSTOMER DATA RELEASE FORM

Unless required by law, Duke Energy's regulated utilities are unable to disclose customer information to any person or company without the customer's consent and then only to the extent specified by the customer.

I authorize Duke Energy to release my energy data beginning September 2012 and ending February 2014 to Zeffert & Associates. The following data elements will be included:

- | | |
|--|-----------------------|
| · Customer Name | · Service Address |
| · Customer Type (Ex. Residential or Non-Residential) | · Bill Month and Year |
| · Rate Schedule | · KWH Usage & Charges |
| · KW Usage & Charges (Non-Residential only) | · Gas Usage & Charges |
| · Billing Account number | · Reading Date |

I understand that Duke Energy will provide this information to the named third party only once. I agree to release Duke Energy from all legal liability from the disclosure of my data. Specifically, I hereby release Duke Energy from, and waive and agree not to sue Duke Energy for, any losses, liabilities, claims, damages, costs or expenses which I may have under any theory of law including, but not limited to, negligence, gross negligence, contract, and/or intentional tort, arising out of or in any way connected to the disclosure of my data. MY SIGNATURE BELOW INDICATES THAT I HAVE READ AND VOLUNTARILY SIGNED THIS RELEASE AND WAIVER OF LIABILITY.

Please print:

Account number: _____

Account name: _____

Duke Energy Service Address: _____

Note: The Account name and Customer Signature must both match the customer of record for the account.

Customer Signature: _____ Date: _____

Please ensure that the account number, service address (city and state) and account name are clearly shown on the form. All of these items are on the customer's monthly bill.

DUKE ENERGY CAROLINAS

Request:

How does a customer get access to the "Customer Information Disclosure Authorization" form?

Response:

Duke Energy Carolinas objects to this data request as it seeks information that is not relevant and not likely to lead to the discovery of admissible evidence in this IRP proceeding. Notwithstanding this objection, and in the spirit of cooperation, DEC answers that access is obtained through interaction with DEC customer service representative.

DUKE ENERGY CAROLINAS

Request:

Is the "Customer Information Disclosure Authorization" available electronically online? If so, where?

Response:

Duke Energy Carolinas objects to this data request as it seeks information that is not relevant and not likely to lead to the discovery of admissible evidence in this IRP proceeding. Notwithstanding this objection, and in the spirit of cooperation, DEC answers that no, this form is not accessible online.

DUKE ENERGY CAROLINAS

Request:

Can a customer complete and submit the "Customer Information Disclosure Authorization" form online, for instance, with an electronic signature? If so, please explain.

Response:

Duke Energy Carolinas objects to this data request as it seeks information that is not relevant and not likely to lead to the discovery of admissible evidence in this IRP proceeding. Notwithstanding this objection, and in the spirit of cooperation, DEC answers that: No. As provided in Response to Item 1-3, the form can either be mailed or scanned and emailed.

DUKE ENERGY PROGRESS

Request:

Please provide the latest version of Duke Energy Progress "Customer Information Disclosure Authorization" form.

Response:

Duke Energy Progress objects to this data request as it seeks information that is not relevant or likely to lead to the discovery of admissible evidence in this IRP proceeding. Notwithstanding this objection, and in the spirit of compromise, please see the attached document, "Energy Data Request Form.docx"



Energy Data
Request Form.docx

Thank you for submitting your Energy Data Request Form. In order for us to proceed with your request, a Customer Data Release Form (provided below) must be signed by the customer of record for each account for which data has been requested.

All Customer Data Release forms must be collected by the requester and forwarded to Duke Energy at 9700 David Taylor Drive, Charlotte, NC 28262 Attn: Customer Data Release DT02V or they may be scanned and emailed to Billhistory@duke-energy.com. Whether sending by mail or email all forms must be sent at the same time to ensure an accurate billing statement.

Upon receipt of all forms, a billing invoice(s) will be issued to the requester. There will be a \$48 flat fee plus a variable fee of \$0.20 per customer. Charges do not apply for customer data requested from Duke Energy Ohio, Inc., Duke Energy Kentucky, Inc. or Duke Energy Florida, Inc. Separate invoices will be issued for data requested from each of the following Duke Energy operating companies: Duke Energy Indiana, Inc.; Duke Energy Carolinas, LLC (in its North Carolina and South Carolina service territories); Duke Energy Progress, Inc. (in its North Carolina and South Carolina service territories).

For Ohio, Kentucky and Florida, the requested data will be provided within 30 days of receipt of all Customer Consent forms. For all other states, the requested data will be provided within 30 days of receipt of payment in full.

DUKE ENERGY CUSTOMER DATA RELEASE FORM

Unless required by law, Duke Energy's regulated utilities are unable to disclose customer information to any person or company without the customer's consent and then only to the extent specified by the customer.

I authorize Duke Energy to release my energy data beginning September 2012 and ending February 2014 to Zeffert & Associates. The following data elements will be included:

- Customer Name
- Customer Type (Ex. Residential or Non-Residential)
- Rate Schedule
- KW Usage & Charges (Non-Residential only)
- Billing Account number
- Service Address
- Bill Month and Year
- KWH Usage & Charges
- Gas Usage & Charges
- Reading Date

I understand that Duke Energy will provide this information to the named third party only once. I agree to release Duke Energy from all legal liability from the disclosure of my data. Specifically, I hereby release Duke Energy from, and waive and agree not to sue Duke Energy for, any losses, liabilities, claims, damages, costs or expenses which I may have under any theory of law including, but not limited to, negligence, gross negligence, contract, and/or intentional tort, arising out of or in any way connected to the disclosure of my data. MY SIGNATURE BELOW INDICATES THAT I HAVE READ AND VOLUNTARILY SIGNED THIS RELEASE AND WAIVER OF LIABILITY.

Please print:

Account number: _____

Account name: _____

Duke Energy Service Address: _____

Note: The Account name and Customer Signature must both match the customer of record for the account.

Customer Signature: _____ Date: _____

Please ensure that the account number, service address (city and state) and account name are clearly shown on the form. All of these items are on the customer's monthly bill.

DUKE ENERGY PROGRESS

Request:

How does a customer get access to the "Customer Information Disclosure Authorization" form?

Response:

Duke Energy Progress objects to this data request as it seeks information that is not relevant and not likely to lead to the discovery of admissible evidence in this IRP proceeding. Notwithstanding this objection, and in the spirit of cooperation, DEC answers that: Access is obtained through interaction with a DEP customer service representative.

DUKE ENERGY PROGRESS

Request:

Is the "Customer Information Disclosure Authorization" available electronically online? If so, where?

Response:

Duke Energy Progress objects to this data request as it seeks information that is not relevant and not likely to lead to the discovery of admissible evidence in this IRP proceeding. Notwithstanding this objection, and in the spirit of cooperation, DEP answers that: No, this form is not accessible online.

DUKE ENERGY PROGRESS

Request:

Can a customer complete and submit the "Customer Information Disclosure Authorization" form online, for instance, with an electronic signature? If so, please explain.

Response:

Duke Energy Progress objects to this data request as it seeks information that is not relevant and not likely to lead to the discovery of admissible evidence in this IRP proceeding. Notwithstanding this objection, and in the spirit of cooperation, DEP answers that: No. As shown in response to Item 1-3 of this data response, response can either be mailed or it can be scanned and emailed.

Dominion North Carolina Power
2013 IRP Update – Docket No. E-100, Sub 137
North Carolina Sustainable Energy Association
Data Request No. 1

The following response to Question No. 3 of the North Carolina Sustainable Energy Association Data Request No. 1, dated January 8, 2014 has been prepared under my supervision.



Tanya J. Ross
Director Customer Billing, Payment &
Credit Services

Question No. 3:

Please provide the latest version of Dominion North Carolina Power's "Written Consent to Release Confidential Customer Usage-Related Information to a Third Party and/or Authorize a Third Party to take Certain Account Actions"/"Voluntary Authorization to Release Customer Information" form.

Response:

Written documentation concerning a customer's account is not released by Dominion North Carolina Power to a third party unless the Company has received written consent from the customer allowing the Company to release the requested information.

The Company recently developed a standardized "Written Consent to Release Confidential Customer Usage-Related Information to a Third Party and/or Authorize a Third Party to take Certain Account Actions"/"Voluntary Authorization to Release Customer Information" form that was finalized in September 2013. See Attachment NCSEA Set 1-3 for a copy of the form. Pending training of the Customer Care and Energy Management teams, this form will be used to provide written consent to release Confidential Customer Usage-Related Information to a Third Party and/ or Authorize a Third Party to take Certain Account Actions. The Company expects to complete training and incorporate this new form into its current process for obtaining written consent from a customer who does not have an active letter of authorization on file by the end of the second quarter of 2014. Upon expiration of the active letter, the new form would be required.

Date

Customer Name
Customer Address Line 1
Customer Address Line 2

Re: Written Consent to Release Confidential Customer Usage-Related Information to a Third Party and/or Authorize a Third Party to take Certain Account Actions

Dear [Customer name]:

Dominion Virginia Power (Dominion) is committed to safeguarding the security and privacy of your account-related information, including billing records, billing history and electricity usage data (collectively, "Usage-Related Information").

We are sending you this letter because Dominion has received a request:

1. from you to provide your Usage-Related Information to a third party,
2. from you to authorize a third party to take certain actions concerning your Dominion account(s), or
3. from a third party claiming to act on your behalf, requesting your Usage-Related Information or the right to take certain actions concerning your Dominion account(s).

Dominion will safeguard your confidential Usage-Related Information unless you provide advance written consent expressly authorizing Dominion to release your Usage-Related Information to third parties. Therefore, if you would like to provide Dominion with your consent to release your Usage-Related Information to a third party, please complete **Section A** of the enclosed Voluntary Authorization to Release Customer Information.

If you also would like to authorize the same third party to take certain actions concerning your account service(s), please complete **Section B** of the form. Only limited actions can be authorized using this form. To authorize a third party to take other actions, you will need to provide a power of attorney. Please refer to Section B for more information on the actions you may authorize on this form.

Complete **Section C** to indicate the duration of your consent.

After completing the applicable sections of the form, please review and sign **Section D**, initial the form on each page where indicated, and mail to the address below.

[insert address].

The form must be completed in its entirety and signed and initialed by the Account Holder or by someone with legal authority to bind the Account Holder.

If you do not wish to provide Dominion with your advance written consent to release Usage-Related Information or to authorize a third party to take actions on your account, no further action is required on your part.

You can view your electric usage securely online by visiting www.dom.com/mya and logging on to Manage Your Account.

Should you have additional questions, please contact **[insert contact information]**.

Sincerely,

Dominion Virginia Power
[Department]
[Contact Information]

Enclosure

VOLUNTARY AUTHORIZATION TO RELEASE CUSTOMER INFORMATION

- A. **RELEASE OF INFORMATION.** To provide your consent for Dominion Virginia Power ("Dominion") to release your customer Usage-Related Information (as defined below) to a third party, please complete this section.

This Authorization provides my consent to Dominion to release the following information to the Authorized Party: All billing records, billing history, and usage-related data (collectively, "Usage-Related Information") collected by the meter installed at my residence or place of business during the time my account is active, to the extent such data is available in Dominion's billing system.

Voluntary Authorization to Release Customer Usage-Related Information to a Third Party

I hereby provide my express written consent and authorization for Dominion to release my utility customer account Usage-Related Information for the account(s) listed below to:

Authorized Party: _____

Address: _____

Telephone Number: _____

Fax Number: _____

Email Address: _____

Dominion Account Number(s) Included in this Authorization:

Account Number: _____ Name on Account: _____

Account Number: _____ Name on Account: _____

Account Number: _____ Name on Account: _____

- B. **AUTHORIZATION TO TAKE ACTIONS ON ACCOUNT.** If you also want to authorize the same Authorized Party to take certain actions concerning your account(s) listed in Section A, please complete and initial Section B below:

_____ I hereby authorize the **Authorized Party** to take the following actions concerning my account(s): *(check all that apply)*:

(Account Holder initials)

☐ Request rate analysis/rate comparison

☐ Request rate changes

Please note: To authorize a third party to take other actions, including execution of contracts for service, opening/closing accounts, and/or terminating electric service on your behalf, you will need to provide a valid Power of Attorney.

C. EXPIRATION/TERMINATION OF AUTHORIZATION. Please complete this section to specify how long you want your authorization in Section A (and B, if applicable) to remain in effect:

This Authorization is Valid Until:

*(Account Holder must initial one of the following)**

_____ **One Year** – Requests from the Authorized Party for Usage-Related Information and/or for the actions specified above will be accepted and processed each time requested within the 12-month period from the date of execution of this Authorization.

_____ **Three Years** – Requests from the Authorized Party for Usage-Related Information and/or for the actions specified above will be accepted and processed each time requested within the 36-month period from the date of execution of this Authorization.

_____ **Date Specific** – Requests for Usage-Related Information and/or for the actions specified above will be accepted and processed each time requested from the date of execution of this Authorization until _____.

**Please note: This authorization will NOT terminate automatically if the specified Dominion account(s) close(s) before the end of the authorization period. You may revoke this Authorization by providing written notice to Dominion at the address in Section D.*

D. ACKNOWLEDGEMENT AND SIGNATURE

I hereby affirm that I have the authority to make and sign this Authorization as account holder of record for the Dominion account(s) listed above, or that I am a corporate officer or management employee fully and duly authorized to make and sign this Authorization on behalf of the Dominion business account listed above. I understand that Dominion reserves the right to verify any authorization request submitted before releasing information or taking any action on my behalf.

I understand that by providing my written consent, I am authorizing Dominion to release the requested information on the account(s) listed above to the Authorized Party listed above, and that Dominion will not be responsible or liable in any way for the third parties' use and security of my Usage-Related Information or actions taken on my behalf with regard to the account(s) pursuant to this Authorization. I further understand that it is my responsibility to ensure that the third parties will safeguard my Usage-Related Information on receiving such information from Dominion. I hereby release, hold harmless, and indemnify Dominion from any liability, claims, demands, causes of action, damages, or expenses resulting from: 1) any release of information pursuant to this Authorization; 2) the unauthorized use of this information by the Authorized Party; and 3) any actions taken by the Authorized Party pursuant to

Page 2.

Initials of Person Providing Consent: _____

Date: _____

this Authorization. I understand I have the right to revoke this Authorization at any time by providing further written notice to Dominion at the following address:

As evidenced by my initials at the bottom of each page of this Authorization, I hereby acknowledge that I have read and understand the contents of this Authorization, and that I am voluntarily signing this Authorization.

Signature

Address (Line 1) (Service Address)

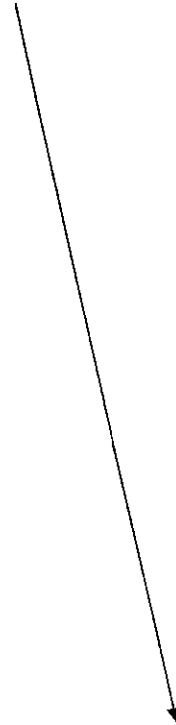
Title

Address (Line 2) (Service Address)

Print Name

Date

HAVE YOU INITIALED AND DATED EACH PAGE OF THIS FORM?



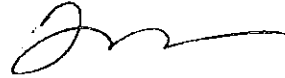
Page 3.

Initials of Person Providing Consent: _____

Date: _____

Dominion North Carolina Power
2013 IRP Update – Docket No. E-100, Sub 137
North Carolina Sustainable Energy Association
Data Request No. 1

The following response to Question No. 4 of the North Carolina Sustainable Energy Association Data Request No. 1, dated January 8, 2014 has been prepared under my supervision.



Tanya J. Ross
Director Customer Billing, Payment &
Credit Services

Question No. 4:

How does a customer get access to the Power's "Written Consent to Release Confidential Customer Usage-Related Information to a Third Party and/or Authorize a Third Party to take Certain Account Actions"/"Voluntary Authorization to Release Customer Information" form?

Response:

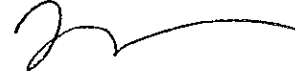
Customers contacting the Company by telephone are instructed that, prior to Dominion North Carolina releasing their usage information to a third party, the Company must receive a mailed written letter of authorization. The letter of authorization must contain the following in order to be accepted as written consent:

- Identifies the authorized third party
- Letter signed
- Letter identifies purpose (what the third party can do)
- Letter contains an expiration date.

See the Company's response to Question No. 3 of this Set, including Attachment NCSEA Set 1-3. Once training is completed and the new standardized form is incorporated into the current process, customers will be able to request the "Written Consent to Release Confidential Customer Usage-Related Information to a Third Party and/or Authorize a Third Party to take Certain Account Actions" form when they contact the Company by telephone.

Dominion North Carolina Power
2013 IRP Update – Docket No. E-100, Sub 137
North Carolina Sustainable Energy Association
Data Request No. 1

The following response to Question No. 5 of the North Carolina Sustainable Energy Association Data Request No. 1, dated January 8, 2014 has been prepared under my supervision.



Tanya J. Ross
Director Customer Billing, Payment &
Credit Services

Question No. 5:

Is the Power's "Written Consent to Release Confidential Customer Usage-Related Information to a Third Party and/or Authorize a Third Party to take Certain Account Actions"/"Voluntary Authorization to Release Customer Information" available electronically online? If so, where?

Response:

No. The Company does not have a standardized form authorizing release of confidential customer usage-related information to a third party available electronically online.

Dominion North Carolina Power
2013 IRP Update – Docket No. E-100, Sub 137
North Carolina Sustainable Energy Association
Data Request No. 1

The following response to Question No. 6 of the North Carolina Sustainable Energy Association Data Request No. 1, dated January 8, 2014 has been prepared under my supervision.



Tanya J. Ross
Director Customer Billing, Payment &
Credit Services

Question No. 6:

Can a customer complete and submit the Power's "Written Consent to Release Confidential Customer Usage-Related Information to a Third Party and/or Authorize a Third Party to take Certain Account Actions"/"Voluntary Authorization to Release Customer Information" form online, for instance, with an electronic signature? If so, please explain.

Response:

No. The customer can not complete and submit a written consent to release confidential customer usage-related information to a third-party on line.