

THE INITIAL COMMENTS¹ OF THE NEXTGRID COALITION REGARDING UTILITY OF THE FUTURE STUDY – FINAL DRAFT REPORT

The NextGrid Coalition² commends the Illinois Commerce Commission (“ICC” or “Commission”) for advancing the NextGrid initiative and the facilitators at the University of Illinois at Urbana-Champaign (the “Facilitators”) for compiling the Utility of the Future Study – Draft Final Report that was provided to stakeholders on December 14, 2018 (the “Draft Report”). The NextGrid process has offered an opportunity for a wide variety of parties to begin to engage in discussions regarding a multitude of important regulatory, technological, and market issues that will have substantial, long-term impacts upon the Illinois energy markets. This has been an important next step in the process of further restructuring the Illinois energy markets, but as the Draft Report itself makes clear, much work is yet to be done: “In virtually every topic area, further studies and investigations need to be undertaken before Illinois is ready to embark on a specific course of action. Indeed, for each issue there is a need for careful and detailed planning of a systematic effort to perform the associated work after the necessary steps are taken to gather the needed knowledge and Illinois-centric information ahead of the selection of a specific approach.” (Draft Report at 210.)

The NextGrid Coalition and its members have worked to monitor and/or participate in nearly every step of the NextGrid process from the outset, and look forward to the opportunity to work with the Commission, Staff, and other stakeholders as the conversations related the on-going restructuring process continues to unfold.

I.

The Draft Report Should Be Revised To Reflect The Benefits Of Customer Choice And The Impact Of Existing Government-Imposed Charges

One of the great bipartisan success stories in Illinois is the Electric Customer Choice and Rate Relief Law of 1997. As was discussed throughout the Working Group process, this legislation transformed the Illinois electricity markets, and delivered unparalleled value to Illinois consumers. Unfortunately, the Draft Report does not reflect the impact of that legislation. The Draft Report also failed to include information provided by one of the larger energy users in the state, which underscored the impact of government-imposed charges. The Draft Report should be revised to include these references.

¹ These comments are preliminary and necessarily incomplete, given that the comments of other parties on topics included within the Draft Report have not been provided prior to the submission of these Initial Comments. The fact that the NextGrid Coalition did not redline the entire Draft Report or comment upon a particular portion of the Draft Report should not be taken as agreement regarding the underlying statements, and the NextGrid Coalition explicitly reserves the right to provide additional or different comments in the future.

² The NextGrid Coalition includes large energy users, competitive suppliers and other industry stakeholders who have monitored and/or participated in the NextGrid process and who, among other things, look for opportunities to advance competitive market solutions and empower customers to achieve societal benefits. These Comments do not necessarily reflect the position of any or each of the NextGrid Coalition members.

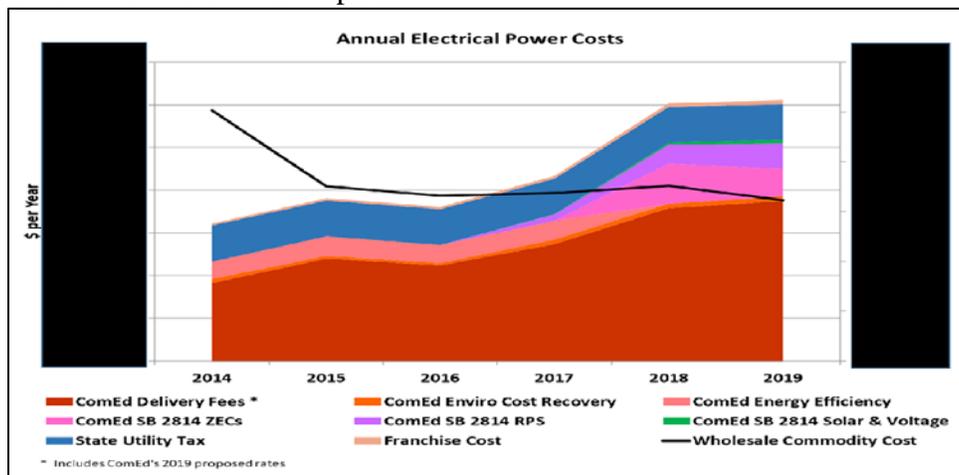
A. The Savings Analysis of Former ICC Chairman Dr. Phil O’Connor Should Be Added

The point was made in several of the Working Group discussions that Illinois has benefited greatly from competitive markets; residential, commercial, and industrial consumers in Illinois have saved tens of billions of dollars as a result of customer choice, citing the work of the late Dr. Phil O’Connor.³ Given this success, stakeholders suggested that Illinois should continue to look to the competitive market to deliver value to Illinois consumers.⁴

B. The Chart Regarding The Impact Of Government-imposed Charges Should Be Added

The Draft Report correctly recognizes that “The electricity grid is paid for by customers and exists for their benefit; consequently, policy and market design should be driven by a focus on customer benefits.” (Draft Report at 21.) Accordingly, some customers appropriately were invited to participate in the NextGrid process and present at Working Group meetings. One of the customers who presented is a larger energy user in the ComEd service territory; founded in the northern suburbs of Chicago as a small family-owned business, it now employs over 350 workers in Illinois. That customer explained that, although customer choice has resulted in significantly lower electricity commodity costs, government-imposed charges (including increases in delivery service charges, zero emissions charges, and charges related to the renewable portfolio standard, among others) have negated much of the savings that otherwise would have flowed through to Illinois consumers.

As reflected in Appendix B hereto, the following chart, which was presented in Working Group 4, should be included in the Final Report:



³ See *Electricity & Natural Gas Customer Choice in Illinois – A Model for Effective Public Policy Solutions*, Illinois Chamber of Commerce, Illinois Manufacturers’ Association, Illinois Retail Merchants Association and Illinois Business Roundtable (Feb. 2014), http://media.mlive.com/business_impact/other/Illinois%20Energy%20Reform%20Feb%202014%20final.pdf; see also Philip R. O’Connor, *Restructuring Recharged: The Superior Performance of Competitive Electricity Markets*, Retail Energy Supply Association (Apr. 2017), https://www.resausa.org/sites/default/files/RESA_Restructuring_Recharged_White%20Paper_0.pdf.

⁴ See Appendix A attached hereto.

II.

The Draft Report Should Be Modified To Ensure That The Final Report Is Placed In Appropriate Context

The NextGrid Coalition appreciates the attempt of the Facilitators to advance a multitude of important issues that could have substantial impacts on the Illinois energy markets, however, the Final Report must be placed in the appropriate context. The Draft Report should be revised to note that no analysis has been performed to evaluate baseline information concerning existing technology deployment and implementation of prior legislation, and that the NextGrid process was simply a preliminary step in the consideration of “Utility of the Future” policies. Furthermore, while the Draft Report appropriately recognizes many of the limitations associated with the NextGrid Study, the Draft Report should be revised to address additional limitations concerning stakeholder participation, ICC Staff participation, and Facilitator recommendations.

A. No Analysis Was Performed Regarding The Steps Illinois Already Has Taken To Implement “Utility of the Future” Policies

As the Draft Report correctly highlights, Illinois has long been a pioneer in electricity service and regulation. (*See* Draft Report at 2.) Most recently, Illinois has taken several significant steps to implement smart grid technology and encourage carbon-free generation. (*See* Draft Report at 170, 193.) However, as was repeatedly noted in the Working Group process by several stakeholders, there was never a presentation regarding “baseline information” from the utilities or the competitive market participants. For example, there was no discussion regarding the progress from the two most recent legislative initiatives that resulted in significant cost increases to consumers: The Energy Infrastructure Modernization Act (EIMA, PA 97-0616, enacted in 2011), and the HR-1146 Study largely informed the Future Energy Jobs Act (FEJA, PA 99-0906, enacted in 2017). Accordingly, the Draft Report should be modified to acknowledge that the NextGrid process did not afford an opportunity to discuss baseline information about existing utility and non-utility technologies that already have been deployed as a result of previously implemented, statutorily required grid upgrade and advanced metering investment programs, as well as historic upgrades and investments made by non-utility competitive market participants.

In 2011, the Illinois General Assembly passed the Energy Infrastructure Modernization Act (“EIMA”) with the intention of upgrading Illinois infrastructure and integrating smart grid technology. (*See* Draft Report at 3.) Further, in 2016, the Illinois General Assembly passed the Future Energy Jobs Act (“FEJA”) which further called for increased utility investment to the grid and subsidies to two Exelon nuclear facilities. (*Id.*)

The 2011 EIMA legislation significantly expanded smart grid investment, with recovery of these investment costs to be borne by Illinois electric customers through annual formula rate adjustments. (*See* Draft Report at 3.) As of the end of 2018, ComEd had fully deployed its Advanced Metering Infrastructure (“AMI”) and Ameren Illinois is scheduled for full deployment by the end of 2019. Therefore, by the end of 2019, Illinois will have more than six million smart meters deployed, at a cost to ratepayers of more than \$3 billion. (*See id.*) However, there has not been any “gap analysis” of that expenditure. Stakeholders suggested that it would be appropriate

to evaluate whether “best utility practices” were followed, and have the utilities explain why the \$3 billion investment was insufficient.

Similarly, the 2016 FEJA legislation increased Illinois electric customers’ investment in energy efficiency and required the Illinois Power Agency (“IPA”) to develop and implement a Zero Emission Standard Procurement Plan and a Long-Term Renewable Resources Plan, to subsidize nuclear, solar and wind power. (See Draft Report at 3.) The cost to ratepayers associated with FEJA will be in excess of \$10 billion. Stakeholders suggested that it would be appropriate to similarly evaluate the way in which FEJA has been implemented (e.g. evaluate details such as the interconnection process, the utilities’ role in overseeing energy efficiency and the utilities’ market based rate authority), and have the utilities explain why this \$10 billion investment was insufficient.

The NextGrid Coalition would welcome the opportunity to work with other stakeholders to compile and evaluate such baseline information, jointly perform a “gap analysis,” and then discuss the ways in which potential revisions to the markets could help bridge those gaps. The NextGrid Coalition has provided proposed changes to the Draft Report in Exhibit E.

B. The Report Should Recognize That NextGrid Was An Important, But Limited, Step In Considering “Utility of the Future” Policies

The NextGrid process was an important next step down the path toward considering further restructuring of the Illinois electricity markets. Stakeholders came together to discuss, review, and share their perspectives on the many changes facing today’s energy industry and the challenges facing energy stakeholders in Illinois. The Draft Report provides an initial overview of the capabilities of Illinois’ current grid and a preliminary discussion of the tools, technologies, and policies to be carefully considered as Illinois moves forward to enhance its grid for consumers in the future. However, as is recognized in the Draft Report itself, prior to making any further decisions on the implementation of any of the ideas discussed within the NextGrid process, it is necessary to perform significant additional analyses of the costs and benefits associated with any potential next steps. (See Draft Report at 2 (“A thorough examination of costs and benefits of each proposed initiative is an integral and essential element of its consideration by policy makers and stakeholders as part of the future grid modernization efforts.”)) Additionally, policy makers should be cognizant of the most recent steps Illinois has taken in order to understand “best practices” going forward.

In short, the Draft Report should be revised to make it very clear that the NextGrid Report merely identifies and begins to discuss some important issues; because of the time and process limits associated with the NextGrid process, the Report simply offers the preliminary viewpoints of some stakeholders related to those issues. The Final Report does not attempt to provide the answers regarding what policy direction the State of Illinois should embrace.

1. The Draft Report Appropriately Recognizes Many Of The Limitations Associated With The NextGrid Study

The Draft Report appropriately recognizes that:

- **There should not be any suggestion that a consensus was sought, much less reached.** The goal of the NextGrid process “was not to drive stakeholders to reach consensus on the many emerging electricity issues facing Illinois.” (Draft Report at 1.) “There was no attempt to develop consensus in these discussions as such an objective was not within the scope of the NextGrid study.” (*Id.* at 13.) “Within the limited available time to take up a broad set of complex topics, there was no attempt to forge consensus regarding the many issues about which stakeholders have divergent views, opinions and expectations.” (*Id.* at 109.) “[T]hrough some of the discussion may reflect opinions shared by all stakeholders, this was never confirmed and, accordingly, the information should be read with the understanding that there may have been disagreement on the points raised in discussion.” (*Id.* at 145.) “No effort was made to forge consensus and, similarly, there was no effort to catalog points of disagreement. That was not the intent of the WG.” (*Id.* at 190.). The NextGrid Coalition has proposed changes to the Draft Report in Appendix F that require changes to highlight lack of consensus among Stakeholders.
- **Stakeholders’ positions were not rigorously challenged, and were not analyzed by the ICC.** “The NextGrid Study is not a docketed proceeding of the Commission and there is no Commission Order pursuant to this initiative. The NextGrid collaborative effort has not involved hearings, testimony or cross-examination.” (*Id.* at 11.) “From the perspective of some stakeholders, it is premature to discuss additional distribution system modernization investment, unless and until its need has been demonstrated in regulatory proceedings.” (*Id.* at 22.)
- **There was no cost-benefit analysis performed regarding any proposal.** “The NextGrid study scope did not include the investigation of the projected costs and benefits of grid modernization investment strategies. A thorough examination of costs and benefits of each proposed initiative is an integral and essential element of its consideration by policy makers and stakeholders as part of the future grid modernization efforts.” (*Id.* at 2.)
- **Significant additional investigation is necessary.** “The construction of the appropriate answers to myriad regulatory policy questions will require further studies at a deeper level and the discussions among the WG4 members posed an extensive list of threshold questions to frame the key issues together with a set of specific issues to be addressed by policy makers. These are all deserving of in-depth investigation and comprehensive analysis to ensure that the future grid meets tomorrow’s needs as the provision of resilient, safe, reliable, affordable, efficient and sustainable electricity service continues to all Illinois customers and communities.” (*Id.* at 16.) “While the depth of discussion on

various topics was limited by time, the interchanges serve to lay the foundation of a framework for continuing dialog.” (*Id.* at 190.)

2. The Draft Report Should Be Revised To Recognize Additional Limitations Associated With The NextGrid Process

The Draft Report should be revised to recognize the following additional limitations associated with the NextGrid process:

- **Stakeholder participation was limited.** The Final Report should be revised to recognize that participation in each Working Group was limited to stakeholders who received an invitation to participate from the Commission. While the list of stakeholders across all Working Groups may be a diverse group of participants, each individual Working Group was limited to select individuals who not only applied to participate in the Working Group, but who were subsequently invited to do so by the Commission. Furthermore, the NextGrid Study initially precluded members of the public from attending meetings until a lawsuit was filed and NextGrid Working Group sessions were ordered to be open to the public. As a result, the NextGrid Study was closed to the public during fourteen out of eighteen months of the NextGrid study, and the vast majority of the Working Group sessions excluded interested stakeholders who never received an invitation to participate. The lawsuit is still in process. Accordingly, the Final Report should clarify that participation of stakeholders in each Working Group was limited and should note that interested stakeholders’ viewpoints likely are not included. The NextGrid Coalition’s proposed changes in Appendix G highlight the limitations on stakeholders within the process.
- **ICC Staff did not participate in the NextGrid process.** One of the more knowledgeable and largest stakeholders in Illinois did not participate in any of the Working Groups and did not assist with the development of the Draft Report. The Final Report should note that the Staff of the Commission inexplicably was not allowed to engage with stakeholders or provide its opinion on any of the issues addressed in the Draft Report. (*See* Appendix C attached hereto.)
- **The Draft Report’s “recommendations” were never discussed, much less agreed upon by the NextGrid stakeholders.** While the Draft Report appropriately recognizes the many opinions and disagreements among stakeholders, the lack of consensus among stakeholders for all of the substantive issues, and the lack of cost-benefit analysis, the Draft Report nevertheless includes specific recommendations. (*See, e.g.*, Draft Report at 213 (including recommendations related to EV-charging infrastructure, deployment of ESR grid enhancements, and privacy reforms).) These “recommendations” were not presented to the participants in the NextGrid process, but rather were included in the Draft Report by the Facilitators *well after* the Working Group process had concluded. As a result, there is no way to determine whether any, all, or none of the NextGrid participants would agree. The Final Report should note that any recommendations made in the Final Report are the recommendations of the Facilitators and do not represent the

viewpoints or recommendations of the Working Group members. (See Appendix D attached hereto.)

III.

Illinois Should Continue To Find Cost Beneficial Ways to Empower Customers

As the State contemplates the next steps following the publication of the Final Report, it should look for opportunities to build upon that success, further empower customers, and advance competitive markets, by developing policies in an open, transparent, and inclusive process. As Dr. O'Connor wrote, "Illinois' success in reforming and restructuring energy supply with a focus on customer choice and open markets should stand as a beacon for the development of solutions to other problems facing Illinois that may now seem as intractable as our utility problems once did."⁵

IV.

Conclusion

While the NextGrid Coalition greatly appreciates the opportunity to present these Initial Comments, it sincerely hopes that stakeholders and the public are provided with another opportunity to comment upon a more fully-developed draft of the Report before a "final" version is released.

⁵ *Electricity & Natural Gas Customer Choice in Illinois – A Model for Effective Public Policy Solutions*, Illinois Chamber of Commerce, Illinois Manufacturers' Association, Illinois Retail Merchants Association and Illinois Business Roundtable (Feb. 2014), at 2, http://media.mlive.com/business_impact/other/Illinois%20Energy%20Reform%20Feb%202014%20final.pdf.

APPENDIX A
SAVINGS ANALYSIS OF FORMER
ICC CHAIRMAN DR. PHIL O'CONNOR

Proposed Change #1: NextGrid: Illinois' Utility of the Future Study, Recent Illinois Regulatory Developments, pg. 2-4

Illinois has long been a pioneer and leader in electricity service and regulation, dating back more than a century to when Samuel Insull, Thomas Edison's assistant, moved to Chicago and began to create what eventually became the modern public utility. In recent decades, Illinois' transformation into a national energy leader began with the Electric Service Customer Choice and Rate Relief Law of 1997, which restructured the electric industry and provided a transition to competitive retail markets.

The pace of change in electricity regulation, delivery, and use has accelerated—pushed by advances in technology, emergence of new markets and changes in public goals—with momentum from a series of legislative accomplishments that include the Illinois Power Agency Act (IPA) in 2007 [3], the Energy Infrastructure Modernization Act (EIMA) in 2011 and the Future Energy Jobs Act (FEJA) of 2016.

Illinois' legislative and regulatory initiatives in electricity policy and practice have resulted in multiple benefits, such as:

- Stable electricity bills;
- Lower electricity rates with respect to national averages;
- Improved electricity supply and delivery resiliency;
- Reduced adverse environmental emissions from electricity generation and consumption;
- Deployment of smart meter technology with ability to provide granular data to help consumers manage their energy usage and the potential to reduce their costs;
- Economic growth and job creation

After the enactment of the electric industry restructuring law in 1997, Illinois' largest public utilities elected to exit the electricity generation business and sell their Illinois generation assets or transfer them to affiliated companies. ComEd and Ameren are the two major utilities responsible to provide safe, reliable and affordable electricity delivery services, as all customers now have a range of commodity—kWh—supply options in terms of the Illinois alternative retail electricity suppliers (ARES). These new entities were introduced by the restructuring act to provide competitive electricity supply options to residential and small commercial customers. The ICC is charged with the certification and oversight of ARES and the promotion of electricity choice through its Office of Retail Market Development (ORMD)—, which tracks conditions in retail markets and presents annual data to the General Assembly. Residential and small commercial customers can obtain the commodity via three additional supply options: a flat-rate competitively-sourced energy supply by the utility, a market-based hourly price in line

with the bulk-market price outcomes, or a default service by an ARES selected through municipal aggregation. Illinois has benefited greatly from these regulatory developments and the transition to competitive markets; residential, commercial and industrial consumers in Illinois have saved tens of billions of dollars as a result of customer choice.⁶ Continuing to look at the competitive market to deliver value to Illinois consumers is important in the development of future regulatory policy. As the late Dr. Phil O'Connor wrote, "Illinois' success in reforming and restructuring energy supply with a focus on consumer choice and open markets should stand as a beacon for the development of solutions to other problems facing Illinois that may now seem as intractable as our utility problems once did."⁷

The Illinois Power Agency (IPA) [3] was established to develop electricity procurement plans for supply to customers that continue to take fixed-price bundled service from either ComEd or Ameren Illinois. The IPA conducts a competitive procurement process for the electricity supply resources identified in the IPA procurement plan and approved by the ICC in a docketed proceeding. The IPA has been given the additional responsibility to procure annually increasing quantities of renewable energy resources to meet the state's Renewable Portfolio Standards (RPS). The Illinois RPS was initially enacted as part of the IPA Act and requires that 25% of Illinois electricity supply be procured from renewable resources by 2025.

⁶ See *Electricity & Natural Gas Customer Choice in Illinois – A Model for Effective Public Policy Solutions* Illinois Chamber of Commerce, Illinois Manufacturers' Association, Illinois Retail Merchants Association and Illinois Business Roundtable (Feb. 2014), available at http://media.mlive.com/business_impact/other/Illinois%20Energy%20Reform%20Feb%202014%20final.pdf; see also Philip R. O'Connor, *Restructuring Recharged: The Superior Performance of Competitive Electricity Markets*, Retail Energy Supply Association (Apr. 2017), available at https://www.resausa.org/sites/default/files/RESA_Restructuring_Recharged_White%20Paper_0.pdf.)

⁷ *Electricity & Natural Gas Customer Choice in Illinois – A Model for Effective Public Policy Solutions*, Illinois Chamber of Commerce, Illinois Manufacturers' Association, Illinois Retail Merchants Association and Illinois Business Roundtable (Feb. 2014), at 2, http://media.mlive.com/business_impact/other/Illinois%20Energy%20Reform%20Feb%202014%20final.pdf.)

APPENDIX B
IMPACT OF LEGISLATIVELY IMPOSED CHARGES

Proposed Change #1: Customer and community Participation, 4.14 Grid Modernization and Very Large Commercial and Industrial Customers, pg. 143-144

Some very large energy-intensive manufacturing facilities need as much electricity as small cities. The set of the 30 largest industrial customers in Illinois—with 90,000 employees—consumes a total of 13 million MWH of electricity per year [89]. Some industrial entities employ energy managers to oversee energy activities, including procurement, usage optimization and demand response participation. The very large commercial and industrial (VLC&I) electricity customers advocate for reliable service at least cost and seek rates they believe accurately reflect the costs to serve them. Some take the position that before any customer-provided funds are expended on grid modernization, new technology, or market changes, they need to be demonstrated in regulatory proceedings to have net customer benefits. Such benefits include lower rates or attainment of other societal goals, such as increased resiliency, enhanced customer convenience, expanded customer choice or expansion of competitive markets.

A large energy user and attending stakeholder of the VLC&I class presented during WG4 the following chart emphasizing annual electric power costs to consumers from 2014 to 2019. During the WG4 presentation, the customer stated that this chart illustrates how government-imposed charges (including increases in delivery service charges, zero emissions charges, and charges related to the renewable portfolio standard, among others) have negated much of the savings that otherwise would have flowed through to Illinois consumers. Although customer choice has resulted in significantly lower electricity commodity costs, such charges inhibit Illinois consumers from seeing any real monetary benefit.

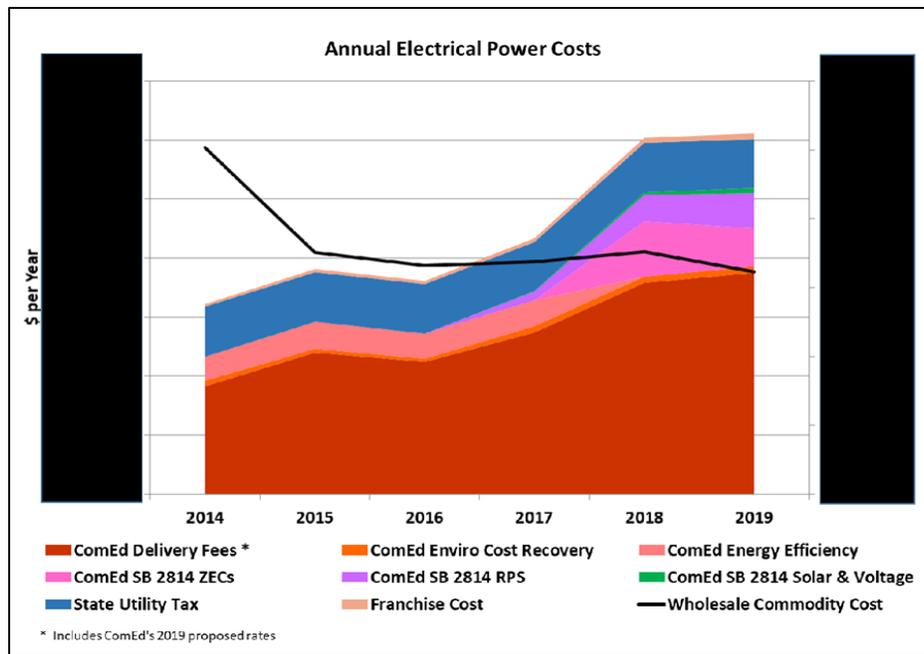


Figure 17. Annual Electrical Power Costs Over Time

The VLC&I average delivery service rates per kWh are lower than those of small commercial and residential rates because they generally have flatter load shapes and require less delivery service infrastructure, as service is received at high voltage levels and VLC&I customers use their own equipment to manage energy utilization within their facilities. Delivery service rates of large customers have steadily increased over time but have been offset by lower energy costs and total Illinois C&I unit costs remain below the national averages. According to Energy Information Administration data for July 2018, total average electric costs per kWh in Illinois are 13.21 cents for residential customers, 8.84 cents for commercial and 6.45 cents for industrials [90]. The corresponding national averages are 13.15, 10.51 and 6.82 cents, respectively. Data from the Edison Electric Institute indicate that the ComEd average all-in large industrial rate to be 5.73 cents/kWh and the national average to be 7.00 cents/kWh. Some stakeholders assert that national averages are not a meaningful yardstick for companies that compete in global markets. Moreover, they argue that such companies are unable to raise their prices when electricity costs increase and higher energy costs at Illinois facilities can be a cause to shift production to other locations.

Many VLC&I customers voluntarily participate in energy management efforts that are cost-effective for their own load shapes and consumption volumes. However, these customers assert that such efforts also provide system benefits for which they need to be credited. As discussed above, under FEJA, the General Assembly exempted VLC&I customers from payments into energy efficiency programs administered by the utilities. Some VLC&I customers also object to paying non-bypassable charges to fund renewable energy, zero-emissions credits and other delivery service programs they do not use, as they argue that these charges make their facilities less competitive and increase the costs of the goods they produce, without a commensurate increase in the quality of services they receive. They assert that increased delivery service costs have fully offset the value of lower competitive energy commodity costs.

Some advocates for other customer classes state that regulatory policies and utility services that benefit the community, the environment and smaller volume commercial and residential customers ultimately also benefit VLC&I customers, so it is fair and appropriate that they share in these costs. They assert that VLC&I customers also benefit from RPS and EE requirements because lower usage and growing renewable output, particularly wind power at night, puts downward pressure on market energy prices, particularly at night when many of the largest industrial customers operate loads that benefit from frequent negative prices in wholesale energy markets. More issues on this topic are also discussed in Chapter 7.

APPENDIX C
ICC STAFF DID NOT PARTICIPATE

Proposed Change #1: NextGrid Illinois' Utility of the Future Study, *The NextGrid Study Process*, pg. 11 -19.

The NextGrid initiative is a response to an effort proposed in Governor Rauner's 2015 Transition Report "to review the implications of the 'utility of the future' on existing laws and regulations, ownership structure, pricing designs and incentives" [14].

The NextGrid Study is not a docketed proceeding of the Commission and there is no Commission Order pursuant to this initiative. The NextGrid collaborative effort has not involved hearings, testimony or cross-examination. **Notably, the Staff of the ICC was not involved in the process and did not offer any opinions during the WG meetings or comments upon the draft WG reports.** Opinions of NextGrid participants and drafters of the report do not necessarily represent the views of all stakeholders **(or even a majority of stakeholders)** or the ICC or any of its members.

The NextGrid effort was formally launched on September 28, 2017 with a one-day event held at the University of Illinois-Chicago. The launch included panel discussions on various aspects of grid modernization, an overview of the study scope by the Lead Facilitator and featured Robert F. Powelson, the former FERC commissioner, in a keynote speech. The event drew over 400 attendees....

APPENDIX D
RECOMMENDATIONS ARE OF FACILITATORS
AND NOT AGREED TO BY THE STAKEHOLDERS

Proposed Change #1: NextGrid Illinois' Utility of the Future Study, pg. 12 and 19

The rest of the report consists of the seven chapters of the individual WG reports and one additional chapter that presents concluding remarks. **The Lead Facilitator drafted the Introduction and Conclusion of the Final Report after the WG process had concluded, with the input of the ICC, ComEd and Ameren.** In addition to the WG chapters, there are several Appendices that contain additional background information to provide the necessary background or help explain the information contained in the WG chapters. The Lead Facilitator edited each report prepared by the WGL and made the necessary changes and constructed the required bridges for the Final Report to be comprehensible. As many electricity grid issues are cross-cutting and interconnected, a particular issue was common to the scope of two or more WGs. The WGLs were responsive to the concerns of participants and so each WG's deliberations focused on, typically, different aspects of the common topics and each WG's members addressed their aspects through distinctly different optics. Every attempt was made to reduce repetition in the report to the extent possible.

At the kick-off plenary meeting of all the WGs, the seven WGLs were asked to consider a set of core questions within the Illinois-specific context. The set of questions consists of the following items:

- What "Smart Grid" technologies/policies/practices currently exist in Illinois? Are they being used to maximize their value? What additional needs exist that cannot be met by currently available Smart Grid elements?
- What are specific opportunities for grid modernization in Illinois and how will they improve grid operations, reliability, power quality, and resilience? What are the challenges to be overcome to make those opportunities realizable?....

....Additional issues discussed by WG7 participating stakeholders included alternative utility business and revenue models, standby rates for self-generators, and the proper valuation of DERs to fairly compensate the provided services, an issue that is set to be the subject of future ICC proceedings. There was general agreement among the WG7 participants that future dissemination of information and opinions, as well as, further research and outcomes of innovative rate pilots will help Illinois achieve a ratemaking outcome that results in safe, reliable, resilient, cost-effective, sustainable and secure electricity services.

The last chapter provides a summary of the key thrusts of the NextGrid Study and points out the many areas that require careful investigation. **Of note, because of the differing views and lack of consensus among participating stakeholders of each Working Group, any recommendations, conclusions, or opinions contained within this Report represent the views**

of the Facilitator, and do not necessarily represent the views of any or all stakeholders or the ICC or any of its members.

Proposed Change #2: Ratemaking, *The Path Forward and Survey Responses*, pg. 208

....The Facilitators find, based upon analysis of the diverse stakeholder opinions expressed during WG7, that for the NextGrid developments to be successful, changes to the electric system need to be supported by the development of appropriate business models, rate structure, and regulatory reforms to enable utilities/electric service providers to own assets and provide services and also allow third-party providers to offer services and compete to ensure safe, reliable, resilient and secure grid that meet consumer demands at just and reasonable prices.

The attempts to accommodate these diverse and, in some instances, inherently conflicting objectives pose tough challenges for regulators. The observed postures of the WG7 participating stakeholders and the tone of the discussion best illustrate the complexities that must be confronted in future utility ratemaking in Illinois. Certainly, these challenges should be addressed in a systematic manner to allow utilities to harness effectively the potential of NextGrid and for customers to obtain the potential benefits at just and reasonable rates

Proposed Change #3: Concluding Remarks, *The Path Forward and Survey Responses*, pg. 209-11

In the eyes of the Facilitators, the NextGrid Study ~~definitively~~ has demonstrated that grid modernization is of huge interest in Illinois in light of the critical importance of energy, in general, and electricity, in particular, in the continued economic wellbeing and competitiveness of the state. Indeed, the extensive participation by the large and diverse groups of stakeholders at the numerous meetings of the seven WGs held during the study indicates that there is no doubt that the future grid is a matter of utmost importance. Given the wide array of participating stakeholders in the seven WGs, it is not surprising that so many perspectives were expressed during the lengthy deliberations. As such, the apparent lack of agreement among the participants is expected. However, there is little doubt, notwithstanding the large number of views—some of which, at times, rather polarized, that the participating stakeholders have much in common. There is very broad interest in active participation to mitigate climate change impacts in every possible way. Virtually, all participants share the goal to make the grids greener through the continued integration of deeper penetrations of renewable energy resources (RERs) so as to reduce emissions. Stakeholders share the desire to pursue sustainable ways to meet energy needs. There is broad interest in adopting advances in technology to make the grids smarter, to deploy more sensors to improve visibility and situational awareness, to deploy analytics and data with finer granularity to provide enhanced information and to extend the benefits of cleaner and environmentally sensitive electricity by various electrification targets. Many stakeholders are clamoring for more customer education and training to take advantage of what

the modernized grid offers. Indeed, it is clear that many stakeholders are keenly interested in the provision of help to customers to use technology to transform energy into creation of new opportunities. The affordability of electricity was also emphasized throughout all the deliberations.

Illinois is in a highly fortuitous situation as it embarks on further grid modernization from a very strong initial position. Year after year, Illinois is ranked as the second leading state in grid modernization. This high ranking provides a clear recognition of the many accomplishments by legislators, regulators, utilities and their customers, market players, stakeholders and various entities in the electricity sector, to spearhead the formulation and adoption of appropriate policies, plans, rate structures and mechanisms, and adopt technology and innovative schemes to plan, operate and manage grids to supply and deliver safe, reliable and cost-effective electricity. Moreover, Illinois with the largest nuclear fleet in the nation generates considerable portion of carbon-free electricity, in addition to that generated by green RERs.

The previous seven chapters make amply clear that there is considerable disagreement on nearly every aspect of grid modernization among the participating stakeholders. As such, there is no shortage of challenges in the push to pursue advancements on the grid modernization front. Certainly, regulators and policy makers, utilities, vendors, electricity sector entities, customers, public interest groups, consultants, academics and other interested stakeholders have widely different goals and objectives, some of which may conflict with one another, as they consider their expectations from the modernized grid. The NextGrid Study was effective in bringing forth the many perspectives and objectives of the diverse stakeholders through the WG discussions. This is due to the fact that the Study was not designed to be a consensus building exercise but more of an information gathering process so as to become better acquainted with the desires and viewpoints of all the stakeholders. As such, the tenor of the discussions and the high-level of participation by the various stakeholders indicate that there exists genuine interest to move forward collaboratively in order to harness the benefits of wider deployment of grid-integrated DERs, including ESRs, and adoption of new technologies and analytics under appropriately formulated policies and rate structures/mechanisms. The challenge is to create a collaborative framework under which all the diverse stakeholders can participate in a meaningful way. This may not be an easy process but is doable and so must be done. In this way it is possible to continue to make progress on the grid modernization front. As the beneficial outcomes of the modernized grid impact every stakeholder, there is every reason to pursue a joint collaborative process to ensure the achievement of a modernized and decarbonized grid to supply safe, reliable, resilient, cost-effective, sustainable and secure electricity services.

The discussions held by every WG made clear that there are many known unknowns in addition to the unknown unknowns. In virtually every topic area, further studies and investigations need to be undertaken before Illinois is ready to embark on a specific course of action. Indeed, for each issue there is a need for careful and detailed planning of a systematic effort to perform

the associated work after the necessary steps are taken to gather the needed knowledge and Illinois-centric information ahead of the selection of a specific approach.

The NextGrid Study was not intended to develop a specific roadmap for Illinois to pursue. Rather, the intent was to gather a body of appropriate knowledge, information and awareness to get as comprehensive a picture as possible of the challenges and opportunities of the future grid and potential practical approaches, on which to embark. This goal has been successfully met, as evidenced by the large numbers of knowledgeable, innovative and creative ideas described in each WG report. The various thrusts that cut across two or more WGs' scopes of activities made clear that there are some low-lying fruits that are ripe for picking as they provide excellent opportunities that are important to seize and pursue deliberately and without much delay. In this way, the benefits that accrue to society, customers, the grid and Illinois can be effectively captured.

As noted above, the diverse stakeholders involved in the process could not reach consensus on the many issues discussed within the NextGrid Study, but the Facilitators ~~We include~~ offer three specific recommendations ~~as part of the NextGrid Study based on the reports of the WGs.~~ The first is in the area of EV-charging infrastructure. The second focuses on the deployment of ESRs grid enhanced ability to provide the required flexibility in the further integration of RERs at deeper penetrations into the d-grids. The third is centered on the need to act proactively on the privacy front to ensure that the growing digitalization in the grid is carried out in a way that effectively protects the privacy of the customers. The rationale for and scope of each recommendation are discussed in the paragraphs below.

~~The First~~, the Facilitators of the NextGrid Study believe that the establishment of an EV-charging infrastructure is of critical importance to maintain Illinois's leading position in grid modernization. For many years now, a major causal factor of the slow growth in EV sales has been tied to the lack of an adequate EV-charging infrastructure. There is a need to put an end to this chicken-and-egg syndrome so that the rapid adoption of EVs can proceed in order to remove the millions of polluting fossil-fueled internal combustion engine vehicles from the roads. Given the fact that since 2017, the CO₂ emissions from transportation sector exceed those from the stationary electricity generation system, the imperative for the reduction of the population of polluting fossil-fueled vehicles is clear. Not only is the displacement of such vehicles through the growth in the number of EVs an excellent example of beneficial electrification, the establishment of an EV-charging infrastructure creates many new jobs, brings about a cleaner environment and provides a role model for the electrification of other transportation sectors, such as trucks, buses and company fleets, as well as that of other sectors. Clearly, there are many questions to be answered as to the mechanism under which the infrastructure is to be created, impacts on electric rates and the role of utilities. The ICC can initiate docketed proceedings in this matter so as to determine the most expeditious modality to deal with those questions. The

key point is that the EVs represent an unparalleled opportunity to substitute electricity for less efficient and less productive energy forms and reduce emission. The EV-charging infrastructure can be an important element in the continuing modernization of the grid and can create with the more intensive harvesting of distribution grid integrated RERs.

Second, the Facilitators of the NextGrid Study believe that the slow pace of ESR development in Illinois fails to provide Illinois grids with the opportunity to benefit from the multiple services that ESRs can provide. Moreover, as the penetrations of integrated RERs into the distribution networks deepen, the need for ESRs becomes more intense. The growth of demand for ESRs has resulted in rapid price declines that are expected to become more substantive as the economies of scale can be more effectively exploited. The California mandate on ESR demonstrated that a sharp increase in demand can reduce the price of storage through a sharp increase in demand. Illinois is in an excellent position to exert a big push on storage to create sizeable reductions in the price of technology. The enactment of a mandate for the installation of ESRs requires considerable efforts to appraise legislators of the significance of such a legislative initiative and of its ramifications. Alternatively, there is the opportunity to formulate meaningful incentives for utilities or other entities to install ESRs. There are other possibilities to increase the presence of ESRs in Illinois grids. The ICC can play a leadership role to bring about the deployment of ESRs in Illinois, be it on the bulk grid, d-grid or behind the meter, as important elements of the grid modernization and an opportunity to create new jobs. Such a deployment will bring measurable improvements in reliability, resiliency and flexibility of the grid, as well as emission reductions.

Third, the Facilitators of the NextGrid Study feel that as the AMI efforts near completion in Illinois and the grids continue to become more digital, the protection of customer privacy becomes more difficult and the risks of a loss of privacy increase. Moreover, the security of the data collected by smart meters in the AMI can become a new problem that may pose a safety issue for a residential customer in case a hacker is able to monitor the residential customer meter data. In recent years, there have been massive attacks on many large corporations. Such threats are also faced by utilities that collect huge amounts of consumption and other data from their grid-connected customers. **The Facilitators believe that t**~~To~~ date very little has been done to protect customer privacy in the electricity sector. **The Facilitators suggest that a**~~As~~ Illinois continues its efforts to modernize the grid, the privacy protection looms as a major issue that needs to be addressed. Illinois can seize the opportunity to contribute significantly to this issue through the enactment of rules and regulations for customer data protection. **In the eyes of the Facilitators s**~~Such~~ an effort has the potential to set the framework to effectively manage the privacy protection of customer information.

APPENDIX E

CURRENT BASELINE ANALYSIS

Proposed Change #1: Recent Illinois Regulatory Developments, pg. 4

Illinois has long been a pioneer and leader in electricity service and regulation.....

...The NextGrid collaborative process is the latest step in continuing Illinois' energy policy leadership. The establishment of a reliable and affordable clean energy future requires well thought out regulatory policies that align utility interests with the goals to lower electricity bills and decarbonize the economy. The NextGrid study continues Illinois' forward-looking approach to electricity policy and practice, and is consistent with the ICC's role as a policy-making, regulatory and rate-setting agency. **While the NextGrid collaborative process is the latest step and provides a forward-looking approach to electricity policy and practice, some stakeholders have suggested that it may serve the best interests of Illinois to look backwards before taking the next step forward. An analysis of the successes, shortcomings, as well as the costs and benefits to consumers resulting from the IPA Act, EIMA, and FEJA initiatives could provide important insights into creating new policies that benefit consumers, energy suppliers, regulators and the utilities.**

Proposed Change #2: Grid Modernization and Illinois Efforts, pg. 4

The US is saddled with a dated, inefficient and, in some cases, "antiquated" power system. To effectively meet the energy challenges of the future and maintain the nation's economic competitiveness, we must transition to a smarter, more efficient and more sustainable electrical grid that can power the economy over the foreseeable future. The electric power sector is actively pursuing the modernization of the power system through a broad range of efforts in various....

APPENDIX F

LACK OF CONSENSUS AMONGST STAKEHOLDERS

Proposed Change #1: NextGrid Illinois’ Utility of the Future Study, Overview of the Final Report, pg. 18

The last chapter provides a summary of the key thrusts of the NextGrid Study and points out the many areas that require careful investigation. ~~Of note, because of the differing views and lack of consensus among participating stakeholders of each Working Group, any recommendations, conclusions, or opinions contained within this Report represent the views of the Facilitator, and do not necessarily represent the views of any or all stakeholders or the ICC or any of its members.~~

Proposed Change #2: New Technology Deployment and Grid Integration, 1.11 How Will Transportation Electrification Affect the Grid and Its Users?, pg. 41

~~There are many reasons why s~~Some stakeholders advocate a strong utility role in developing EVSE. ~~These include~~ They point to the benefits of systemic planning, maintaining a reliable system for voltage and VAR as more DERs are introduced, supporting cyber and physical security, intelligently integrating dynamic EV loads, ensuring system-net benefits from such loads, having full access on reasonable terms to the “big data” that EVSE will generate as deployed, and ensuring that sufficient charging infrastructure exists in all areas, including otherwise underserved communities. Such stakeholders assert that without a significant role for utilities, needed EVSE will not be built and growth of beneficial electrification will be hindered. Other stakeholders point to the success of Tesla’s privately funded nationwide supercharger network as evidence that a significant role for utilities is unnecessary.

Some stakeholders suggest that ~~i~~n formulating policy, lawmakers and regulators must consider whether advantages of using utilities to build out public-charging infrastructure outweigh concerns that utility-owned charging facilities may shut out competitors and stifle innovation. They must balance such concerns against arguments and data that suggest that utility involvement, instead, can support competition and innovation, address market failures and accelerate the market to the benefit of all participants. In addition to being service- and price-regulated and accountable to state regulators, utilities generally have access to low- cost capital, ability to integrate EVs as DER, call-center capability, established customer relationships and other incumbent and legacy advantages.

Therefore, ~~to some stakeholders,~~ it seems reasonable that utilities would play some role in supporting, promoting, or otherwise incentivizing public-charging infrastructure, especially in areas where this infrastructure has not otherwise been developed. Construction and operation of EV facilities may or may not be within the core competency of utilities, as they may lack the incentives and entrepreneurial culture of unregulated firms. But perhaps they may extend the benefits of conventional utility asset maintenance and resiliency core competencies to public EVSE. Costs and risks of utility investment may be borne by non-participants, and customers may be at greater risk of stranded costs in the event of underperforming or obsolete

facilities. At the same time, as previously discussed, most studies suggest significant net benefits to the grid from accelerating transportation electrification, mitigating concerns of potential cross-subsidization.

Proposed Change #3: Metering, Data and Communications, 2.2 Data, pg. 57

~~The consensus~~ Data presented by stakeholders within the WG ~~is that shows that~~, today, customers are only accessing their data to investigate billing questions; consider a change to their retail energy provider; or to investigate a new rate structure or change to their home, such as an efficiency improvement.

Proposed Change #4: Reliability, Resilience and Security, 3.2 People, Pg. 89

One area where participating stakeholders in WG3 experienced varied perspectives and shared many potential obstacles that might preclude full consensus and a workable solution was related to cyber educational requirements. The group engaged in a lengthy dialogue over the merits of some form of educational requirement for users of systems both operational and consumer. An analogy was put forth of a digital driver's license. People are required in each state to successfully pass a test and demonstrate basic competency to receive a driver's license to use a vehicle, but there is no such requirement for users of complex technology systems that, if used improperly, may cause significant negative impact to other people (in this case the grid). While some level of assurance is likely appropriate for industry employees as well as consumers themselves, a driver's license type approach did not seem to have much initial support. Privacy, misuse, credibility, inequity and other issues were raised in a robust and productive discussion. ~~The~~ Based upon the viewpoint of participating stakeholders, the Facilitator recommends that this issue be further studied to determine whether there is any viable solution to establishing baseline skills for those utilizing technologies that potentially increase risk to the grid.

Proposed Change #5: Electricity Markets, Pg. 143

The WG participating stakeholders identified a process and a path forward for retail markets in Illinois that creates a framework in which DERs are valuable resources and all participants can flourish. The discussion below captures the opinion of one or more of the stakeholders or WG leader and has been ultimately edited and compiled by the leader, with input and review by others. Consensus opinion was not achieved on all aspects this presentation. Thus, though some of the discussion may reflect opinions shared by all stakeholders, this was never confirmed and, accordingly, the information should be read with the understanding that there may have been disagreement on the points raised in discussion.

Proposed Change #6: Concluding Remarks, Pg. 210

As noted above, the diverse stakeholders involved in the process could not reach consensus on the many issues discussed within the NextGrid Study, therefore, the Facilitators at the University of Illinois at Urbana-Champaign ~~We include~~ offer three specific recommendations ~~going forward as part of the NextGrid Study based on the~~

| ~~reports of the WGs~~. The first is in the area of EV-charging infrastructure. The second focuses on the deployment of ESRs grid enhanced ability to provide the required flexibility in the further integration of RERs at deeper penetrations into the d-grids. The third is centered on the need to act proactively on the privacy front to ensure that the growing digitalization in the grid is carried out in a way that effectively protects the privacy of the customers. The rationale for and scope of each recommendation are discussed in the paragraphs below.

APPENDIX G

LIMITATIONS ON WORKING GROUPS

Proposed Change #1: Overview of the Final Report, pg. 13

The rest of the report consists of the seven chapters of the individual WG reports and one additional chapter that presents concluding remarks. ...

....

- What policies, programs, and initiatives can ensure that grid modernization will educate and empower customers and communities, drive economic development, support innovation, and optimize the Illinois electric utility industry for the 21st Century?

The WGs were comprised of individuals that expressed interest in participating, and were selected by the ICC, with the input of ComEd, Ameren and the Lead Facilitator; in effort to make the process more manageable, not all stakeholders who expressed interest were allowed to participate. Each WG had four or more meetings featuring expert presentations and group discussions conducted under the “Chatham House Rule” that provides anonymity to speakers in order to encourage open exchange of views. **Therefore, any reference to stakeholder opinion on an issue cannot be traced back to any individual stakeholder.**

We provide an overview of the body of the Final Report in the paragraphs below. The many WG sessions gave rise to a very wide range of viewpoints that are representative of the **diverse** group of participating stakeholders. While there were a few issues on which a modicum of agreement arose, the more typical situation was the often opposite views voiced in the many deliberations. There was no attempt to develop consensus in these discussions as such an objective was not within the scope of the NextGrid study. The WG reports, briefly summarized below, reflect these clearly and in adequate detail the diverse views that the discussions elicited. **While the list of stakeholders across all WGs was diverse, very few of these stakeholders participated in every WG. Participation in the WG meetings was limited to those stakeholders invited to participate by the ICC; other interested stakeholders were not allowed to participate. Additionally, the WG meetings initially were closed to the general public, preventing further input from additional stakeholders. As of a result of an agreement reached in a lawsuit related to the NextGrid process, the WG sessions were ordered to be open to the public on June 24, 2018.**

Chapter 1 presents the report of WG1, whose focus centered on new technology deployment and grid integration. In an era of rapid technological evolution and changing social, commercial, and individual energy requirements, a high-performance electricity grid is essential to maintain a reliable and secure supply and deliverability of affordable and environmentally responsible electricity in Illinois. The WG1 report describes the emerging transformation of the electricity distribution grid (d-grid) from a one-way system designed to deliver bulk power from utility-scale generation to end-use customers, into an advanced network that can accommodate bidirectional flows between any pairs of nodes, in addition to those to and from the bulk power systems to which the distribution network is connected. The report addresses 15 questions related to the evolution of the d-grid.