Sunday November 16, 2008	
5:00 – 7:00p	**Pre-Registration**
Monday November 17, 2008	
7:00 – 8:30a	**Registration**
8:30 – 10:15a	**Keynote Speakers: Transformational Vision for Energy in 2030** *(Ballroom A)*
	Session Chair: Dr. Deepak Divan, Professor, Georgia Institute of Technology, IEEE PELS, President Elect David Ratcliffe, Chairman and CEO, Southern Company, Atlanta, GA, USA *"Facing Realities"* Clark Gellings, VP of Technology, EPRI, Palo Alto, CA, USA *"Creating a Secure Low-Carbon Future… A Framework for Action"* Patricia Hoffman, Principal Deputy Assistant Secretary for the Office of Electricity Delivery and Energy Reliability, Department of Energy, Washington, DC, USA *"Modernizing the Grid: A Vision for Sustainability and Security"*
10:15 – 10:45a	**Break and Exhibition** *(Ballroom B/C)*
10:45 – 12:30p	**Plenary Session: Sustainable Energy – Getting There from Here** *(Ballroom A)*

	Session Chairs: Dr. Hirofumi Akagi, Tokyo Institute of Technology, and Dr. Tom Habetler, Georgia Institute of Technology Dr. Larry Kazmerski, Chair of the National Center for Photovoltaic's, NREL, Golden, CO, USA Dr. Hiromichi Ohashi - Deputy Director of Power Electronics Research Center, National Institute of Advanced Industrial Science and Technology, Tsukuba, Ibaraki, Japan *"Cool Earth Innovative Energy Technology Program and Related Activities for Sustainable Society"* John McDonald – Member of IEEE Board of Directors, IEEE, Atlanta, GA, USA *"Moving Forward with the Smart Grid"* Dr. Marilyn Brown - Professor of Public Policy, Georgia Institute of Technology, Atlanta, GA, USA *"Policies to Energize a Sustainable Future"*
12:30 – 1:30p	**Lunch** *(Ballroom B/C)*
1:30 – 3:45p	**Technical Program Part I**
	Session 1.1 – Cutting the Carbs: Focus on Generation – *Wind* *(Ballroom A)*
	Session Chair: Erik Kjaer Soerensen, Vestas Wind Systems A/S *Grid Connection Requirements and Solutions for DFIG Wind Turbines*, W. Qiao[1], R. Harley[2]; [1]University of Nebraska, Lincoln, NE, USA, [2]Georgia Institute of Technology, Atlanta, GA, USA *DC Collection for Wind Farms*, A. Prasai, D.Divan; Georgia Institute of Technology, Atlanta, GA, USA *Wind Farm Grid Integration using VSC based HVDC Transmission – An Overview*, S. Chaudhary, R. Teodorescu, P. Rodriguqez; Aalborg University, Denmark *Impact of Wind Power Plants on Voltage and Transient Stability of Power Systems*, E. Muljadi[1], T. Nguyen[2], M.A. Pai[3]; [1]NREL, Golden, CO, USA, [2]PNNL, Richland, WA, USA, [3]University of Illinois at Urbana-Champaign, Urbana, IL, USA **Invited Paper:** *Advanced Wind Turbine Technology: Critical Enabler for High Wind Penetration Grids of 2030*, M. Morjaria[1], N. Miller[2]; [1]GE Energy, Atlanta, GA, USA, [2]GE

	Energy, Schenectady, NY, USA
	Session 1.2 – Routing Electrons: Smart Grid, Delivery & Storage – *Smart Grid Technologies* *(Room 704)*
	Session Chair: Mark McGranahan, EPRI *Intelligent Demand Response Scheme for Customer Side Load Management*, Q. Binh Dam[1],S. Mohagheghi[2], J. Stoupis[2]; [1]Georgia Institute of Technology, Atlanta, GA, USA, [2]ABB Corporate Research Center, Raleigh, NC, USA *Linking it All Together - An Intelligent Demand Side*, G. Platt; CSIRO Energy Technology, Newcastle, Australia *Incorporating Demand Resources into Optimal Dispatch*, J. Black, J. de Bedout, R. Tyagi; GE Global Research, Niskayuna, NY, USA *A Framework for Multi-Level Reliability Evaluation of Electrical Energy Systems*, Domínguez-García, P. Krein; University of Illinois at Urbana-Champaign, Urbana, IL, USA *From Power Line to Pipeline – Creating an Efficient and Sustainable Market Structure*, H. Johal, D. Divan; Georgia Institute of Technology, Atlanta, GA, USA
	Session 1.3 – Public Policy – *Framing the Issues* *(Room 706)*
	Session Chair: Dr. Marilyn Brown, Georgia Institute of Technology *Challenges to Achieving a Sustainable Future*, D. Divan, F. Kreikebaum; Georgia Institute of Technology, Atlanta, GA, USA *International Greenhouse Gas Standards to Support Sustainable Global Energy*, J. Pearlman[1], T. Baumann[2]; [1]IEEE Committee on Earth Observation, Seattle, WA, USA, [2]Greenhouse Gas Management Institute, Ottawa, Ontario, Canada *National Energy and Transportation Systems: Interdependencies within a Long Term Planning Model*, E. Ibáñez, J. McCalley, D. Aliprantis, R. Brown, K. Gkritza, A. Somani, L. Wang; Iowa State University, Ames, IA, USA *An Architecture for Local Energy Generation, Distribution, and Sharing*, M. He, E. Reutzel, X. Jiang, R. Katz, S. Sanders, D. Culler, K. Lutz; University of California-Berkeley, Berkeley, CA, USA
	Session 1.4 – Trimming the Energy Budget: Reducing Consumption while Improving Life – *PHEVs* *(Room 707)*

	Session Chair: Dr. A. P. Meliopoulos, Georgia Institute of Technology *Demand Management of Grid Connected Plug-In Hybrid Electric Vehicles*, M. Galus, G. Andersson; Swiss Federal Institute of Technology (ETH), Zürich, Switzerland *Bidirectional Power Transfer between HEVs and Grid without External Power Converters*, D. Wu, H. Chen, T. Das, D. Aliprantis; Iowa State University, Iowa, IA, USA *Power System Level Impacts of Plug-In Hybrid Electric Vehicles Using Simulation Data*, C. Roe[1], J. Meisel[1], A.P. Meliopoulos[1], T. Overbye[2]; [1]Georgia Institute of Technology, Atlanta, GA, USA, [2]University of Illinois at Urbana-Champaign, Urbana, IL, USA *Intelligent Scheduling of Hybrid and Electric Vehicle Storage Capacity in a Parking Lot for Profit Maximization in Grid Power Transactions*, C. Hutson, G. Venayagamoorthy, K. Corzine; Missouri University of Science and Technology, Rolla, MO, USA *Design of a Conceptual Framework for the V2G Implementation*, C. Guille, G. Gross; University of Illinois at Urbana-Champaign, Urbana, IL, USA
3:45 – 6:15p	**Interactive Poster Session and Exhibition with Refreshments** *(Ballroom B/C)* ***Session Chair: Dr. Ronald Harley, Georgia Institute of Technology*** ***Session 1: Global Perspectives*** 1. *A Power Market Model with Renewable Portfolio Standards, Green Pricing and GHG Emissions Trading Programs,* Y. Chen[1], L. Wang[2]; [1]University of California-Merced, Merced, CA, USA, [2]Iowa State University, Ames, IA, USA 2. *Who's Driving the Bus? The Importance of Interdisciplinary Awareness on the Road to Sustainability,* E. Fisher, E. Schoenberger; John Hopkins University, Baltimore, MD, USA 3. *A Framework for Portfolio Management of Renewable Hybrid Energy Sources*, T. Ender, J. Murphy, C. Haynes; Georgia Institute of Technology, Atlanta, GA, USA 4. *Power Grid on Islands: From Dependency to Sustainability?,* C. Kayser-Bril[1], C. Liotard[1], N. Maïzi[1], V. Mazauric[2]; [1]MINES Paristech, Sophia Antipolis, France, [2]Schneider Electric, Grenoble, France 5. *A Price-Based Demand Response Program for Alberta's Electricity Market*, Z. Hami; University of Western Ontario, London, Ontario, Canada

6. *A Case for Personal Virtue,* R. Kirkman; Georgia Institute of Technology, Atlanta, GA, USA

Session 2: Renewables

7. *Cost of the Electrical Energy Obtained by Cogeneration in the Sugar Cane Mills,* J. Sánchez[1], M. Zerquera[1], J. León[1], A. del Sol[2], J. Valdés[3]; [1]Guadalajara University, Guadalajara, Mexico, [2]Arteche Sa De CV, Guadalajara, Mexico, [3]Club de Computación, Placetas City, Villaclara, Cuba

8. *Maximum Power Point Tracking of Wind Energy Conversion Systems Based on Sliding-Mode Extremum Seeking Control*, T. Pan[1,2], Z. Ji[1], Z. Jiang[2]; [1]Jiangnan University, Wuxi, Jiangsu Province, China, [2]University of Miami, FL, USA

9. *A Buck-Boost DC-AC Converter Suitable for Renewable Applications*, B. Wang, H. Gao; Arizona State University, Tempe, AZ, USA

10. *A Quantitative Feedback Theory Based Control of a Variable Speed Squirrel Cage Induction Generator Driven by Wind Turbine*, R Thakur, V. Agarwal; IIT-Bombay, Powai, Mumbai, India

Session 3: Smart Grid

11. *Microgrids Based on DC Energy Pool,* Y. Zhu, Z. Yin, J. Tian; North China Electric Power University, Beijing, China

12. *Transient Stability Control Strategy of TCSC in Interconnected Network,* G. Chunlin, Z. Yang, X. Xiangning; North China Electric Power University, Beijing, China

13. *Voltage Regulation in Radial Distribution Feeders with High Penetration of Photovoltaic*, R. Tonkoski, L. Lopes; Concordia University, Montreal, QC, Canada

14. *Network Reliability Assessment towards Long Term Planning,* M. Drouineau[1], V. Mazauric[2,1], E. Assoumou[1], N. Maïzi[1]; [1]MINES Paristech, Sophia Antipolis, France, [2]Shneider Electric, Grenoble, France

15. *Fault Current Limiter Placement Strategies and Evaluation in Two Example Systems,* J. Carr, J. Balda, Y. Feng, H. Mantooth; University of Arkansas, Fayetteville, AR, USA

16. *Testing of Power Electronic Modules for Distributed Systems at the National Center for Reliable Electric Power Transmission*, R. Castillo, D. Molina, M. Huertas, J. Balda, H. Mantooth; University of Arkansas, Fayetteville, AR, USA

17. *Proposal for a Real-time Market based on the Indian Experience of Frequency Linked Prices,* S. Chanana, A. Kumar; National Institute of Technology Kurukshetra, Kurukshetra, India

18. *Incorporating Business Rule Engine Technology in Control Center Applications – Toward Adaptive IT Solutions,* X. Feng[1], M. Subramanian[2]; [1]ABB Corporate Research Center, Raleigh, NC, USA, [2]ABB Inc., Sugarland, TX, USA

19. *Grid Synchronization of Wind Turbine Converters under Transient Grid Faults using a Double Synchronous Reference Frame PLL*, P. Rodriguez[1], A. Luna[1], R. Teodorescu[2], F. Blaabjerg[2]; [1]Technical University of Catalonia, Barcelona, Spain, [2]Aalborg University, Aalborg, Denmark

Session 4: End Use Applications

20. *Comparison of Time-Based Probability Methods for Estimating Energy Storage Requirements for an Off-Grid Residence*, R. Weissbach[1], R. Teodorescu[2], J. Sonnenmeier[1]; [1]Penn State Erie, Erie, PA, USA, [2]Aalborg University, Aalborg, Denmark

21. *Doubly-Fed Induction Generator Control under Voltage Sag,* K. Lima[1], A. Luna[2], P. Rodriguez[2], E. Watanabe[1], R. Teodorescu[3], F. Blaabjerg[3]; [1]Federal University of Rio de Janeiro, Rio de Janeiro, Brazil, [2]Technical University of Catalonia, Barcelona, Spain, [3]Aalborg University, Aalborg, Denmark

22. *Matlab Software to Determine the Saving in Parallel Pumps Optimal Operation Systems, by Using Variable Speed*, M. Zequera[1], J. Sánchez[1], A. del Sol[2]; [1]Guadalajara University, Guadalajara, Mexico, [2]Arteche Sa de CV, Guadalajara, Mexico

23. *An LED Module Array System Designed for Street Light,* Y. Aoyama, T. Yachi; Tokyo University of Science, Tokyo, Japan

24. *Advanced Agricultural Irrigation System Applying Wind Power Generation,* Y. Zhu, Z.

Ding, Y. Gong; North China Electric Power University, Beijing, China

25. *Efficient Home Appliances for a Future DC Residence,* M. Rodríguez-Otero, E. O'Neill-Carrillo; University of Puerto Rico, Mayaguez, Puerto Rico, USA

26. *Review of the Impact of Improved Efficiency on Reliability*, I. Levine, B. Schueger, R. Sheinbein; EYP Mission Critical Facilities, Washington, DC, USA

27. *Assessing the Impact of Smart Building Techniques: A Prospective Study for France,* A. Malidin[1,2], C. Kayser-Bril[1,2], N. Maïzi[1], E. Assoumou[1], V. Boutin[2], V. Mazauric[2]; [1]MINES Paristech, Sophia Antipolis, France, [2]Schneider Electric, Grenoble, France

28. *Optical Modulation for High Power Systems: Potential for Electromagnetic-Emission, Loss, and Stress Control by Switching Dynamics Variation of Power Semiconductor Devices*, S. Mazumder, T. Sarkar; University of Illinois, Chicago, IL, USA

29. *An Indoor Localization Algorithm for Lightning Control using RFID*, Z. Zhen[1], Q. Jia[1], C. Song[1,2], X. Guan[1,3]; [1]Tsinghua University, Beijing, China, [2]United Technologies Research Center, Beijing, China, [3]Xian Jiaotong University, Xi'an, China

30. *Energy Efficiency in Natural Stone Cutting Process,* H. Çimen, M.S. Çinar, M. Nartkaya, İ. Yabanova; Afyon Kocatepe University, Afyonkarahisar, Turkey

31. *Optimizing Operational Energy Performance through Dynamic Computer Simulations*, C. Coeckelenbergh, K. Achten, P. Baudin; 3E, Brussels, Belgium

32. *Energy Budget Reduction by Using Ultracapacitors in Mining Converters,* D. Das[1], J. Mazumdar[2], W. Koellner[2]; [1]Georgia Institute of Technology, Atlanta, GA, USA, [2]Siemens Energy & Automation, Alpharetta, GA, USA

Session 5: PHEV/Automotive

33. *Potential Impacts of Plug-in Hybrid Electric Vehicles on Locational Marginal Prices,* L. Wang; Iowa State University, Ames, IA, USA

34. *Small Signal Stability Analysis of Power System Integrated with PHEVs,* T. Das, D.

	Aliprantis; Iowa State University, Ames, IA, USA 35. *Control of Ultracapacitor-Battery Hybrid Power Source for Vehicular Applications,* J. Awerbuch, C. Sullivan; Dartmouth College, Hanover, NH, USA 36. *Green Fleet of Fuel Cell Powered Light Utility Vehicles: An Energy Analysis,* W. Hornfeck, S. Shrestha; Lafayette College, Easton, PA, USA 37. *The MPG Survey: Questioning the Biased Perception of Automobile Fuel Economy*, Q. Binh Dam; Georgia Institute of Technology, Atlanta, GA, USA 38. *Control Strategies for Battery/Supercapacitor Hybrid Energy Storage Systems*, Y. Zhang, Z. Jiang, X. Yu; University of Miami, Coral Gables, FL, USA 39. *Design of a Hybrid Electric Vehicle*, R. Melsert, R. Chandrasekaran, T. Bandhauer, T. Fuller, J. Meisel; Georgia Institute of Technology, Atlanta, GA, USA
6:15 – 7:15p	**Cocktails and Exhibition** *(Ballroom B/C)*
7:15 – 8:45p	**Dinner** **Distinguished Speaker Dr. Jagdish Sheth, Kellstadt Chair of Marketing, Emory University** *"Will Emerging Economies Lead or Lag Our Drive to Sustainability"* *(Ballroom A)*

Tuesday November 18, 2008

8:30 – 9:45a	Technical Program Part II
	Session 2.1 – Cutting the Carbs: Focus on Generation – *Renewables* *(Ballroom A)*
	Session Chair: Charlie Smith, UWIG *Optimal Multi Energy Supply for Regions with Increasing Use of Renewable Resources*, F. Adamek; Swiss Federal Institute of Technology (ETH), Zürich, Switzerland *Electric Vehicles for Improved Operation of Power Systems with High Wind Power Penetration*, E. Larsen, D. Chandrashekhara, J. Østergård; Technical University of Denmark, Lyngby, Denmark *A Closed Loop High Efficiency Plasma Waste-to-Power Generation Model*, R. Baidoo, F. Ferguson, H. Singh; North Carolina A&T State University, Greensboro, NC, USA *Coupling Wind Generators with Deferrable Loads*, A. Papavasiliou, S. Oren; University of California-Berkeley, Berkeley, CA, USA
	Session 2.2 – Routing Electrons: Smart Grid, Delivery & Storage – *Energy Storage* *(Room 704)*
	Session Chair: Dr. Leon Tolbert, Oak Ridge National Laboratory *Energy Storage Methods for Renewable Energy Integration and Grid Support*, D. Shively, J. Gardner, T. Haynes, J. Ferguson; Boise State University, Boise, ID, USA *Utility Scale Application of Energy Storage*, A. Oudalov, T. Buehler, D. Chartouni; ABB Corporate Research Center, Daettwil, Switzerland *A Survey of Systems to Integrate Distributed Energy Resources and Energy Storage on the Utility Grid*, J. Carr, J. Balda, H. Mantooth; University of Arkansas, Fayetteville, AR, USA **Invited Paper:** *The Coming Convergence: Renewables, Smart Grid and Storage*, C. Vartanian; A123 Systems, Watertown, MA, USA
	Session 2.3 – Public Policy – *Adjacent Issues* *(Room 706)*

	Session Chair: Richard DeBlasio, NREL *Energy & National Security: An Exploration of Threats, Solutions and Alternative Futures*, L. Triola; Naval Surface Warfare Center, Dahlgren, VA, USA *Sustainable Energy: Balancing the Economic, Environmental and Social Dimensions of Energy*, E. O'Neill-Carillo, A. Irizarry-Rivera, J. Colucci-Ríos, M. Pérez-Lugo, C. Ortiz-García; University of Puerto Rico-Mayaguez, Mayaguez, Puerto Rico, USA *Advancing a Sustainable Energy Ethic Through Stakeholder Engagement*, E. O'Neil-Carrillo, W. Frey, C. Ortiz-Garcia, A. Irizarry-Rivera, M. Pérez-Lugo, J. Colucci-Ríos; University of Puerto Rico-Mayaguez, Mayaguez, Puerto Rico, USA *The Role of Intellectual Property Policy in Creating a Global Sustainable Energy Infrastructure*, K. Closson; Nerac, Tolland, CT, USA
	Session 2.4 – Trimming the Energy Budget: Reducing Consumption while Improving Life – *Energy Efficient Applications* *(Room 707)*
	Session Chair: Joe Schatz, Southern Company *LEDs-A Competitive Solution for General Lighting Applications*, R. Mehta[1], D. Deshpande[1], K. Kulkarni[1], S. Sharma[2], D. Divan[2]; [1]Integral Technologies, Pune, India, [2]Innovolt Inc., Atlanta, GA, USA *Energy Efficiency Technologies for Industry and Tertiary Sectors: the European Experience and Perspective for the Future*, N. Anglani[1], A. Consoli[2], G. Petrecca[1]; [1]University of Pavia, Pavia, Italy, [2]University of Catania, Catania, Italy *Economic Efficiency Potential of New and Existing Residential Buildings*, K. Tupper, N. Schalg, T. Wang; Rocky Mountain Institute, Boulder, CO, USA **Invited Paper:** *Wide Bandgap Semiconductor Materials and Devices: An Integrated Solution to Energy Generation and Use*, I. Ferguson; Georgia Institute of Technology, Atlanta, GA, USA
9:45 – 10:15a	**Break and Exhibition**
	Media Meet & Greet with Sponsors from 10:30 until 12 *(Ballroom B/C)*
10:15 – 12:25p	**Technical Program Part III**
	Session 3.1 – Cutting the Carbs: Focus on Generation – *Solar Energy* *(Ballroom A)*

	Session Chair: Ed Muljadi, NREL *Distribution System Voltage Performance Analysis for High Penetration PV*, Y. Liu[1], J. Bebic[1], B. Kroposki[2], [3]J. de Bedout, [3]W. Ren; [1]GE Energy, Schenectady, NY, USA, [2]NREL, Golden, CO, USA, [3]GE Global Research, Niskayuna, NY, USA *Integrating Large Scale Photovoltaic Power Plants into the U.S. Grid*, P. Jansson[1], R. Michelfelder[2], V. Udo[3], G. Sheehan[4], S. Hetznecker[4], M. Freeman[5]; [1]Rowan University, Glassboro, NJ, USA, [2]Rutgers University, Camden, NJ, USA, [3]PHI, Newark, DE, USA, [4]Suntechnics Energy Services, Paoli, PA, USA, [5]Exelon Energy, Kennett Square, PA, USA *Power Electronics Needs for Achieving Grid-Parity Solar Energy Costs*, T. Esram[1], P. Krein[1], B. Kuhn[2], R. Balog[2], P. Chapman[1]; [1]University of Illinois at Urbana-Champaign, Urbana, IL, USA, [2]SmartSpeak Energy Systems, Inc., Champaign, IL, USA *The Commercialization of Solar Energy as a Means for Rural Development*, H.J. Corsair[1], D. Ley[2]; [1]John Hopkins University, Baltimore, MD, USA, [2]University of Oxford, Oxford, United Kingdom **Invited Paper:** *High Efficiency Solid State Engine*, L. Johnson; Johnson Electro Mechanical Systems, Atlanta, GA, USA
	Session 3.2 – Routing Electrons: Smart Grid, Delivery & Storage – *Micro grids* *(Room 704)*
	Session Chair: Dr. Peter Steimer, ABB *Hybrid DC- and AC-Linked Microgrids: Towards Integration of Distributed Energy Resources*, Z. Jiang, X. Yu; University of Miami, Coral Gables, FL, USA *Control of Parallel Inverter-Interfaced Distributed Energy Resources*, X. Yu, Z. Jiang, Y. Zhang; University of Miami, Coral Gables, FL, USA *Towards Realization of a Control-Communication Framework for Interactive Power Networks*, S. Mazumder, K. Acharya, M. Tahir; University of Illinois, Chicago, IL, USA **Invited Paper:** *The AC PV Module: A New Trend in Distributed Photovoltaic Generation Systems*, H. Alatrash, N. Kutkut, I. Batarseh; Petra Solar Inc., South Plainfield, NJ, USA
	Session 3.3 – Public Policy – *2030 Scenarios* *(Room 706)*
	Session Chair: Dr. Dagmar Niebur, National Science Foundation *The Brazilian Renewable Energy Incentive Program -The Second Phase of the PROINFA: Assessing Policy Efficiency and Barriers in Long-Term Scenarios*, T. Prado, M. de Oliveira, I. Camargo; University of Brasília, Brasília, Brazil *Sustainable Energy Future by AD2030 - India Case Study*, J. Kumar[1], C. Radhakrishna[2];

	[1]Jawaharlal Nehru Technological University, Hyderabad, India, [2]Global Energy Consulting Engineers Private Ltd., Hyderabad, India *Achievability of Pakistan's 2030 Electricity Generation Goals Established under Medium Term Development Framework (MTDF): Validation Using Time Series Models and Error Decomposition Technique*, M. Choudhary[1], N. Khan[1], A. Ali[1], A. Abbas[2]; [1]National University of Science & Technology, Islamabad, Pakistan, [2]Ghulam Ishaq Khan Institute of Engineering Sciences & Technology, Topi, Pakistan *Present State, Challenges, and Future of Power Generation in Saudi Arabia*, R. Obaid, A. Mufti; King Abdul Aziz University, Jeddah, Saudi Arabia
	Session 3.4 – Trimming the Energy Budget: Reducing Consumption while Improving Life – *Power Electronic Solutions* *(Room 707)*
	Session Chair: Dr. Gerd Griepentrog, Siemens AG *Power Electronics, a Key Technology for Energy Efficiency and Renewables*, P.K. Steimer; ABB Ltd. Power Electronics, Turgi, Switzerland *Power-Electronic Transformer Tap-Changer for Increased AC Arc Furnace Productivity*, A. Korn[1], P.K. Steimer[1], Y. Suh[2], J.W. Kolar[3]; [1]ABB Ltd. Power Electronics, Turgi, Switzerland, [2]Chonbuk National University, Chonju, Korea, [3] Swiss Federal Institute of Technology (ETH), Zürich, Switzerland *A Survey of Converter Topologies for Fuel Cells in the kW Range*, A. Averberg, K. Meyer, C. Nguyen, A. Mertens; Leibniz Universität Hannover, Hannover, Germany
12:25 – 1:30p	**Lunch and Exhibition** *(Ballroom B/C)*
1:30 – 2:45p	**Technical Program Part IV**
	Session 4.1 – Cutting the Carbs: Focus on Generation – *Emerging Options* *(Ballroom A)*
	Session Chair: Dr. Philip Krein, University of Illinois at Urbana-Champaign *Electricity Generation and Renewables Under Carbon Mitigation Policies*, N. Maïzi, E. Assoumou; MINES Paris Tech, Sophia Antipolis, France *On-Site Sodium Production with Seawater Electrolysis as an Alternative Energy for Oil*, M. Murahara[1], K. Seki[2]; [1]Tokyo Institute of Technology, Tokyo, Japan, [2]Mingdao University, ChangHua, Taiwan *CO_2 Capture and Sequestration in Solid Form - An Overview of the SkyMine™ Process*, D St. Angelo, M. Clayton, P. Higgs, J. Jones, J. Lynch, S. MacDiarmid; Skyonic Corporation,

	Austin, TX, USA
	Session 4.2 – Routing Electrons: Smart Grid, Delivery & Storage – *Communication and Standards* *(Room 704)*
	Session Chair: Dr. M.A. Pai, University of Illinois at Urbana-Champaign *Standards for the Smart Grid*, R. DeBlasio, C. Tom; NREL, Golden, CO, USA *A Security Standard for AMI Smart Meters*, C. Bennet, D. Highfill; EnerNex Corporation, Knoxville, TN, USA *Educating the Smart Grid*, J. Katz; IBM, Armonk, NY, USA
	Session 4.3 – Public Policy *(Room 706)*
	Session Chair: Michael Goggin, American Wind Energy Association (AWEA) *A Framework for Evaluation of Energy Policy Proposals*, F. Felder; Rutgers University, New Brunswick, NJ, USA *Biomass Forwards and Futures Market to Support Bioenergy Development*, A. Pyasi, S. Deng, V. Thomas; Georgia Institute of Technology, Atlanta, GA, USA **Invited Paper:** NSF's Perspective on Research in Electric Power and Energy, D. Niebur; National Science Foundation, Arlington, VA, USA
	Session 4.4 – Trimming the Energy Budget: Reducing Consumption while Improving Life – *High Power Electronics* *(Room 707)*
	Session Chair: Dr. Luis Arnedo-Martinez, United Technologies Research Center Powering The Way – A Paper on AC Link™ Technology for 21st Century HVDC Transmission, I. Evans, R. Limpaecher, A. Dillon; Varentec LLC, Topsfield, MA, USA *AC Grid with Embedded VSC-HVDC for Secure and Efficient Power Delivery*, J. Pan, R. Nuqui, K. Srivastava, T. Jonsson, P. Holmberg, Y. Hafner; ABB Corporate Research Center, Raleigh, NC, USA **Invited Paper:** *Recent Advances in SiC Power Devices and Applications*, D. Grider; CREE Inc., USA
2:45 – 3:00p	**Break** *(Foyer)*

3:00 – 5:00p	**Closing Session** *(Ballroom A)*
	Session Chair: Dr. Deepak Divan, Georgia Institute of Technology ***Closing Plenary: Roadmap to 2030 - Leveraging the Experience of the Wind Industry*** Erik Kjaer Soerensen - Director of Government Relations, Vestas Wind Systems A/S, Denmark *"Wind Energy – The Journey has Just Begun, Some Best Practice Experiences"* Charlie Smith - Executive Director, Utility Wind Integration Group (UWIG), USA *"20% Wind: Getting from Here to There"* Michael Goggin - Electric Industry Analyst, American Wind Energy Association(AWEA), USA *"Policy Drivers for a Sustainable Energy Future"* **Polling of Attendees** **Conclusions**