

GREEN MOUNTAIN CHAPTER OF IEEE POWER AND ENERGY SOCIETY

CHRIS ROOT
COO, VELCO
PES, TREASURER

VERMONT IEEE Power and Energy Society

- Initial Meeting Tonight
- New Society to Vermont
- Co-Chairs-
 - Bernadette Fernandes- VELCO
 - Pooya Rezaei- UVM
- Going forward will be meeting every two months
- Tutorials and Education program will be developed.
- Meetings will have relevant expert speakers.

IEEE PES Mission Statement

*To be the **leading provider** of scientific and engineering information on electric power and energy for the betterment of society and the preferred professional development source for our members*



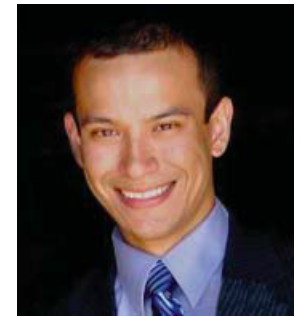
Power & Energy Society®

www.ieee-pes.org

IEEE and PES

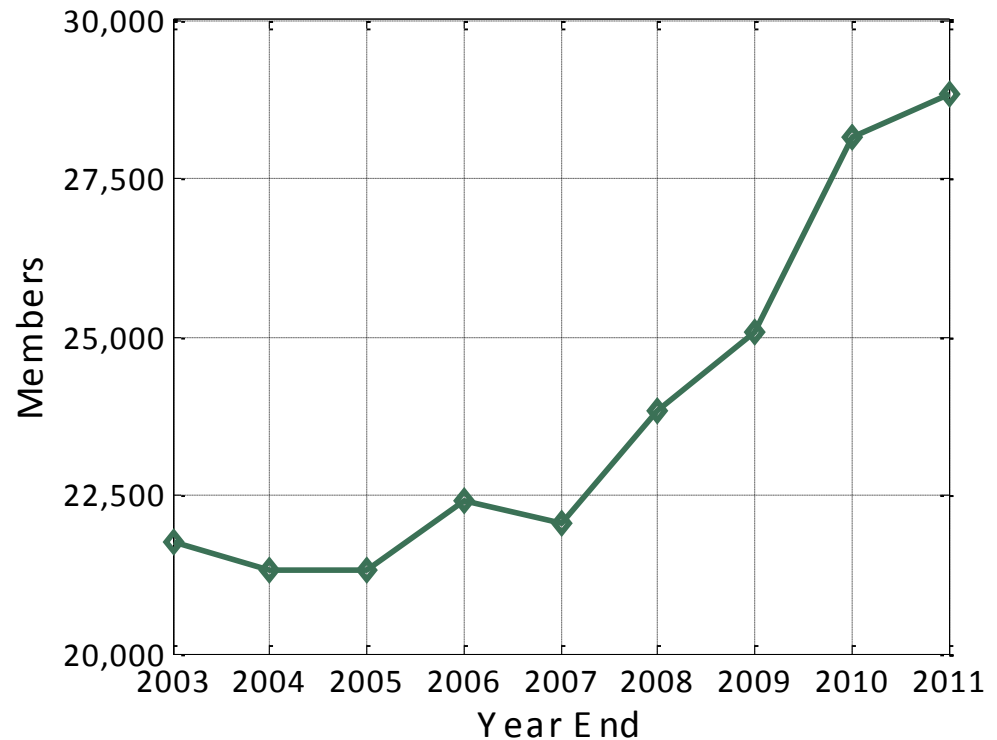
- IEEE is the Institute of Electrical and Electronic Engineers.
- Over 400,000 members in 10 global regions
- 39 Technological Societies.
- Power and Energy Society PES
 - One of the oldest (1884)
 - Chapters throughout the world

PES Membership



Henry Louie

- 32,000+ members
- Third largest IEEE Society
- Rapid membership growth
- IEEE has >400,000 members



IEEE PES – Resources for Today and Tomorrow



MEMBERSHIP HAS ITS PRIVILEGES!

New Welcome Video for Members

<http://www.youtube.com/watch?v=fFWewsHtGM8&feature=youtu.be>



Education

- **Resources**
 - Tutorials
 - E-Learning Module (New Smart Grid units)
 - Plain Talk Courses for Non-Engineering Professionals
 - Videos



Pete Sauer

IEEE.org | IEEE Xplore Digital Library | IEEE Standards Association | Spectrum Online | More IEEE Sites

Engineering Electrical Power and Energy

IEEE Power & Energy Society®

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About PES | Technical Committees | Meetings & Conferences | Education | Publications | Chapters | Membership | Workforce | Outreach

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PAST HIGHLIGHTS →

Related Topics

- ▶ Calendar
- ▶ Calls for Papers
- ▶ Conference Resources

Home ▶ Meetings & Conferences ▶ Notable Presentations

PES Notable Presentations

Notable presentations from PES meetings, including selected panel sessions, plenaries, special technical sessions, presentations with audio (new!), focused technical meetings, and other roundtables and forums.

Please note that due to a server failure some of the content below may be temporarily unavailable at this time. We apologize for this inconvenience. Items that are currently unavailable are marked with a *.

- ▶ **IEEE PES Transmission & Distribution Conference & Expo (T&D 2012) including IEEE Smart Grid Day**
 - Videos from Tuesday, 8 May 2012
 - Introduction with Tommy Mayne (Video 1 of 7)
 - Aaron Stanley and Ray De Souza (Video 2 of 7)
 - Dan Kirby (Video 3 of 7)
 - Noel Schulz, President of IEEE Power & Energy Society (Video 4 of 7)
 - Dr. Gordan Day, 50th President of IEEE (Video 5 of 7)

Stay up-to-date with the latest advances
POWER & ENERGY MAGAZINE →

Society News & Events
eNEWS UPDATE →

RECENT ABSTRACTS →

Announcements

- ▶ Call for Webinar Presenters! Apply here.
- ▶ June 2012 eNews Update



Jeff Nelson

Technical Activities

19 Technical Committees and 4 Coordinating Committees Including Intelligent Grid Coordinating Committee

- Reviews for Transactions and GM/T&D Conference Papers
- Panels, Sessions, Subcommittees, Working Groups, Task Forces
- Standards



**2012 IEEE Power & Energy Society
General Meeting**

**22–27 July 2012
San Diego, California USA**



***"New Energy Horizons –
Opportunities and Challenges"***



Standards Developing Technical Committees

- Electric Machinery
- Energy Development & Power Generation
- Hydroelectric Power Subcommittee (EDPG)
- International Practices Subcommittee (EDPG)
- Insulated Conductors
- Nuclear Power Engineering
- Power System Analysis, Computing and Economics
- Computing and Analytical Methods Subcommittee (PSACE)
- Distribution System Analysis Subcommittee (PSACE)
- Intelligent Systems Subcommittee (PSACE)
- Reliability, Risk and Probability Applications Subcommittee (PSACE)
- System Economics Subcommittee (PSACE)
- Power System Communications
- Power System Instrumentation and Measurements
- Power System Relaying
- Stationary Battery
- Substations
- Surge Protective Devices
- Switchgear
- Transformers
- Transmission & Distribution
- Capacitor Subcommittee (T&D)
- Distribution Subcommittee (T&D)

Coordinating Committees

- Emerging Technologies
- Intelligent Grid
- Marine Systems
- Wind and Solar Power

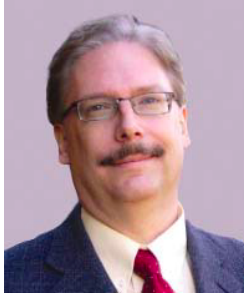
Many Standards and Guides Urgently Needed

- Interoperability among recognized Smart Grid standards
 - E.g. systems that include the use of both IEEE 1815 (DNP3) and IEC 61850 devices / subsystems – huge investments had been made in DNP3 systems and will be made in both DNP3 and 61850 systems in the future
 - Harmonization of IEEE C37.118 and IEC 61850
- Development of new standards / guides
 - Major investment in synchrophasor projects, while standards are still in the development
- Need for guidelines & methodology for AMI meter conformance testing and Cyber security assessment
- Electric vehicles: Assess usage patterns and grid infrastructure impact/needs



Ted Burse
MAL - Standards

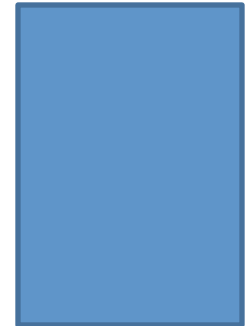




Erich Gunther
Smart Grid

Members-At-Large

Smart Grid Tutorials



Ted Burse
Standards

IEEE.org | IEEE Xplore Digital Library | IEEE Standards Association | IEEE Spectrum Online | More IEEE Sites

IEEE PES IGCC IEEE PES Intelligent Grid Coordinating Committee (IGCC)

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IGCC Officers

Chairman: Erich W. Gunther, EmerNex, Knoxville, TN, erich@enemex.com

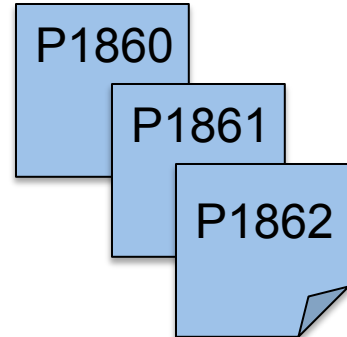
Vice Chairman: Steve Pullins, Horizon Energy Group, Maryville, TN, spullins@horizonenergygroup.com

Secretary: Doug Houseman, EmerNex, doug@enemex.com

Mission and Scope

- This Coordinating Committee will address the smart grid related within the IEEE PES, identify opportunities for their future application information.
- The Committee will support coordination and information exchange groups within the PES as it relates to smart grid standards development. Rather than duplicate other ongoing efforts, the focus here will be heard, and utilized in implementing grid modernization.
- Note that Smart Grid involves more than applying communication multidisciplinary, systems of systems engineering issue.

For up-to-date news and information please check the [News](#)



1.1 Project Number: P1860

1.2 Type of Document: Standard

1.3 Life Cycle: Full Use

2.1 Title: Standard for Voltage and Reactive Power in 1000kV or Greater (Ultra High Voltage) AC Systems

3.1 Working Group: Ultra-High Voltage AC Standards Working Group (BOG/CAG/UHV-WG)

Smart Grid Web Portal

<http://smartgrid.ieee.org/>

A gateway to IEEE Smart Grid information A few of the features:

Connections to social media groups

Smart Grid Videos

Top articles and auto-import of IEEE IP

Q&A With Experts

Content from IEEE Xplore

Smart Grid “News” and event calendar

Monthly newsletter

Launched in Jan 2011



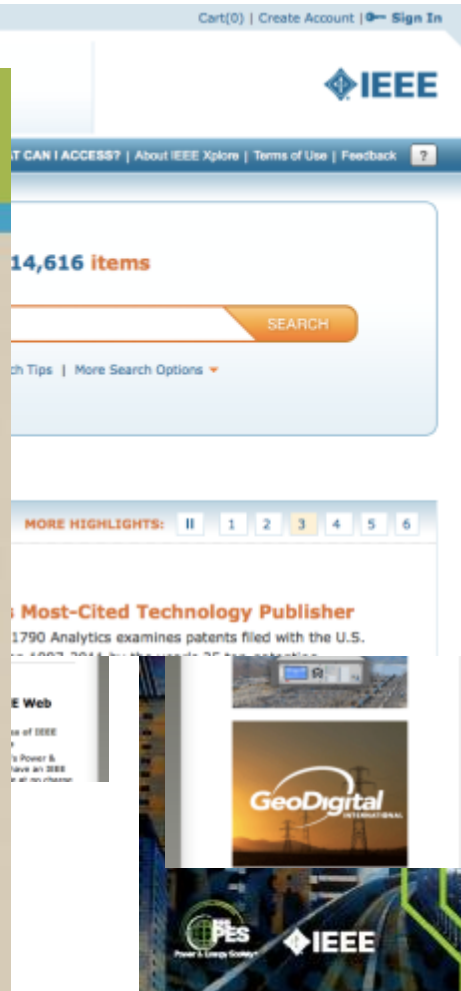
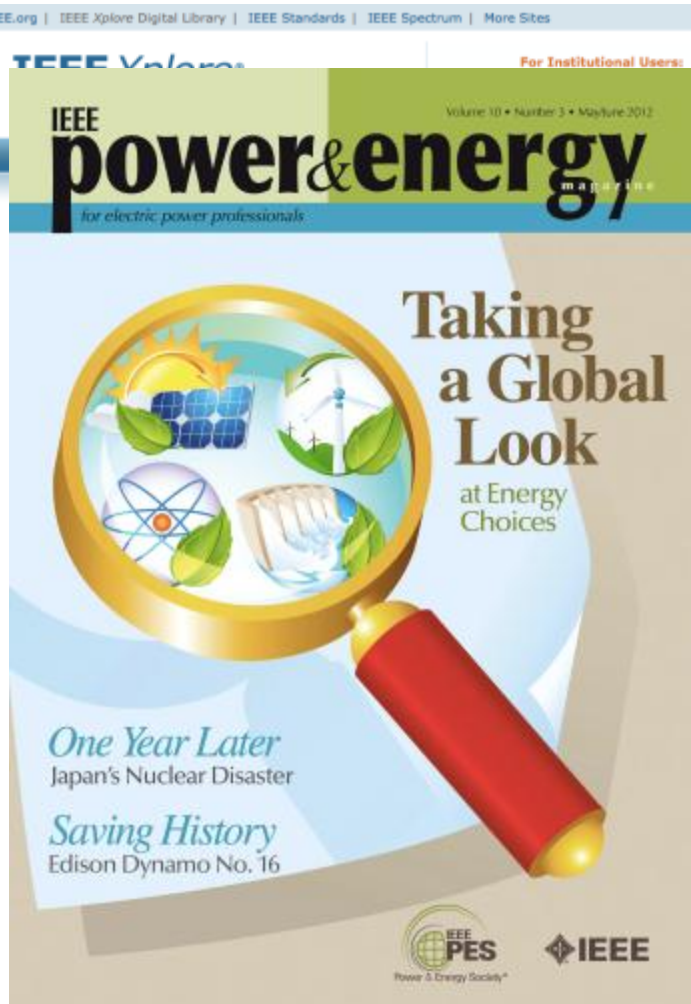
Massoud Amin
Smart Grid



PES Publications



Mariesa Crow



PES Conferences and Meetings



Tommy Mayne

- Financially Sponsored Conferences around world
- Partnering for Technically co-sponsored conferences
- International and Regional Scopes
- Emerging Topics

IEEE PES Scholarship Plus Initiative™

- Started in 2011 with 93 Scholars
- **Funding**
 - PES provided \$1M seed funding in 2010
 - Seeking \$10M in philanthropic donations over 3 years
 - Leadership gifts from S&C Electric and Schweitzer Engineering Labs of \$1M each
- **Offering**
 - Scholarship: \$2000, \$2000 and \$3000 in year 1, 2 and 3
 - Career experiences
 - Mentors
- **Working to expand beyond Regions 1-7**



S&C ELECTRIC COMPANY
Excellence Through Innovation



**SCHWEITZER
ENGINEERING
LABORATORIES**



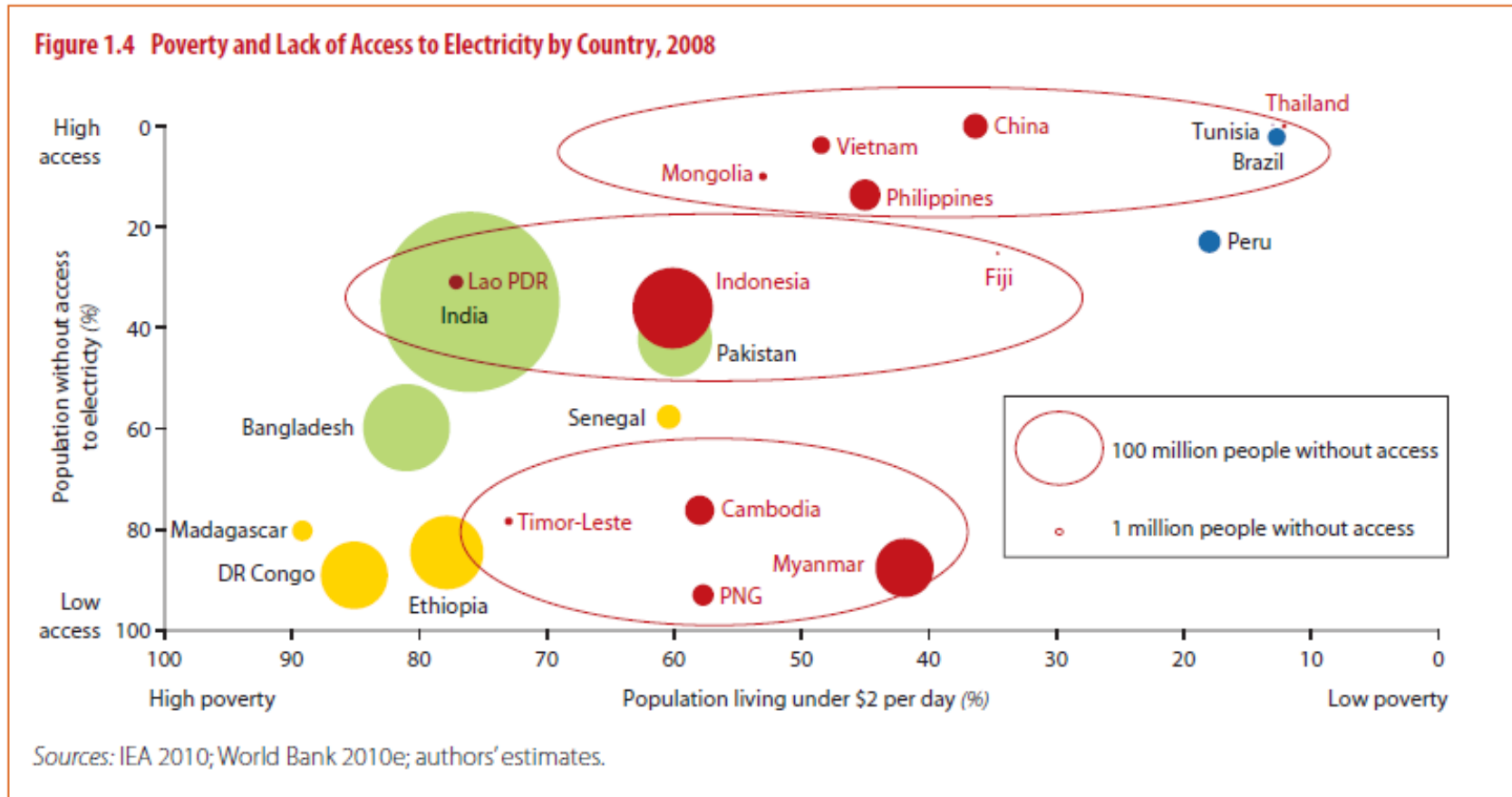
The graphic is a promotional poster for the IEEE PES Scholarship Plus Initiative. It features the IEEE logo in the top right corner. On the left, there is a logo for the IEEE Power & Energy Society (PES) with the text 'IEEE Power & Energy Society' and 'SCHOLARSHIP PLUS INITIATIVE™'. Below this, it says 'Preparing the Next Generation of Power & Energy Engineers'. The central part of the graphic has a blue and green background with the text 'IAM: a Problem Solver' and 'Learn any way you can'. On the right, there is a portrait of a woman. At the bottom, there is a row of six small portraits of diverse individuals.

Apply online:

- www.ee-scholarship.org
- Applications were due by June 30, 2012
- Awardees notified in September, 2012

Access to Electricity

Three countries categories of electricity access: low, medium and high. Access rates are not always correlated to poverty levels, e.g. Lao PDR.





Robin Podmore

New Initiatives and Outreach

IEEE

Lighting Up The World

- Sustainability
- Scalable Energy
- Community Empowerment



Community Solutions Initiative
<http://communitysolutionsinitiative.org/>
 Low cost, local efforts for electrification
 in developing countries

IEEE and PES built to last by members and volunteers



Be Part of the PES Social Media Conversation



@ieee_pes

@ieeesmartgrid



facebook.com/ieeePES



IEEE Power & Energy Society (PES) Group

IEEE Smart Grid Group

How to join?

- Become an IEEE Member at:
 - www.ieee.org
 - Join Power and Energy Society at same time.
- VT Green Mountain PES Chapter-
 - <http://sites.ieee.org/gms-pes/>

Thank You